UNIVERSITY OF SOUTHERN QUEENSLAND
AUSTRALIA

WHAT IS PROJECT GOVERNANCE?

Disclosing the source of confusion and revealing the essence of governance

A Thesis submitted by

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Abstract

The governance of project work is well discussed in the extant literature that explores the relationship between projects and their parent organisations. And governance is a well-known term amongst senior management, project practitioners, and stakeholders. However, as this thesis reveals and attempts to address, 'what is governance' is actually the subject of much confusion across scholarly literature, practitioner publications and project managers themselves. Identifying and resolving such confusion is fundamental to progressing the discipline because, as proposed by this thesis, governance is *the system* by which projects are directed and controlled.

This thesis by publication:

1. Identifies the definitional confusion surrounding project governance, governance generally and many other associated project management terms.

2. Develops a 'refined' definitional method for resolving confusion concerning conceptual definitions.

3. Applies this method to develop refined (internally consistent) definitions of governance and related and associated terms.

4. Reveals the lack of genericity at the core of some project management practitioner documents and methodology.

5. Identifies and resolves 10 different issues that cause definitional confusion in conceptual terms.

6. Provides a philosophical justification for the resolution of each of these issues by critically examining Aristotle's, Mill's, Wittgenstein's, and Popper's work in relation to definitions.

7. Develops a set of axioms and definitional rules for avoiding conflict resulting from definitional confusion.

8. Proposes a theory of meaning for conceptual terms in management

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Certification of Thesis

This Thesis is the work of Stephen Keith McGrath except where otherwise acknowledged, with the majority of the authorship of the papers presented as a Thesis by Publication undertaken by the Student. The work is original and has not previously been submitted for any other award, except where acknowledged.

Principal Supervisor: Assoc. Professor Jon Whitty

Associate Supervisor: Dr Subrata Chakraborty

Student and supervisor signatures of endorsement are held at the University.

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Statement of Co-authorship

The following detail is the agreed share of contribution for candidate and co-authors in the presented publications in this thesis:

The overall contribution of **Stephen McGrath** to Part 1 and to all papers in Parts 2 and 3 of this thesis was 90% to the concept development, analysis, drafting and revising the final submission; **Associate Professor Jon Whitty** contributed the other 10% to concept development, analysis, editing and providing important technical inputs.

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$20B of civil infrastructure and business development/ IT projects.

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Abbreviations

There are very few abbreviations used. Any that are used are stated in the papers in the form of <term> <acronym> before subsequently using the acronym.

Part 1

WHAT IS PROJECT GOVERNANCE?

Disclosing the source of confusion and revealing the essence of governance

1 Introduction

This is a thesis by publication comprising five published plus one accepted peer reviewed journal papers, one conference paper, nine as-yet unpublished papers, a PowerPoint presentation and an Exegesis that back-analyses the papers to make sense of the underlying philosophical problems they raise. The papers deal with many sub-fields of management that are related to governance and all are impacted by the same underlying language usage problems, which hinder determination of adequate definitions. The papers run in parallel rather than in series, each providing different clues to the basic underlying problems. The exegesis identifies and analyses the philosophical underpinnings of the problems, resolves inconsistencies and proposes revisions to definitions and to practice.

Consequently, this thesis is not presented in the format of either a traditional monograph or a thesis by publication where each paper is a progressive development of the previous one. Rather this thesis is structured in a way that more resembles a thesis that comprises creative works, where these creative works happen to be journal publications, and where some are a development of others and some are not, yet they have a resemblance which can only be appreciated when one takes a meta-view of the whole collection. This meta-view, commentary and critique of the collection of papers takes place in the Exegesis which forms a focal point of the thesis document

2 Thesis outline

This thesis is structured in three parts. Parts 1 and 2 are presented for examination and Part 3 is included for context. Parts 2 and 3 comprise papers only.

Part 1 provides all the necessary introductory, procedural and administrative statements and information up to this point. Section 3 sets out the systematic literature review which identified the need for this investigation. Section 4 formulates the research question and Section 5 sets out the research approach. Section 6 reports on the research implementation and provides a summary of all 16 papers by collecting together their research questions and abstracts. Section 7 gives the outcome of the governance investigation and Section 6. Section 8 contains the Exegesis which is the main philosophical output of this thesis. In the Exegesis I attempt to meaningfully situate my work amongst contemporary theory and practice, and

explore and articulate both the personal, social, and cultural reasons that have engendered my work. The Exegesis also looks beyond my work and examines the implications of my theory development; it identifies 10 definitional errors, many of which occur in common usage, and it examines how some of these impacted the work of various major twentieth century philosophers. It develops a comprehensive set of axioms and definitional rules and places these in their historical philosophical context before collecting these together into a theory of meaning for management terms.

Part 2 comprises 7 papers that are presented for examination. Of these, four are analytical from academic sources, two are empirical and one is analytical from practitioner document sources. Paper 1 is a peer-reviewed conference paper, Papers 2, 3 and 4 have been published, Paper 7 has been accepted and published, as yet without issue and page numbers, Paper 6 is currently under peer review and Paper 5 has not yet been accepted for peer review. This group includes papers defining governance and related terms as well as the associated terms of stakeholders, accountability and responsibility. The group also includes papers investigating the existence of practitioner confusion around governance and steering committees.

Part 3 comprises 9 papers and one conference presentation. Papers 1 to 4 are analytical papers comprising Part 3A, all of which have previously been submitted to various journals. Section 3B comprises empirical Papers 5 and 6 analysing practitioner interviews; Paper 5 has just been accepted for publication by the The Journal of Modern Project Management (on 26 December 2018) and Paper 6 has not yet been submitted to any journal. Part 3C comprises analyses of practitioner documents; Paper 7 has previously been submitted to a journal and Papers 8 and 9 have not. Paper 10 is a presentation given as part of a PMI accredited seminar. The analytical papers define other terms used in relation to governance; leadership, management, strategic management, power and related terms and ethics and related terms. The two empirical papers investigate confusion around program terminology and project management methodology.

All papers in Part 3 contributed to the overall exegesis but comprise a volume that may well exceed a reader's capacity and time to review and so these are not presented for examination per se. They are included to demonstrate the breadth of the problem and that there have been repeated successful application of the principal method developed, details of which are given in Paper 2 of Part 2. They also provide the derivation of some definitions used.

3 Literature Review

This review was conducted at the commencement of the PhD study between 10 February and 14 April 2013. It investigated the interaction between projects and their controlling organisations through examining the key governance device used to do this, namely the steering committee. The approach used, the themes that emerged, and the analysis of individual themes are presented below.

3.1 Approach

Criteria for selecting papers for review

The literature on boards of company directors is substantial but is not relevant to this review which is researching project governance, not corporate governance. Furthermore, project steering committees or boards are set up on an ad-hoc basis and so do not have legislated roles. The search terms therefore needed to exclude corporate governance but include terms relating to project governance.

The portion of the literature review subject to thematic analysis has been drawn from peer reviewed papers only. The peer review mechanism has been used so that only conclusions reached from analysis of data are analysed and unsubstantiated opinion is selected out. This means that books are also excluded from the thematic analysis. There are many conflicting practitioner views, opinions and models being promoted and peddled in this area, so including other sources such as books and practitioner articles would just survey opinion and produce confusion. Any concept with any academic rigour that might appear in the practitioner literature will have had a prior peer reviewed presentation, which will be found in the database searches.

Search methods

The following electronic databases were searched within EBSCO host Mega FILE Complete for peer reviewed journal articles:

- Academic Search Complete
- Australia/ New Zealand Reference Centre
- Business Source Complete
- Master FILE Premier.

The search terms used were

- project steering committee
- "project board"
- governance AND
    - steering committee
    - "project board"
    - project success
- steering committee AND
    - effectiveness
    - evaluation
    - assessment
    - collaboration
    - coordination.
    - "IS"
    - "IT"
    - "ICT"
    - "information technology"

The search was initially conducted independent of project type. However, the number located within the IT/ICT/IS area indicated additional searches were warranted to ensure that the focus on these committees for those types of projects was also comprehensively covered.

Search Results

1118 titles and abstracts were reviewed. Only references that had some component of evaluation or method of operation of steering committees were selected and 32 such papers were located. Where the paper reported that the xyz steering committee did abc, this was not considered a serious evaluation of steering committee function. Four of the 32 that fell within this category and were excluded, leaving 28. On closer inspection, three papers were opinion pieces included in peer reviewed journals, rather than having been peer reviewed themselves, and so these were also excluded. The remaining 25 papers and their references were examined to ensure the field had been covered and four additional peer reviewed papers that had not been located by the EBSCO search criteria were identified and included, bringing the total to 29.

Coding of results

These 29 papers were analysed for emergent themes, which were coded in a binary way; the paper either satisfied or addressed that particular issue or it didn't. The answer was either 'yes' or 'no', and 'yes' was coded with a tick and 'no' was left blank. There were three exceptions. One was the nature of the impact of the steering committee that the paper reports. This was coded as positive, negative, zero or n/a. The second was the research method, which was coded as S for survey, C for case study or I for interview, with combinations shown in the order of occurrence. The third was where IT governance was defined as distinct from governance itself. Rather than coding 'no', this was coded as 'IT' and counted as a 'yes'.

3.2 Emergent themes

The themes that emerged from the review of these 29 papers are presented conceptually in Figure 1 below and a chronological cross-tabulation of themes by authors appears in Appendix 1.
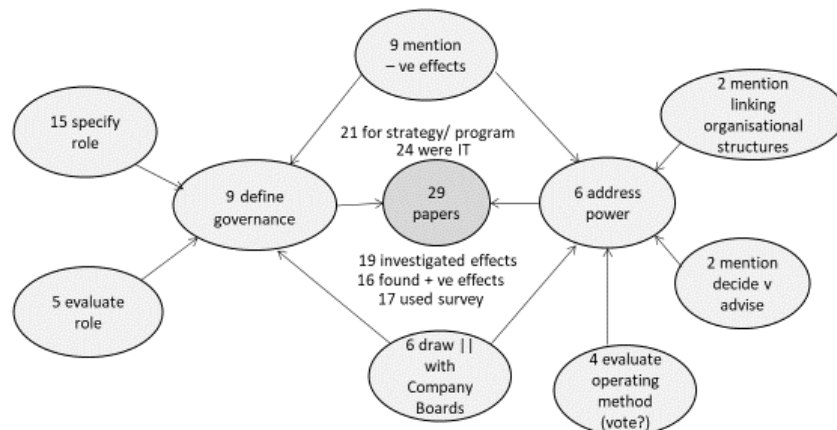
Figure 1: Emergent steering committee themes in peer reviewed academic papers 1981 -2013

3.3   Analysis of themes

3.3.1   The dominance of IT

The predominant theme emerging was that many studies found positive effects of steering committees, especially within IT. Of the 29 papers, 24 (83%) were IT papers and only 5 (17%) were either completely outside IT or covered it with other areas. This indicates that most of the academic interest in this area has been in IT.

3.3.2   Level of steering committee operation

21 out of the 29 papers (72%) stated or implied that the level of operation of the steering committee was either for or included strategy/ program/ collaboration i.e. they were not single project committees. This was often not explicitly stated and was inferred from contextual information given in each paper. The steering committee was considered to be operating at a program level if it was evident from the context that it dealt with multiple projects or has an organisation-wide coverage of any particular project type.

Note that (Gupta & Raghunathan 1989) specifically addressed this issue and found that the greatest impact of steering committees was on the strategic planning phase, with a lesser effect observed in planning and implementation. See also theme 6.

3.3.3   Research purpose to evaluate effect of steering committee

Of the 29 papers, two thirds (19) set out to evaluate whether steering committees had a positive effect or not. 18 of these were from IT. The one that was not (Fabricius & Collins 2007) dealt with community-based management of natural resource management in South Africa and was primarily concerned with obtaining representation from all stakeholder interests.

3.3.4   Positive effect found

16 of the 19 papers either reported favourably or found a positive effect in their data. This included the one that was outside IT. Of the three papers that did not find a positive effect, two (Mabert et al. 2003; Bradley 2008) reported a neutral effect and one (Ali & Green 2007) found a negative effect.

Mabert et al. (2003) considered the existence of an empowered steering committee a likely success factor from their case study work but this was only marginally supported in their

subsequent survey which found it to be not significant. They found that while most successful projects had them, so too did most unsuccessful projects, although the percentage was smaller (94% versus 80% for on-time performance and 100% versus 69% for on/ under-budget performance) They found similarly for whether this committee was allowed to make decisions (100% versus 88% for on-time performance and 100% versus 83% for on/ under-budget performance).

Bradley (2008) in a case study investigation of Enterprise Resource Planning (ERP) success factors also found that the use of a steering committee to control the project did not appear to differentiate successful and unsuccessful projects.

The only paper to find negative impacts of steering committees was an IT paper by Ali and Green (2007) which found the hypothesis of a positive impact was not supported and was, in fact, negative. This is surprising, particularly as steering committees were considered to be operating at a strategic level. However closer examination of the actual survey revealed it did in part have an individual project focus, and the steering committee was competing for attention with another IT strategy committee in the survey questions. More surprisingly, this reported negative impact is contradicted in a later paper with one of the same co-authors. Ferguson et al. (2013) reported the findings of that paper saying it had found that "an effective IT steering committee … had a significant positive influence on the perceived overall level of effective IT governance". Perhaps the authors considered that the IT strategy board and the steering committee concepts had become amalgamated in the intervening six years, or that the project level focus of steering committees has diminished.

3.3.5   Research method used

17 of the 29 papers used surveys to collect data. 12 of the 16 papers that found a positive impact of steering committees used surveys, two of these were in combination with other methods and all were in IT. The only non-IT paper investigating the effect of steering committees found a positive effect and used a case study approach. Of the papers that found these committees had no effect, one used a case study plus survey and the other used a case study only. The paper that found negative steering committee impacts used a survey.

The predominance of the survey method indicates that the bulk of conclusions are based on views or opinions. There are difficulties with this as noted in Lucas (1989). There may, of

course, be other factors at play apart from the unreliability of opinion, such as the lack of definition regarding what these committees actually do and what their method of operation is.

3.3.6 Role/ purpose stated

Only 15 of the 29 (52%) stated what the role of the steering committee actually was. Similarly, of the 19 papers that investigated the effect of steering committees, only 9 (47%) stated its role and of the 16 papers that reported favourably upon steering committees, only 8 (50%) stated its role.

There was little discussion in the papers on whether the steering committees were operating at the project or program level, as mentioned in theme 2. In 21 of the 29 papers, it was apparent, although not always explicitly stated, that the steering committee was operating at the program level rather than at a project level.

Grindlay (1981) gave what he considered to be ideal steering committee functions, and these were at the strategic and program level.

Bowen et al. (2007) stated that the IT steering committee is responsible for translating business and strategic goals into actionable plans.

Several papers (Doll & Torkzadeh 1987; Torkzadeh & Xia 1992; Huang et al. 2010) referred to the steering committees setting policies, allocating resources, reviewing progress and facilitating inter-unit coordination.

Huang et al. (2010) noted that "While the value of using IT steering committees is generally recognized, limited information systems research exists on their design."

Others mentioned that the steering committee can be viewed as a device that facilitates inter-unit co-ordination. Gupta and Raghunathan (1989) also found the impact of steering committees to be much greater on integrating IT into the business (entropy value of 249.01) than it was on coordination of IS planning efforts (entropy value of 74.2, with values up to 70 indicating moderate effect, and up to 40 indicating an indeterminate influence).

This indicates that the effects on the project and program levels are quite different and have an important bearing on whether the committee's effect is positive or negative. Unfortunately, many papers did not explicitly state the level the committees under study were operating at.

3.3.7 Drawbacks mentioned

Of the 29 that investigated the effect of steering committees, only 9 (31%) mentioned any difficulty with either the concept or the operation of steering committees. Of the 24 IT papers, 8 (33%) mentioned negative effects, and of the 5 non-IT papers, only 1 mentioned negative effects. Of the 19 papers that specifically set out to evaluate whether steering committees had a positive or negative effect, only 4 (21%) reported negative effects, and all of these were IT. Of the 10 papers that did not specifically set out to evaluate whether steering committees had a positive or negative effect, only 5 (50%) reported negative effects, and 4 of these were IT.

Therefore no conclusion can be drawn on the relativity between IT and non-IT on this theme, and while there may appear to be a bias in the group setting out to test the steering committee effect, this cannot be definitively concluded as negative effects reported from observation/ case study/ survey comments are not statistical analyses of hypotheses, and the effect could equally be due to the lack of definition of the steering committee role.

Grindlay (1981) noted "It is not difficult to find a company with an Information Systems activity which is progressing quite satisfactorily without the benefit of a Computer Steering Committee thank you". He also noted there are times a steering committee won't be of much use and other times where it can play a major role.

Nolan (1982) said "Though management by committee has a bad name, in the case of computers the executive steering committee is the most efficient way to ensure the fit of information systems with corporate strategy".

Drury (1984) observed "the steering committee does not result in improved efficiency of computer operations, better equipment purchases, or measurement of performance of data processing. Proposed advantages in these areas have proven to be very unsuccessful". He mentioned the danger of dominance by either senior corporate management or by IT. He also noted that the committee can be ineffective if forced to deal with operating issues rather than management control or strategic planning issues.

Robey and Markus (1984) noted that "steering committees may perpetuate disagreements about sub-goals rather than directing computing resources towards superordinate goals".

McKeen and Guimaraes (1985) found that at that time steering committees favoured large projects, projects with little vertical integration and lower level projects.

Reimers (2003) noted that "Centralized decision-making in the steering committee may lead to some delay in the decision-making process, thus causing schedule and possibly budget overruns". He also drew attention to the decision-making method, as outlined in theme 9.

Ali and Green (2007) found that the existence of an IT steering committee did not positively influence the effectiveness of IT governance, as elaborated in Theme 4.

Bradley (2008) noted that "Both successful and unsuccessful projects used a steering committee to review and control the project. While this practice is supported in the literature and appears to be used broadly, use of a steering committee does not assure project success".

Lechler and Cohen (2009) noted "Only in very few cases did some committees have a perceived negative effect on project performance. The observations suggest that committees tend to more negatively affect the efficiency of project implementation processes".

Most of these observations are cautionary and can be summarised by saying these committees should be kept at the strategic level and can delay and impede if they venture into the lower level project or task area. No further cons are reported after 2009. Perhaps the debate regarding their usefulness has been considered settled since that time.

3.3.8   Governance defined

Only 9 of the 29 (31%) papers defined governance, and 7 of these defined IT-governance only, leaving only 2 (7%) with a definition of governance itself.

The first was in an IT paper by Sohal and Fitzpatrick (2002) who stated that governance was synonymous with management and referred to it as "administration: coordinating, appraising, planning". This definition overlaps, omits and confuses many things. They offered several other definitions: "Governance answers the question of what must be done"; "Governance is the creation of a setting in which others can manage effectively". They classified industry in an IT-centric way into high, medium and lower tier industries, based upon whether IT is the most important factor to influence the core business (high tier). While not explicitly mentioning the word 'power', except in the technology sense, a lack of organizational power

is implied in their findings that for medium and low tier industries, the position of the CIO should be elevated.

The only other definition was in a non-IT paper by van der Waldt (2010). He defined 'governing' as regulating the proceedings of an entity, and 'governance' as "the process of decision-making and the process by which decisions are implemented and thus refers to the rules, processes and behaviour that affect the way in which powers are exercised."

The remaining 7 papers defining IT governance were published after a definition of governance was published in (Standards Australia 2003), and this definition was taken into the IT area in Standards Australia (2005).

15 out of the total 29 papers were published after 2005 and 8 (53%) of these defined governance. 10 of the 15 were IT papers and 7 of them (70%) defined IT governance.

Cobanoglu et al. (2013) quoted the Weill and Ross (2004) textbook definition as "specifying the decision rights and accountability framework to encourage desirable behaviour in using IT". Such definitions generally give the understanding of what governance is then add a qualifying purpose to either justify it or apply it to IT. These can be translated to definitions of governance itself by removing the later qualifiers, so for example, the above Weill & Ross definition of governance accepted by Cobanoglu et al. (2013) is taken to be "decision rights and accountability framework". Several other papers also seem to have been influenced by this. Bowen et al. (2007) referred to "decision-making structure and methodologies". De Haes and Van Grembergen (2009) and Prasad et al. (2010) had similar definitions but added leadership to organisational structures and processes.

Two other papers (Ali & Green 2007) (Ferguson et al. 2013) accepted the 2003 IT Governance Institute definition of IT governance, which is the same as that adopted by the Information Systems Audit and Control Association in 2002 as a "structure of relationships and processes to direct and control the enterprise…"

Huang et al. (2010) took a different approach again referring to rationalizing, directing and coordinating.

It could be that individual researchers have felt that, as the terms are so widely used, they must have commonly accepted roles and meaning. However, the above examination indicates the variety of definitions and the range of subjects (leadership, rationalising, relationships,

coordinating) that have been legitimately or otherwise included, even in the later definitions. The low number defining governance of any form, together with the variation of the definitions offered, is concerning, particularly when considered with the low percentage detailing the actual role of the steering committee.

3.3.9 Power explicitly mentioned

Very few of the papers dealt explicitly with the issue of power – 6 out of the 29. Such discussion occurred in three older IT papers, one recent IT paper, and two recent non-ICT papers.

Nolan (1982) noted that "DP managers have seen their power erode as cheaper and smaller computers have spread throughout the organisation". He also noted there are "Two forces leading companies to establish steering committees: decentralization and strategic choice".

Grindlay (1981) mentioned the word once, but only in relation to the power of computing equipment.

Robey and Markus (1984) talked of ignoring "the possibility that IS design is a political process in which various actors stand to gain or lose power as a result of design decisions". They noted that "systems which appear to be rationally justified also serve political aims. Behind participants' skilful honouring of the appropriate rituals may lie self-interest and considerable negotiating power".

van der Waldt (2010) mentioned governance as "affecting the way in which (decision-making) powers are exercised.". He also referred to the need for political control over bureaucratic descretion and power. "Hence, politics and administration are interwoven and a struggle may exist over who is actually in control of power".

Vannier (2010) dealt with "a transition in government authoritative power from direct control and supervision to indirect power relations premised on new forms of bureaucracy".

Cobanoglu et al. (2013) mentioned it twice but do not elaborate, other than to mention steering committees as a way to get senior management involvement in IT planning. This is a bottom-up construct, suggesting recognition of a lack of IT corporate power and the possibility of getting it via senior corporate management involvement in the steering committee mechanism.

In summary the few authors that did mention power did not explore it or base any hypothesis tests upon it. (Vannier 2010) gave the fullest account, analysing it from a neo-liberal viewpoint, but applied it as a new form of bureaucracy developed as a means of bypassing corruption in projects in developing countries, and auditing was the primary subject of this paper.

3.3.10 Association between steering committees and private sector boards of directors

Six of the 29 papers (21%) noted this connection.

Nolan (1982) referred to executive steering committees and Grindlay (1981) although published earlier, referred to Nolan's stages of evolutionary development of these executive steering committees, noting that Stage III "eventually leads to a corporate philosophy of having the users take responsibility for planning and controlling the IS function in much the same way that a Board of Directors takes responsibility for planning and controlling the entire company". He said "successful, profitable use of the computer requires users to be heavily involved in the systems activity" and concludes by saying "If users are to become the 'Board of Directors' of the Information Systems function…" This establishes that this linkage had been made by the early 1980s, albeit for an 'executive steering committee'.

Several papers (Doll & Torkzadeh 1987; Torkzadeh & Xia 1992; Huang et al. 2010) mentioned MIS/ IT steering committees acting as "a kind of board of directors". Lechler and Cohen (2009) mentioned the concept, but in indirect terms and Karimi et al. (2000) mentioned only IT boards, drawing on the concept without being explicit about it.

Papers making this connection span more than three decades.

3.3.11 Evaluation of steering committee purpose/ role

Only 5 papers dealt with this. They are Nolan (1982) who set out the functions of an executive steering committee, an IT study by Drury (1984), Karimi et al. (2000) who investigated the relationship of MIS steering committees to 'IT management sophistication', Reimers (2003) study on implementing ERP systems in China and Lechler and Cohen (2009) who surveyed steering committee characteristics both within and outside IT.

4 papers found steering committees had some beneficial effects, and Reimers (2003) made no comment on that subject. Several looked at the effectiveness of various steering committee

configurations (Drury 1984; Karimi et al. 2000; Lechler & Cohen 2009). Two (Drury 1984; Lechler & Cohen 2009) also noted the dangers of steering committees including their ability to generate conflict.

The first reference to the origins of steering committees occurred in Nolan (1982). He set out in some detail the purpose and function of the 'executive steering committee' which he referred to as "the company's board of directors for its computer activity." He saw this committee as the "most effective way to deal with the forces of computer decentralisation without dissipating the company's investments in building a computer capability". Interestingly, he listed roles including direction setting, rationing resources and advising. This was later to be mentioned, although not examined by (Drury 1984), even though Drury did not reference Nolan. Drury (1984) said "Groups concerned with MIS issues, typically composed of management, user and data processing representatives have generically been referred to as *steering committees*". He noted diversity of opinion on the composition of the "ideal" steering committee to produce "a cooperative exchange of ideas, understanding of problems and generation of solutions."

So the term *steering committee*, as distinct from Nolan's 'executive steering committee', was originally used to denote a group that: a) contains important parties or actors and b) works cooperatively to 1) understand problems and 2) generate solutions.

Many of the later papers referenced Drury (1984) and made the implicit assumption that 'steering' was a generic term encompassing any committee involved with projects. None either justified or questioned this.

An additional purpose of these committees appeared in Karimi et al. (2000) which was to link the temporary and permanent organisations. This was further supported in Lechler and Cohen (2009).

The intervening study by Reimers (2003) addressed the method of decision-making rather than adding any additional steering committee purpose.

In summary, this analysis of the literature indicates that the group that was given the name 'steering committee' arose to:

1. bring together important actors
2. work cooperatively (collaborate) to

      a. understand problems and

      b. generate solutions and

3. link the temporary project organisation with the parent organisation.

In other words, the steering committee was intended as a collaboration device for problem solving.

Lechler and Cohen (2009) found that steering committees had no standard descriptor for project oversight responsibilities and that the concept of a steering committee is neither clearly defined nor perceived in industry. They then classified steering committees by level (executive and business unit) rather than by purpose, function or structure, and ignored Drury's caution regarding whether the committee advises or decides.

3.3.12 Evaluation of steering committee method of operation

Only 4 of the 29 papers deal with this. Drury (1984) observed from his analysis of the literature that whether the committee provides guidance or makes decisions is an important functional difference. However, his research focused on what he referred to as 'structural alternatives'. These comprised the level of the chair, representation, meeting frequency, source of agenda items and whether decisions were imposed (by either the IT department or the chair) or reached by agreement). Some of these would seem to be functional rather than structural, yet he did not survey for guidance (or recommendation) versus decision.

This issue was next mentioned in Reimers (2003) who found that consensus-based decision-making in the steering committee was associated with an increased likelihood of service level declines after cut-over. He offered the possible explanation that "this form of decision-making gives every department a veto-right which they might use egotistically risking severe problems after cut-over." He also mentioned:

- centralised decision-making in the steering committee as causing delays resulting in schedule and budget overruns,
- seniority based decision-making enabling senior management to make decisions without being aware of the consequences, and
- the extent of delegation of authority to the project team having an influence upon project success.

One of the structural alternatives in Drury (1984) was (the balance of) representation, implying that he considered the committee would vote. Lechler and Cohen (2009) also explicitly consider that the steering committee would vote, but do not offer any comment on that subject. Nolan (1982) offered suggestions on method of operation but made no comment on whether the committee would vote. This is a significant factor in how the committee functions. If a committee votes, then it presumably has some decision power, implying it is not an advisory committee that simply provides guidance.

This leads to a further definitional issue. Calling the committee by the name (Drury 1984) indicated was widely advocated in the systems literature at the time means that steering was supposed to be inclusive of both recommending and deciding. This is logically inconsistent. These two options of harnessing available power are mutually exclusive. Steering a direction means making decisions, not making recommendations or guiding. So use of the phrase 'steering committee' as a generic term is a misnomer and the veracity of Drury's statement regarding deciding versus advising remains unacknowledged and untested in the subsequent literature.

The term 'steering' will therefore be used here to describe a committee that either votes or operates on a consensus basis, and 'advisory' to describe a committee that provides advice. The latter could include a committee where, as in Reimers (2003), the senior person makes the decision and the rest of the committee provides advice. Where this most senior person has authority over the lives and or career progression of the committee members but does not have authority over the organisation that is being bound by the decision, this may cause practical functional and governance difficulties. This indicates the importance of power, authority and accountability.

3.3.13 Method of operation – voting versus advising

As described in theme 12, only 2 mentioned the decision-making method.

Reimers (2003) was the only paper to approach the subject since Drury (1984). Reimers (2003) noted "Seniority-based decision-making enables senior management to unilaterally change some project parameters without necessarily being aware of these decisions' impact on the project schedule and budget while a consensus-based or, less pronouncedly, a

majority-based decision-making principle would enable other managers to block such decisions" while "consensus-based decision-making in the steering committee is associated with an increased likelihood of service level declines after cut-over. A possible explanation is that this form of decision-making gives departments effectively a veto-right which they might use egotistically risking severe problems after cut-over". While the first part of Reimer's concerns can be avoided if senior managers adequately consult with their subordinates who are not afraid to provide 'frank and fearless' advice, Reimers was working within a communist regime and the method of committee operation in that case was advisory, not decision-making. Consensus decision-making is effectively the same as voting with a veto right, meaning all must agree for a decision to be made.

3.3.14 Linkage between two organisational structures

Only two papers explicitly mentioned this. van der Waldt (2010) mentioned "the establishment of structures to facilitate clear interfaces between municipal leadership and project teams". He also mentioned "the physical organizational placement of project governance structures". He noted that "a decision must be made on … how to integrate the project with the existing organizational structures and systems".

Crawford et al. (2008) mentions organisational structures and the relationship between the project and its parent organisation, but does not take this further, exploring instead the role of sponsor in providing this linkage.

3.4   Identification of gaps in the literature

A review of the literature has found the following gaps:

1. There have been few evaluations of committee role or purpose or operating method.
2. The issue of whether the committee votes or not, in other words, whether it steers or advises, raised right back in (Drury 1984), has been largely ignored.
3. There has been a lack of clarity around the definition of governance and there was no discussion about whether the term is procedural or ethical. There were attempts to extend it in other ways to include leadership, rationalising, relationships and coordinating ((De Haes & Van Grembergen 2009; Huang et al. 2010; Prasad et al. 2010)). Other literature indicates attempts by various industry segments and pressure groups to extend it to project management processes and to sustainable and human development World Bank (2013). There was also an absence of comment on the

relationship between usage of the term at a ruling or political level and its use at an organisational level. There therefore appears to have been no consideration of the concept of governance from a systems perspective i.e. taking into account the full spectrum of its usage across various fields.

4. The number explicitly addressing the issue of power together with the similar number mentioning these committees as attempts to replicate company board structure (only one mentioned both) totalled over a third of the papers. Recognising that many others, while not specifically mentioning the word 'power' did mentioned circumstances that are impacted by the distribution of power, the question of power may well be the 'elephant in the room'.

5. Lack of investigation into how an authoritarian, hierarchical structure can be mixed with a democratic device, namely a steering committee, and what impact this has on the linkage between temporary project organisation structure and the permanent controlling organisation's structure.

The review also found the following inconsistencies:

1. Advisory committees have been called steering committees since the 1980s or possibly earlier (Grindlay 1981; Nolan 1982), originating in IT with any committee associated with IT being called a steering committee.

2. Most of the papers did not explicitly state the level that the committee was operating at. It was generally evident from other text presented in the papers that the committees being investigated were operating at or their considerations at least included the program level. However, one early paper (Gupta & Raghunathan 1989) did specifically investigate this and provided evidence that they do work best at the program level (strategic planning phase).

It is also evident from the review that there is little evidence of project level committees having been investigated, which means that the literature does not support the widely held view that "project steering committees are essential to/ synonymous with good project governance".

Given that multiple gaps were identified, the question arose as to which one to select, or whether there might be a broad issue or question that might resolve numbers of these gaps simultaneously.

Gaps 1 and 2 are related, with 2 being an important subset of 1, as an important aspect of the role of the committee is whether it steers or advises. Both relate to the concept of governance.

Gap 3 identifies the lack of agreed definition of the governance term and the omission of consideration of its relationship to ruling and the exercise of political power, which is the subject of Gap 4. Gaps 3 and 4 are therefore related to each other and to the concept of power as well as to that of governance.

Gap 5 provides context for the other gaps and points to the clash of philosophical approaches which is relevant to both governance and power.

This indicates that the initial focus of investigation should be on either the concept of governance or the concept of power rather than on steering committees per se. As governance and power are related and the focus of this study is organisational, it is appropriate for the initial focus of investigation be on the concept most closely related to organisations, namely governance. Furthermore, it is the term around which organisational power, ethics, leadership, strategy, management, direction and control all coalesce, allowing scope to subsequently investigate these issues.

4   Formulation of research question

The initial focus of the investigations is to address the issue raised in Gap 3 regarding the definition of governance. The research question for the overall investigation is therefore WHAT IS PROJECT GOVERNANCE? This question is the subject of the first journal paper. To allow for this giving rise to further investigations, a qualification is added as follows: *Disclosing the source of confusion and revealing the essence of governance*. The full research question is WHAT IS PROJECT GOVERNANCE? *Disclosing the source of confusion and revealing the essence of governance*.

5 Research approach

My research approach is developed by considering ontology followed by the four categories proposed by Crotty (1998, pp. 1-16) as the basis for determining appropriate qualitative research methods, namely epistemology, theoretical perspective, methodology and method. The logic to this sequence is that we must first know something to even begin to approach our problem (the research question), that is, we must first figure out what we already know (ontology). We can then figure out how we have or may come to know it (epistemology) before determining the appropriate theoretical perspective to apply to it. We can then consider what the appropriate methodology would be to guide selection of the actual methods to be used. The implementation of this sequence for this particular research question is set out in the following sections.

5.1 Ontology

Governance, and more particularly project governance exists in the world as a social construct that is highly dependent on a particular group of corporate social actors. The construct varies from person to person, industry group to industry group, across a variety project management reference documents, and these multiple perspectives also show up in academic journals. This was subsequently confirmed from my interviews and literature reviews. I chronicled these perspectives, disclosed the reason why so many of them are varied and prevalent, and subsequently revealed the <u>essence</u> of governance. This essence of governance, I finally argue is what governance *is*. The full significance of the term essence and its multiple simultaneous meanings are detailed in the exegesis.

If we can all come to an agreement on our definitions of conceptual terms, we can avoid talking at cross-purposes. This way we extract what we mean by a particular term out of our individual heads, our own Popperian World 2, and place it into Popper's World 3 so it can be shared. In this way, what we mean by a term becomes in a way objectified, a conceptual object that others can apprehend. The definition of a conceptual term then has communicative utility.

I consider it is impossible for us to act upon what is true or right, as it is not possible for us to always know enough in every circumstance to be in a position to judge this. We can only act upon what we <u>think</u> is true or right. While I prefer to avoid labels, this aspect of my

ontological perspective could be described as a form of 'social relativism', where if a group of actors decide something is true, then it is true within that group because they all agree that it is and act as though it is. With regards to governance and all its associated terms, I am proposing that there will be utility for society if corporate social actors say that governance *is* 'a system by which an entity is directed and controlled', and consequentially act as though this is true.

Organisational governance is socially constructed. It cannot be individually implemented, and it has to be implemented by a group.

5.2 Epistemology

While there may not be any external certainty independent of social actors, with regard to conceptual definition and to management topics, particularly governance, there can be social benefits if we act "in the direction of culturally approved objectives" (Rescher 2016, p. 37). My epistemological position could therefore be described as 'social pragmatism'. This is pragmatism in the sense it was originally advocated by Peirce (1878, p. 293):

> It appears, then, that the rule for attaining the third grade of clearness of apprehension is as follows: Consider what effects, which might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object.

This means, as (Rescher 2016, p. 30) said "not to abandon principles for the sake of expediency in the manner of a 'pragmatic' politician, but rather to insist on principles—albeit on exactly those expedient principles of process that prove themselves to be systematically effective in application". I characterize this as 'what works' rather than as 'what do we have to compromise on to get a desired outcome'.

This view of social pragmatism leads to harvesting the multiple perspectives of the community and to using the method I developed of defining conceptual management terms to craft a Popperian world 3 version based on defining by intension v extension as per Copi and Cohen (1990). It contains elements of what would traditionally be regarded as diametrically opposed epistemologies, namely constructionism and objectivism.

It contains an element of constructionism as there is no one "right" or unique organizational structure or committee, and these are social constructs. The research question is however, not

subjectivist, as even though it deals with a subjective area in which meaning does come out of the interplay between people in the organization (subjects) and the organizational structure or device such as a steering committee (object). Meaning may be imposed by the subject on the object, but the object itself certainly does make a contribution to the meaning ascribed to it by the subject. This research looked at the "individual human subject engaging with objects in the world and making sense of them" which Crotty (1998, p. 79) considers to be a construct<u>iv</u>ism view which holds that meaning is created through interacting with objects in the environment. However, all organisms, individuals and organisations have a history that influences behaviour. This is recognised in construct<u>ion</u>ism which holds that "Instead, each of us is introduced directly to a whole world of meaning … (from) … the cultures and sub-cultures into which we are born" Crotty (1998, p. 79).

However, my position also contains <u>objectivist</u> epistemology in that it seeks to define objective content. Concepts are simply defined non-normatively, producing definitions which, if agreed and adopted, have the potential to remove unnecessary debate and confusion. These then become fixed or absolute (objectivist) but without claiming that the derived definitions describe anything existential. This corresponds with the view that, while there may be no absolute truth, to be productive as a society, a discourse that is inclusive and removes confusion is necessary, one that all can participate in, with shared understanding of meaning, removing accidental and undetected differences.

My epistemological position is therefore midway between (or partly both) constructionist and objectivist.

There is also something of Derrida's <u>deconstruction</u> in my position as well, as there is a hierarchy in the definition of governance. One could argue that we are still amongst the business-as-machine era on the long tail of the industrial revolution, and this impacts how we look at such definitions as governance as our attention is invisibly guided to the aspects of directing and controlling. It is as if this part of the definition encapsulates the essence of governance. But, as my research has shown, it is the 'system' part of the definition, which is easily overlooked, that points to the essence of governance. It is the part of the definition which has great merit and value. The term governance actually directs our attention to the system of things, the coupling together of parts, which enable an entity to be directed and controlled.

5.3   Theoretical perspective

A modernist approach would not resolve an answer to my research question, as there is no universal, supreme, true, or perfect form of governance. A postmodernist approach embraces the multiple perspectives of project governance found amongst the academic and practitioner literature, and amongst project management practitioners. Furthermore, my past experience in roles dealing with governance – managing major infrastructure projects, programs and portfolios and developing a project management methodology - has shown me that, whilst there are many perspectives on governance and project governance, some have more utility than others. This also aligns with the movement away from determinism and positivism and so post-postmodernism can be assigned as the theoretical perspective for this work.

This can also be regarded as a systems perspective as a holistic view is required to fill one of the gaps identified, namely lack of definition of key terms due to various field-specific meanings having come into use. This requires determination of the intersection of various 'sets' of meanings.

5.4   Methodology

There is an element of Interpretivism informed by Critical Theory that is appropriate to the research question. Within Interpretivism, the perspective of Philosophical Hermeneutics is appropriate, and within that, the perspective of Phenomenology. Crotty (1998, p. 12) noted "Constructionism and phenomenology are so closely intertwined that one could hardly be phenomenological while espousing either an objectivist or a subjectivist epistemology. And postmodernism well and truly jettisons any vestiges of an objectivist view of knowledge and meaning".

The research needed to iterate, in the manner of the Hermeneutic circle, as described in "Geertz's 1976/79 oft-cited description … as a continuous dialectical tacking between the most local of detail and the most global of global structure in such a way as to bring both into view simultaneously" Schwandt (2000, p. 193). In traversing this circle, it drew on the objectivity and critical characteristics of European Phenomenology.

It is also perhaps worth noting that symbolic interactionism is not appropriate for this research question as it does not provide for questioning the culture of the subject. Crotty (1998, p. 74) points out that this perspective is based on the North American pragmatic approach which is both subjective and unquestioning of culture, and noted " 'Increasingly',

writes Horowitz (1966) 'pragmatism came to stand for acquiescence in the social order' ". This research, as noted in the previous section, looks for what works rather than what can be compromised and in doing so challenges the existing social order, at least insofar as it applies to existing organizational structures and devices (steering committees).

5.5 Methods

Creswell (2003, pp. 21-2) notes the quantitative approach is "the best approach to use to test a theory or explanation. ….if a concept or phenomena needs to be understood…., then it merits a qualitative approach". This is also supported by reference to the classification of single strand mixed model designs in Table 1.2 of Tashakkori and Teddlie (2003, p. 31) which indicates that for an exploratory investigation with qualitative data and qualitative analysis, a pure qualitative approach is appropriate. Qualitative rather than quantitative methods were therefore selected.

My ontology was that governance is conceptual and lives in minds of a particular group, so this generates an epistemology that I should investigate in that environment, in the minds of people. This meant I should talk to them as well as look at the documents they refer to, as well as what academics have written about them. The following data collection methods were therefore selected to answer the question:

1. analysis of academic literature

2. interviews with experienced practitioners and

3. analysis of practitioner reference material.

This produced a meta-method of triangulation to verify and cross-correlate understandings from those three quite different environments. This covered all three sets of actors working where the social construct lives – those developing or recording the theory, those developing the devices to deploy it, and those applying it. It also enabled differences between espoused and actual practice to be identified.

6   Research Implementation

The research methods were implemented in the order listed above, establishing academic confusion first, then identifying practitioner confusion before tracing the latter back to practitioner documents.

6.1   Papers produced and attached

In examining scholarly journals, interviewing practitioners and reviewing practitioner documents, I found a range of different ideas on what governance was considered to be. From the initial definitional exercise on governance, it became evident that there were many related terms that were also the subject of similar definitional confusion. These included power, ethics and strategy, together with other terms that overlap with general management, such as stakeholders, responsibility and accountability. These required further examination of literature and logic, together with impirical investigation to see if similar confusions were found among practitioners. The empirical work then led to further investigations of program terminology and project management methodology effectiveness. All of these investigations became the subject of further papers. In total, 16 separate papers were written and these are included in Parts 2 and 3.

6.2   Literature reviews in attached papers

Each of these sixteen papers conducted a literature review to establish that confusion was occurring. The literature reviews were not 'systematic' because evidence of confusion is a qualitative matter that can be determined deductively; it is not a quantitative matter requiring inductive analysis of probability or significance; if confusion is occurring somewhere, it is occurring i.e. it can definitively be demonstrated to absolutely exist if any occurrence is found. This is proof by deduction. It does not require exhaustive searching for everything that has ever been said on the subject. It just needs to be established through finding an example. This is a key point that should be born in mind when considering the targeted, specific, deductive literature reviews contained in these papers. Confusion is not resolved by generating statistics about it; it requires the techniques employed in these papers.

6.3   Research questions in attached papers

Empirical papers having explicit research questions (RQs) are listed in Table 1 below.

Table 1: Research Questions in attached papers

Part	Paper	Research questions (RQs)
2	5	Does any inconsistency in **governance terminology** exist within or between management practitioner reference documents?
2	6	RQ1: Is there confusion about **governance** terminology amongst experienced management and project management practitioners? RQ2: If confusion is found, can working parameters for committee operation be derived from the surveyed practitioner community?
2	7	RQ1: "Does confusion exist in the practitioner community regarding whether **steering committees** decide or advise?" RQ2: "How has the conflict between authoritarian and democratic power models/ devices (deciding versus advising) been resolved in practice?" RQ3: "Does the previously developed model resolve any confusion identified in RQ1 and accommodate the findings of RQ2?"
3B	5	RQ1: Does confusion exist in experienced management and project management practitioner usage of the term **program**? RQ2: Do all experienced practising project managers consider that a program must involve transformational organizational change?
3B	6	RQ1: Do experienced practitioners consider the project management **methodology (PMM)** their organisation uses is effective and or beneficial? RQ2: Can any of the participants present information verifying the effectiveness and benefits that have accrued from use of their PMM? RQ3: What organisational conditions emerge as being important for the effectiveness of PMMs?
3B	7	RQ1: "Does confusion exist within or between project management practitioner **reference documents** about the meaning of the term **program** and associated terms (project and portfolio)?" RQ2: "Do all of the documents require that a program must involve transformational organizational change?"

		RQ3: "If confusion is found, can generic definitions be developed giving clear boundaries between project, program and portfolio levels?"
3C	8	Are there any features of **PRINCE2** that make it difficult to apply to engineering infrastructure projects?
3C	9	Are there any features of **MSP** that make it difficult to apply to engineering infrastructure programs?

The analytical papers did not have explicit RQs but effectively all had the same implicit research question, namely '*Can confusion surrounding definition of the groups of terms associated with 'concept x' be resolved through application of definitional refining method developed in this thesis (Part2 Paper 2)*?' Where concept x = (2-2) Governance, (2-3) stakeholders, (2-4) accountability and responsibility, (3A-1) leadership, strategy, management and strategic management, (3A-2) power and its exercise, (3A-3) enablers, mechanisms, tools and channels of power, (3A-4) ethics.

The purely definitional analytical papers were effectively tests of the method developed in the first journal paper on governance, Part2 Paper 2. That paper provided a rigorous epistemological tool for arriving at rigorous ontology. It was and is, in Popperian terms, a World 3 maker, providing a means for reconciling the Worlds 2 of multiple actors. It is a tool for social pragmatism.

6.4 Summary of individual papers produced

This section lists every paper produced during the course of this thesis together with its abstract.

Part 2 Paper 1: Do steering committees and boards constitute good project governance?

This paper investigates the notion that steering committees and boards in some way constitute good project governance. The paper finds that this perception has no scientific or rational basis to support it and that steering committees can diffuse responsibility and accountability in the hierarchical structures of government departments and large organisations, leading to project delay, confusion and uncertainty. The paper reviews the literature on governance and project steering committees and concludes that establishing project advisory rather than steering committees removes potential conflicts and provides an effective consultation mechanism that facilitates 'best for project' outcomes.

Part 2 Paper 2: Redefining governance: from confusion to certainty and clarity. This paper develops the definitional refining method that is used in all subsequent definitional papers and then applies this to governance. This highlights the systemic nature of governance, and concludes that no one feature, such as a steering committee or policy or approvals process, is in itself governance. Rather governance is an emergent property of a system of various coupled components within an organisation that collectively enable the entity (organisation or project) to be directed and controlled.

Part 2 Paper 3: Stakeholder defined This paper uses the definitional refining method in defining the terms 'stake' and 'stakeholder' in terms of interest and activity. This departs from the previous company-centric base of stakeholder theory and adopts an activity base that better accommodates government entities and changing circumstances. It also avoids defining particular types of stakeholders and/ or their degrees of impact according to particular industry contexts and entity types. These definitions are carried forward into a mapping of the stakeholder locus of interest which proposes generic categorisation of stakeholders for use in both private and public sectors and provides the basis for resolution of the widely acknowledged 'essentially contested' status of the stakeholder term. A governance difficulty with use of the term 'customer' across both sectors also emerged and a resolution to this was proposed that does not presume the customer always pays. It categorizes customers based on who receives the output and the outcome, rather than on who pays, as these can be different for government organisations.

Part 2 Paper 4: Accountability and responsibility defined. The paper defines these terms, making a clear distinction between them and exposing varying sources of accountability - legislative, organisational, contractual, codes (written and unwritten). It also points out how the two terms transition into each other when crossing organisational hierarchical levels, as each level delegates tasks. It also identifies a problem in using RACI tables and proposes a means of correcting this.

Part 2 Paper 5: What do practitioners think governance is? A study on perceptions in Queensland, Australia. This paper investigates whether the academic confusion regarding what governance actually is has translated into practice and what the consequences for project management have been. It does this by investigating the understanding of governance terminology within a sample of experienced management and project management practitioners across a range of industries and disciplines in Queensland, Australia. It finds no

common definition of governance being articulated, even though a common workable application of the concept in relation to committee arrangements had been implemented. That application is distilled into a set of operating parameters for committee governance. A typology of motivations is then developed in an attempt to identify the drivers for these findings. A view of language as a framework representing meaning rather than as constituting meaning itself, is also developed, challenging the philosophical view of the family resemblance concept of definition developed in the mid-twentieth century.

Part 2 Paper 6: Governance terminology confusion in project management reference documents. This paper investigates definitional confusion in governance terminology across a range of project and general management practitioner reference documents by comparing governance terminology in them against a set of previously published definitions of governance terms from Part 2 Paper 2 above. Many inconsistencies in governance terminology were found within and between the reference documents analysed. These included the relationship with accountability, the presumption of the joint-stock company model, the inclusion of items considered unwarranted by the reference definitions and the means of handling legitimate inclusions. The existence of these inconsistencies indicates there is a need for general acceptance of a set of internally consistent governance terms and for these to be brought into the various practitioner reference documents. A set of terms is proposed. Resolving these terminology differences has the potential to avoid waste of time, resources and money.

Part 2 Paper 7: Confusion of Steering Committee amongst practitioners - Do steering committees really steer? This paper investigates whether project management practitioners are confused about whether steering committees decide or advise. Semi-structured interviews were conducted with highly experienced participants were selected from a range of industries and disciplines in Queensland, Australia. Confusion on the role of steering committees was found to exist within that practitioner community. However, despite expressing various opposing views, participants them had actually come to the same working arrangements for their committees; all that was missing was a common conceptualisation of these working arrangements and consistent terminology, both of which are developed in this paper.

Part 3 Paper 1: Defining strategic management. This paper notes that the concepts of leadership, strategy, management and strategic management are inter-related and the meanings of all these terms are contested to some degree. These concepts are explored in

detail and the definitional refining method developed Paper 2 of Part 2 was applied to all these terms. The resulting definitions clearly distinguish between a strategy and a plan, remove problematic field-specific extensions from the definitions of leadership and management and propose a resolution of long-standing contest around the meaning of the term strategic management. Leadership is defined simply as showing the way, strategy as the pattern in a series of actions, management as taking charge, and strategic management as taking charge of the pattern in a series of future actions.

Part 3 Paper 2: Power defined - Part 1 Power and its exercise. This and the following paper seek to remove definitional overlap and confusion from a group of terms concerning power, again using the definitional refining method developed Paper 2 of Part 2. The first paper deals with the inadequacy of single term definitions and adopts an appropriate method for developing non-overlapping definitions for a group of power terms. The terms selected are: legitimacy, authority, power and influence in Power defined Paper 1 followed by direct, control, regulate and regulation in Power defined Paper 2. The selected terms are then arranged into a diagram which is fleshed out with other non-contested, non-overlapping terms into a model representing the machinery of power. Several thought experiments are then conducted on the model and means of driving it are then considered, resulting in an understanding of the consequent mechanics of power within an internally consistent definitional framework. Previous and contemporary power theories were then located within this framework.

Part 3 Paper 3: Power defined - Part 2 Enablers, mechanisms, tools and channels. See above.

Part 3 Paper 4: Ethics defined. This paper applies the definitional refining method developed Paper 2 of Part 2 to a group of related ethical terms, namely ethics, values, morals, principles and beliefs. This produces mutually consistent, non-overlapping definitions, suggesting the possibility of reducing confusion in discussion of these terms. It regards lack of transparency in the way we approach resolving the meaning of contested conceptual terms as an ethical issue.

Part 3 Paper 5: A typology of meanings: Practitioners views of 'program'. This paper reports on a study investigating the understanding of program terminology within a sample of experienced management and project management practitioners across a range of industries

and disciplines. The study was conducted in Australia which is subject to influence by both USA and British practice, without being constrained to favour either, but where any inconsistencies between these influences are potentially problematic. The outcome was that confusion on this issue was found within the practitioner community. Furthermore, this confusion had developed into competition between fields over exclusive usage of the term to the extent that one organization had even attempted to resolve it by attributing different meanings to the two different nationality spellings of the term. No common understanding or definition of the term was articulated and there was contention over whether a program has to be transformational to be labelled as such. The boundaries with the terms project and portfolio were also unclear. The existence of these inconsistencies indicates there is a need for an internally consistent set of definitions of project, program and portfolio to be agreed and adopted across the whole project management field.

Part 3 Paper 6: Practitioner views on project management methodology (PMM) effectiveness. This paper reports the results of a study investigating the organisational conditions that impact the effectiveness of project management methodology (PMM) implementation. It was conducted with a sample of experienced practitioners across a range of industries and disciplines covering engineering infrastructure and IT in Queensland, Australia. The implementations covered generally aligned with either the American PMBOK or the British PRINCE2, while some attempts had been made to hybridize. The study found general practitioner agreement on the effectiveness of having a methodology. Six organisational conditions impacting the effectiveness of PMM implementation were identified and evidence of quantification of PMM benefits was found in two large organisations whose PMBOK based PMMs had been delivering better than 90% on time and budget across all their infrastructure projects. The study included but did not focus on IT and did not uncover any information on actual performance of PRINCE2 implementations. However, the PRINCE2 claim of suitability for application to all project types was disputed for physical engineering infrastructure, indicating a need for separate investigation beyond the scope of this paper.

Part 3 Paper 7: What is a program: An examination of terminology differences in project management practitioner reference documents. This paper reports an examination of program terminology across a range of project management practitioner reference documents to determine if there is any definitional confusion within or between them and

whether the boundaries with the project and portfolio levels are clear. The examination was conducted across IT and engineering infrastructure documents to guard against accidental transference of terminology generic in one field but not in another. The examination found that there are indeed inconsistencies in program terminology between the documents analysed, making it difficult to know where the boundaries with project and portfolio lie. A set of mutually consistent definitions is then developed.

Part 3 Paper 8: The suitability of PRINCE2 for engineering infrastructure. This paper investigates the view that PRINCE2 was not suitable for application to engineering infrastructure by conducting an examination of PRINCE2 from an engineering infrastructure perspective. It takes a deductive, definitional approach to determine if there are any features in it that would cause difficulty for engineering infrastructure use. 17 features were examined and 15 were found to have difficulty in application to the project management of engineering infrastructure. The remaining two found inconsistencies that were unlikely to cause too much difficulty. The features causing difficulty include non-generic terminology for the terms project, lifecycle and stage, using a product rather than a project based process, use of an iterative product delivery process unsuited to predictive projects, use of a delivery process for all project phases, assumption of a board governance model with inappropriate accountabilities, lack of clarity around use of the project plan, and absence of a lifecycle appropriate for engineering infrastructure, with PRINCE2 effectively self-declaring its need for a higher-level project lifecycle/ methodology from somewhere else. The paper concludes that PRINCE2 is quite poorly suited to managing engineering infrastructure projects and identifies that some of the reasons for this are likely to also cause difficulty for many IT projects as well.

Part 3 Paper 9: The suitability of MSP for engineering infrastructure. This paper conducts an examination of MSP from an engineering infrastructure perspective to investigate its suitability for use in that field. It takes a deductive, definitional approach to determine if there are any features in it that would cause difficulty. Eight features were examined and six were found to have difficulty in application to engineering infrastructure. The remaining two were found to have terminology differences that are unlikely to cause too much difficulty. The features causing difficulty include an inappropriate definition of a program, use of a non-generic process flow unsuitable for rolling programs, confusion of transformation projects with programs, presumption of a board governance model and

confusion of large projects with programs. The paper concludes that MSP is quite poorly suited to program managing engineering infrastructure projects and identifies that some of the reasons for this are likely to also cause difficulty for many IT projects as well.

Part 3 Paper 10: The exercise of organisational power. This paper was a presentation given by invitation to a seminar organised by a project management training company, PM1World at Sanctuary Cove on the Gold Coast in May 2018. It drew materials from the above papers and showed how the terms used in describing governance fit together, indicating both what governance is, and what it is not. Definitions of responsibility and accountability were presented, demonstrating how these transition in delegation to lower hierarchical levels, providing a trap for using RACI codes across these levels. The common problem in steering committee governance of confusing whether the committee actually steers or advises was discussed and a model presented for determining which one is appropriate.

6.5   The need for an Exegesis

The first journal paper on governance, Part2 Paper 2 produced a rigorous definition of governance, project governance and other related terms, answering the first and overall part of the research question 'What is project governance'. This definitional refining method was tested on other terms and the subsequent papers enabled a lexicon of definitions of contested conceptual management terms relating to governance to be developed. This had become the overall goal of the wider project that included the goal of doing sufficient to demonstrate worthiness for a PhD award.

However, this raised the question as to how and why such divergence could have occurred on so many conceptual management terms. The Exegesis was written to investigate this and to answer the second part and qualification of the research question.

The Exegesis identified 10 commonly occurring transgressions in conceptual definitions and developed 15 definitional axioms and 15 definitional rules for avoiding these difficulties, which it also found have been causing much confusion over protracted time periods. A key philosophical error it identified was treating concepts in the same way as objects. We can point at objects to verify our common agreement on the word denoting it, whereas with concepts, the same means of verification is not available; we can't see what someone else means, or is referring to, when they use a conceptual term. We have simply overlooked

reaching agreement on both what our concepts mean and how we might verify a collective agreement on them.

The philosophical basis of each of the 10 errors was also investigated and reported in the Exegesis below, after first enumerating the findings of the first part of the research question.

The empirical investigations found differences between espoused and actual practice occurring in the practitioner arena; Part 2 Paper 7 found conceptual disagreement on decision-making over exactly the same steering committee operating arrangements. Part 3 Papers 5 to 9 found other similar disconnects relating to the claims of proprietary products. These were further investigated and/ or resolved with reference to the data and without requiring additional support from the Exegesis.

7 Outcome of the governance investigation

The undertaking at the heart of this thesis can be stated through the Hindu parable of the blind men and the elephant, as expressed in the poem by Saxe (1873), given in truncated form below:

> It was six men of Indostan
> To learning much inclined,
> Who went to see the Elephant
> (Though all of them were blind),
> That each by observation Might satisfy his mind.

(The blind men then appraise different parts of the elephant finding it to be like a wall, a spear, a snake, a tree, a fan and a rope.)

> And so these men of Indostan
> Disputed loud and long,
> Each in his own opinion
> Exceeding stiff and strong,
> Though each was partly in the right,
> And all were in the wrong!

MORAL.

> So, oft in theologic wars
> The disputants, I ween,
> Rail on in utter ignorance
> Of what each other mean,
> *And prate about an Elephant*
> *Not one of them has seen!*

The general principle this poem presents is that we are all in some way blinded to the wholeness of something by our particular perspective or experiences, and that our ideas or beliefs about such things are created on what can be a very narrow view of the whole. This is particularly so when dealing with conceptual things that cannot be seen, as it is quite likely that our sense or experience of what it is will be quite different to that of others. This leads to confusion when we discuss our differing perspectives while thinking we have the full picture of the whole, which is something *other* than the sum of its parts. Such confusion has been observed in many fields.

Bosson et al. (2000, p. 631), in studying measures of self-esteem, observed "Researchers, like the six blind men, are involved in a process of giving shape to something that cannot be seen, something whose characteristics must be inferred… yielding many different (and perhaps non-overlapping) pictures of the underlying construct". Many others have used the analogy (Hamnett 1991; Go & Carroll 2004; Kemp & Pontoglio 2011). In studying international integration Puchala (1972, pp. 267-8) noted it:

> is not unlike the episode of the blind men and the elephant. More than fifteen years of defining, redefining, refining, modelling and theorizing have failed to generate satisfactory conceptualisations of exactly what it is we are talking about… different researchers have been looking at different parts, dimensions or manifestations of the phenomenon... (and) have claimed either that their parts were in fact whole beasts, or that their parts were the most important ones, the others being of marginal interest.

Peterson (2004, p. 7) noted "the moral of this ancient Indian fable applies equally well to IT governance, which has been the subject of much debate and speculation, yet remains an ephemeral and "messy" phenomenon, emerging in ever-new forms with increasing complexity".

As this thesis demonstrates, governance is a word we attribute to an emergent quality we each experience and explain in differing ways. It is an intellectual construct which does have an influence on behaviour. Governance is not a tangible object that can be pointed at. It cannot be captured and put on display. But some may say that things such as organisational process or compliance procedures are a part of governance. And some would say that they have felt the effects of governance.

This thesis is concerned with the relationship between projects and their parent organisations, and how the concept of governance enables this relationship to exist in a productive way for both the organisation and the many projects concerned. There is much academic literature that talks *about* governance, but only a small proportion has attempted to actually define it (See below and Paper 1 of Part 2). And of those who reach a definition, there are significant differences in those definitions.

This is where parallels can be drawn between the parable of the blind men and the elephant, and the researchers and practitioners who have tried to understand and comprehend governance. The conference paper called *Do steering committees and boards constitute good project governance?* (McGrath and Whitty 2013) first confirmed that there is a definitional problem in governance terminology. The paper concluded that practitioners do attribute governance to such social devices as boards and steering committees, that they do attribute it to 'things' that have an appearance in the work environment. Moreover, in the research it appeared that there was a group of terms related to governance, and still wider groups of terms used in association, for which the definitions of were also inconsistent.

There appeared to be an actuality or 'whole form' about governance that individual experience was unable to grasp. Some definitions and experiences appeared to be partly at odds with each other. It was as though distinct or separate accounts of governance were blinded to differing accounts, and to experiencing what might be considered to be the totality of governance. However, perhaps from these varied definitions, a comprehension of governance could be reconciled and a general appreciation of it formed. With respect to organisations and their projects, accounts of governance can be found in four arenas, namely; the scholarly journals, practitioner reference documents (e.g.PM Bodies of Knowledge), project management methodologies, and amongst the practitioner community. Each of these arenas is investigated in this thesis for evidence of what is blinding or hindering their account of governance. Practitioner accounts of governance are influenced by the particular project management reference documents and methodologies they are exposed to, which are in turn are influenced by academic writing that is itself influenced by practitioner experiences that were immersed in a set of environmental circumstances relating to the integration of computers into businesses during the 1980s and to an earlier definition of governance by Lord Cadbury.

To begin this reconciliation of definitional accounts of governance, academic databases were searched for a pre-existing method of developing internally consistent definitions for a group of related terms. However, none were found. Consequently, developing such a method became the essential next step in the research for this thesis. A method of refining definitions (i.e. taking out what was not essential) was developed that also involved canvassing usage across a diversity of backgrounds, fields, prior assumptions and boundary conditions, seeking essence through this 'triangulation' process. This method was then applied to the inner group of related governance terms that were often confused or overlapped. Both the method and its first application were reported in *Redefining governance: from confusion to certainty and clarity* McGrath and Whitty (2015).

7.1   In the scholarly journal arena

Scholars have described many different aspects of governance since the early 1980s. However there has been a significant problem with this as the situation regarding the governance term has been contaminated by two significant factors. The first is that the Cadbury (1992) Report on the British corporate governance system, which had been commissioned following a series of governance failures and whose recommendations have generated codes in other countries and organisations, did not distinguish between governance and corporate governance. Its target was joint-stock companies from an accounting/ auditing/ legal perspective. The second contaminating factor was the usage of committees labelled as steering in the 1980s within the IT field. This was a means of gaining influence and of consulting with computer system users which inserted structures that looked democratic into autocratic authoritarian organisational structures. The importance of these committees was inflated by likening steering committees to corporate boards. This was facilitated by the initial laxity of governance/ corporate governance definition, and steering committees came to be seen as inseparable from governance. It became common to label any committee associated with IT as steering, even though one academic (Drury 1984) had cautioned against it. Expanded usage followed as people were motivated to achieve results, whether altruistically or to further their careers. Once something starts widely determining practice, it becomes too big to ignore and research academics reported practitioner views. Governance then became associated with many terms such as strategy, ethics, leadership, management, accountability, responsibility, power and control. Academics were then reduced to describing the amorphous mass that governance had become.

After producing the refined definition of governance, the wider groups of associated terms were then examined to test the definitional refining method and to clarify the meaning of those terms. Refined definitions were produced, justified to the point where others could agree with or challenge on the basis of the transparent process presented in their derivations. Six such papers were completed using this method. These are included in Parts 2 and 3 and define leadership, strategy, management, power terms and terms associated with ethics.

For some of these to be accepted for publication, it became evident that a philosophical justification for an alternative paradigm of definition would have to be developed; one that removed the philosophical justification for the family resemblance concept of meaning developed by Wittgenstein and still promoted by Haugaard and others. This removal is developed fully in the exegesis but in essence, it holds that words represent meaning rather than comprise meaning. Wittgenstein looked at words as being meaning rather than just representing something in a way that users of a particular language all agree on. This then provides the philosophical basis for the definitional papers that could be seen to be outside the usual ambit of project management.

7.2   In the practitioner reference documents arena

Various project management practitioner reference documents, including project management bodies of knowledge, were examined and found to have differing definitions of governance. Some had unwarranted inclusions, some muddled governance with organisational governance and others tangled it with management and even maintenance. Some also confused the meaning of accountability with responsibility. The differences resulted from assumptions that language specific to the field the document was originally written for were generically applicable to the rest of the world. This occurred in assuming the joint-stock company model for governance (i.e. that governance and corporate governance are the same thing) and in adopting terminology specific to IT. A similar investigation of use of the word 'program' in these reference documents was conducted. It was found that there are problems with defining large projects as programs as well as with whether programs had to be transformational. Significant differences were also found between definitions of project, program and portfolio. Again these stemmed from assuming IT language was generically applicable to the rest of the project world.

7.3 In the project management methodologies arena

Various project management methodologies (PMMs) were examined and found to have important deficiencies as well as incompatibilities with other PMMs. For example, the examination of PRINCE2 found it has significant difficulties from assuming a product rather than a project base, and assuming all projects are iteratively developed. The PRINCE2 governance model also unites governance with steering committees by mandating them for all projects and labelling them as decision-making while also saying that it is the chair who makes the decisions. The IT PMMs treat governance differently because they have assumed the connection of steering committees with corporate boards and have thereby maintained the confusion of governance with corporate governance. These differences in approach are again the result of presuming particular processes (such as using a product rather than a project process) and terminology (such as defining a project as an organisation) are generic to all types of projects.

7.4 In the practitioner arena

Practitioners do not have time or inclination to question the veracity of either their organisation's project management reference document or their project management methodologies. Practitioners have little choice but to assume that they are all rigorous, generic, and perhaps just express the same principles in different terminology. Many practitioners would be unaware of differences and would not know where such discrepancies were located in the various methodologies. This can easily result in a single person holding views that are internally inconsistent. The international negotiations leading up to and during the five-year period of production of ISO21500 sought to reach a consensus to avoid the project management field splitting apart. The substantial market share that competing PMM products held meant that they had to be accommodated within this negotiation environment and reaching agreement would have been much more likely if their definitions and basic assumptions were not too seriously challenged.

To explore how governance presents itself in the practitioner community and what definitions are formed a series of semi-structured interview questions were developed and 21 experienced practitioners were interviewed. The questions were designed to both investigate particular areas of governance and to determine whether the confusion identified in the scholarly literature had translated to the practitioner community and whether other confusions

were identified. As a result, the factors found that blinded practitioners to seeing the whole form of governance were as follows:

1. They were using definitions from various sources (reference documents and PMMs) that they were not aware were inconsistent, and so were arriving at positions that were internally inconsistent. One organisation had even based its definition of portfolio as a collection of projects on a pre-2007 version of MSP which had the portfolio level under the program level.

2. They were confused on how to describe their governance models because of *the way* that the IT PRINCE2 describes insertion of democratic committees into authoritarian structures. It attributes accountability to the steering committee (which it refers to as a board) while also saying it is the chair who makes the decisions. These committees are made to look like decision-making bodies, as other decision makers are present, but those other decision makers can decide *only* on committing their own resources; they cannot make the decisions that the chair can and if committees are set up to compete with organisational roles filled by the chair, governance confusion results. These committees have responsibilities rather than accountabilities for making decisions and the committee itself has no accountability. All the practitioners interviewed operated their committees this way, even though they disagreed about whether the steering committee actually made decisions.

3. Some had blind faith in the genericity of IT project management theory and lack of awareness that some of it is not generic, such as PRINCE2 assuming all projects are iteratively developed and being based on a product rather than a project development cycle

The outcomes of these interviews are reported in four papers dealing with practitioners' understandings of governance, programs, steering committees and methodologies. These papers in turn identified four further separate areas of investigation, namely governance terminology in practitioner documents, program terminology in practitioner documents and the suitability of PRINCE2 and MSP for use in engineering infrastructure. These found inconsistencies between project management practitioner reference documents as well as significant difficulties with both PRINCE2 and MSP. These were found to be due to both having been built upon IT processes that were not generic to engineering infrastructure and to the problem with their steering committee governance models as mentioned earlier.

7.5   A nuanced comprehension of governance

By applying the definitional refining method discussed earlier, it was possible to reach a comprehension and appreciation of what governance is in terms of its overall form, namely the system by which an entity is directed and controlled. This important notion of 'overall form' will be explained shortly.

To continue with the application of the refining definitional method, if a qualifier is introduced to specify what type of entity is being referred to, then other considerations may become relevant in the definition of the resulting phrase. Adding the qualifier 'organisational' to the term 'governance' brings in considerations of accountability, and organisational governance is then defined as the system by which an organisation is directed, controlled and held to account. Similarly, corporate governance is the organisational governance of a corporation, so it is the system by which a corporation is directed, controlled and held to account. Project governance is similarly defined as the organisational governance of a project, which is the system by which a project is directed, controlled and held to account. These refined definitions are clear of all other extraneous concepts which have different meanings, such as strategy, ethics, leadership, management etc.

While the definition of governance derived by this process is similar to some prior definitions, the method of deriving it is quite different. Its unique features are that it:

1. uses a rigorous transparent process to arrive at definitions, providing both a basis for support the derived definitions as well as a means of challenge

2. defines by intension where possible, avoiding the problems of defining by extension

3. ensures a wide range of perspectives are canvassed including historical use

4. produces internal consistency between terms in the group defined

5. exposes silent and assumed qualifiers

6. places definition firmly in Popper's world 3, removing it from his world 2 by accepting only non-normative arguments i.e. by removing value judgements

7. produces categories through the process of division or distinction which Popper labelled as diarrhesis, without accepting Popper's aversion to labelling this process as definition.

This refined definitional work has been enabled by regarding words as a framework for communicating meaning, rather than words having intrinsic meaning. Put another way, it is based upon the principle that words represent meaning; they do not equal meaning. This distinction is profoundly important. A word is a label given to something that may exist in a particular form. The label itself has no meaning, it is simply a sign or pointer. As John Stewart Mill said, "The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought" (Mill 1874, p. 469). The word is not the thing itself. Any definition describes what the label assigned to the thing actually denotes and the better the description, and the more widely held that description is, the less the confusion.

The refined definitional method developed in this thesis provides a means of describing clearly what a label denotes. It has the potential to substantially reducing the number of 'essentially contested' terms. It avoids the 'blind men's definition of the elephant' error where each has a definition by extension rather than by intention. When the subject being explored is so complex and hard to conceptualise, the metaphorically blind sense only the individual parts (extensions) they can reach and miss the essence (intension) of the overall subject. The method seeks to collect the blinded, partial, or subjective views of a subject and establish an essence that accommodates them all. This removes all field-specific terms from definition and brings into focus the importance of identifying silent or assumed qualifiers which can cause confusion.

7.6   The parable of project governance

There are four arenas rather than six blind men in the parable of project governance. They are the project management scholars, the project management bodies of knowledge, the project management methodologies, and the project management practitioners. Each are groping in their individual darkness touching part of what we call project governance. Their darkness is brought about by a general assumption they have, which is that governance is a concept can be defined and realised in terms of tangible things or a set of tangible things. They define it in terms of the things they encounter.

However, through the nuanced work of this thesis, we can see that the word governance points to a human intention to direct and control an entity, and this intention is actualised by a system that is a collection of things such as role descriptions, compliance processes, reporting structures etc. But most importantly, this collection of things has a 'form' in the Aristotelian

sense. The nature of this form resides in *the way* this collection of things (that practitioners individually encounter) is coupled together, that results in the entity being directed and controlled. In the final definition of governance, we refer to this form as 'the system by which'. Put differently, governance is an emergent 'form' that is used to direct and control an entity. And this 'form' emerges as a result of the intentional relationship of all the features practitioners would regard as being part of governance.

This thesis has developed a method for comprehending governance in general, and for project governance in particular, as well as for understanding its boundaries and limitations. The inclusions in governance which the initial papers in this thesis found to be unwarranted can be likened to including the elephant's chain, mounting stand and mahout in the definition of an elephant. Whilst they are present, these are not actually part of the form of the elephant, albeit that they may be necessary to make it useful.

8 Exegesis

8.1 Introduction and Background

Projects generally exist within and must relate to the power structure of their parent organisation(s). Within that context, or power environment, there are many aspects of management and governance where the allocation or sharing of power can become confused causing uncertainty and conflict, particularly when the meaning of basic terms, such as governance, accountability and power itself, has not been agreed, as Cepiku (2013); Ahola et al. (2014, p. 360); Biesenthal and Wilden (2014); Pitsis et al. (2014) noted for governance and as (Lukes 1974, p. 26; Sadan & Flantz 1997, p. 70); Lukes (2005, p. 30); (Nye 2011, p. 5; Dowding 2012, p. 119) noted for power, in considering it to be an 'essentially contested concept' in the terms of Gallie (1956).

In conducting research into the governance relationship between projects and their parent organisations, which is really about how power is shared or distributed between two groups of people to satisfy everybody's need-to-know and to be productive, it very quickly became evident that it would be necessary to focus initially on what project governance actually is. It also became evident that as well as definitions of single terms, there was a need to develop internally consistent definitions of groups of related terms. An extensive search for a method of doing this was conducted, but none could be located. Consequently, a method was developed especially for this purpose. This is documented in Paper 2 of Part 2, which applied it to develop an internally consistent set of definitions of governance terms, including project governance. This method was then applied to a range of other related subject areas within the management environment which impact upon project governance, as documented in Papers 3 and 4 of Part 2 and Papers 1 to 4 of Part 3.

Note that this method for determining internally consistent definitions of groups of related conceptual terms developed in the governance paper (2) of Part 2 of this thesis will, for the sake of brevity, be referred to as the 'Mangle'. The term comes from its analogy with that of a pastry mangle, which takes blobs of different ingredients and combines them into a smooth homogeneous and consistent output. This term provides a shorthand method in this exegesis of referring to the process without requiring continual self-referencing to either the journal it was published in or Paper 2 of Part 2. The Mangle provides a process for agreeing the definitions of contested conceptual terms. It adopts a systems approach in requiring input from multiple sources to make explicit all understandings and usages of a term, effectively

applying a triangulation approach within the conceptual arena for way-finding. It provides the means of verifying what is signified by conceptual words equivalent to the function that pointing performs for physical objects. It also filters out significations that either embody definitional errors or don't pass its generality test. It effectively removes impurities, in much the same way as a clothes dryer removes water, by flinging everything up against a permeable drum so the water permeating the clothes is flung out, or by using agitators and dispersing agents with sieving after a mill has ground the input to end up with material of uniform size (Stark & Chewning 2012).

Having identified confusion in the academic literature, it was then decided to investigate whether this confusion had reflected in practice and/ or in practitioner reference documents. The empirical work then proceeded, with interviews being conducted within the practitioner community. Similar confusion to that identified in the review of academic literature was found, as documented in Papers 5 and 7 of Part 2 and Papers 5 and 6 of Part 3.

A range of practitioner documents, such as ISO 21500 and various PMI and OGC publications, were then investigated, and the definitional issue arose again in each of them, as documented in Paper 6 of Part 2 and Papers 7, 8 and 9 of Part 3.

Having confirmed the existence of terminology confusion in all three areas and having traced the origins of the confusion of particular terms in each of these papers, a common theme became evident - that some terms, concepts and definitional practices thought to be generic were not actually so. For example, there were quite different understandings of what a program and a project are. The papers were then retrospectively analysed to identify how this could have occurred. Eight sources of definitional confusion were identified in various individual papers and two further sources were identified by considering the papers collectively. All ten sources of confusion are labelled as definitional issues and are examined in this exegesis in terms of the philosophical dichotomy they contain. Each issue is dealt with individually, indicating where it arose, investigating its historical philosophical basis leading to a suggested resolution to the dichotomy and then stating any rule or axiom that arises from it. These investigations identified other philosophical problems, such as Wittgenstein's family resemblance concept and the definitional conflict between him and Popper. These are then investigated and resolutions proposed before a theory of meaning encompassing all the above considerations is proposed.

This exegesis commences with identification of the issues that emerged from the totality of the exercise, considering all the papers in Parts 2 and 3 as a group. Only parts 1 and 2 are submitted for examination. Part 3 did provide some of the realisations documented here but the volume of work was considered too much to burden a reader with the need to read closely.

8.2   Philosophical reflection upon the definitional papers in Parts 2 and 3

It became evident in considering these papers as a group that there are multiple ways of representing the process of managing project work and these are expressed differently in the various frameworks – PMBOK, PRINCE2, APMBOK, benefits management, change management, sustainability, lean, Agile and so on. This prompted the realisation that the reality of how to manage project work is not actually in the frameworks themselves but rather there is an essence of how to manage or deal with project work that they purport to represent. And in spite of whatever sales fervour and claims to best practice, all of the frameworks were fallible human constructs representing or highlighting particular aspects of that essence. Knowledge of the essence of managing project work is actually contained in and spread across all of these frameworks, each one having a different perspective of it. A Platonic approach would have the frameworks competing to be considered the best representation of the universal ideal, whereas an Aristotelean approach would amount to the realisation just mentioned; that the ideal does not actually separately exist and is not actually fully contained in any of them. The essence or the intention of what project management is attempting to achieve is actually spread across all of the frameworks.

This reasoning could be regarded as a philosophical underpinning for the development of AS21500, seeking that universality that would allow all competing commercial products to (semi) peacefully coexist and avoid fracturing the discipline, moving them from Platonic competitors to Aristotelean comrades. While development of AS21500 did avert that fracturing, it had the problem of allowing definitional contradictions to go unresolved and non-generic assumptions to persist, as evident from Paper 6 of Part 2 and from the papers in Part 3C.

This realisation about the relationship between project management frameworks and the essence underlying them produced the further realisation of a parallel to the connection between words and meaning, where words/ languages are just another framework that we humans use for communicating meaning (as distinct from body language or touch), where we

generally agree in words on what the thing or concept is pointing to (or a sign to). If language is just a framework, the words used to represent things do not contain meaning of themselves; they simply represent it, and all we can sensibly do with words is just agree on what it is that is signified by any word we use.

8.3   Issues identified as causing definitional confusion

Table 2 below lists all the issues that the definitional and empirical work in Parts 2 and 3 found to be causing definitional confusion, including the two meta-issues identified in the preceding section, namely that meaning is in things themselves rather than in the words that signify or label them, and that meaning is in the underlying essence of project management rather than in the various frameworks/ methodologies developed to represent it that may come to be treated as dogmatic truth. I have assigned each issue a shorthand label that highlights the underlying dichotomy.

Table 2: Issues causing definitional confusion

	Shorthand label	**Definitional Issues identified in Parts 2 and 3**
1	Fact v opinion (attitudes)*	Normativity resulting from unwarranted inclusion of attitudes.
2	Meaning v representation	Seeking meaning in the words themselves rather than in what they denote or signify
3	Word v phrase meanings	Failing to identify silent or assumed qualifiers resulting in unwarranted inclusion of items.
4	Dogma v human framework	Regarding frameworks as dogma or truth rather than as only a human representation of it, producing a 'blinkered' approach.
5	Secular v ethereal essence (beliefs)*	Normativity from inclusion of beliefs arising from not defining in terms of secular essence, allowing definition to stray outside the 4 dimensions we have physical access to.
6	Intension v extension	Defining terms by extension resulting in key omissions.

7	Objects v concepts	Applying linguistic realisations/ principles appropriate only for concepts as if they were also applicable to objects.
8	Detail v overview	Using precision/ detailed methods for understanding the internal workings of an entity, leading to infinite regress in circumstances where only sufficient detail for communication clarity is needed.
9	Process v content	Content being inappropriately included in process and processes appropriate to particular content being applied to another content area where it was inappropriate.
10	Set v sub-set	Drawing a conclusion about a set from a sub-set when the conclusion is not applicable to wider application.

* The distinction between attitudes and beliefs comes from Copi and Cohen (1990, p. 128) who use these categories to separate genuine disputes from those that are merely verbal. I equate belief to dogma and attitude to preference.

The philosophical basis for each of these dichotomous problems is investigated below to set the philosophical context of the resolutions of conflicting positions that are proposed.

8.4   Context of issues identified

To put this this exercise in context, the nature of dichotomies, the relevance of dichotomies to governance, the origins of language and the advantages and disadvantages of classification systems will first be briefly reviewed.

8.4.1   The nature of dichotomies

The Oxford dictionary defines dichotomy as "a division or contrast between two things that are or are represented as being opposed or entirely different". This means that there are things that are mutually exclusive. For example, Descartes rationalised the mind/ body dichotomy (Descartes & Cottingham 1996) which then introduced for him the problem of how they are connected, as he was talking about human beings. Descartes' dichotomy had both scientific and religious motivation according to Skirry (2018), who also noted that his

religious motivation was to show that "mind or soul *can* exist without the body", but he stopped short of being able to demonstrate that the soul is immortal.

Any such distinction regarding the internal workings of any living entity has to be imagined or exist only in our minds, as the entity itself exists and functions; and so in the natural state, all things within an entity are inextricably connected together, and no such distinction can actually physically exist. So it is the existence in our minds of concepts that can be mutually exclusive that require dealing with. Dichotomies can be secular or ethereal and Descartes focused on one that contained both aspects.

8.4.2   Dichotomies in governance

My research settles on the matter that the word governance is a sign to a meaning that things (some parts of the entity) need to be coupled (connected) together in such a way that this coupling brings about the capability to direct and control the entity. Governance is the gestalt, the 'besides' in Aristotle's "the whole is something *besides* the parts" (Cohen 2016, S13) of the entity that enables it to be directed and controlled. It is an emergent quality, formed from the relationship the parts have with each other.

There are many things that have been coupled together in our thinking about these subjects that present difficulties. Many dichotomies were detected from the analytical and empirical work reported in this thesis and these are dealt with in the ten issues considered below.

In the presentation titled *The exercise of organisational power* in Paper 10 of Part 3, I used the metaphor of the blind men appraising an elephant to demonstrate the difficulties of appraising governance. This metaphor breaks down insofar as the elephant is concerned as it is actually an entity that does exist, whereas the concept of governance exists only in our minds and in the instantiations of its various artefacts. However, the analogy of blindness in the observers is useful as they cannot see what it is that exists nor realize that it actually exists across all of the parts surveyed.

Therefore, to get to the essence of governance, it is necessary to look across its various representations/ instantiations/ particulars/ frameworks, remove unwarranted inclusions and determine things that are common across all instantiations of it.

8.4.3   Language development

Pinker and Bloom (2011) consider that language has evolved and been shaped by natural selection. Carstairs-McCarthy (2015) note that the earliest direct evidence of written language is no more than about 5,000 years old while the origins of spoken language go back much earlier than that. They note "there are no uncontroversial counterparts in the fossil record for specific stages in linguistic evolution" (Carstairs-McCarthy 2015, p. 5). Lewis et al. (2017) list over 7,000 languages spoken in the world, however Carstairs-McCarthy (2015, p. 5) note that language appears to have evolved only once (unlike the eye which has evolved quite differently in octopuses, mammals and insects). They therefore reason that the acquisition of speech must have happened before the contemporary human group became separated by the breakup of Gondwanaland 40 to 60,000 years ago and after our ancestors became bipedal, producing the L-shaped vocal tract. They note it also seems likely that it occurred after 200,000 years ago from both archaeological evidence and statistical calculations based upon DNA.

Carstairs-McCarthy (2015, p. 11) note that apes (whose vocal tracts are not suitable for speech sounds and whose brains have not co-evolved to be able to process speech) were successfully taught sign language in the 1970s and he considered that:

> One effect of the ape language experiments was to give new life to the old idea that language in humans may have originated in gesture, and only later been transferred to the vocal channel (Armstrong, Stokoe, and Wilcox 1995). One of the attractions of this proposal has always been that it seems to provide a solution to the problem of how humans originally learned to handle the arbitrary relationship between words and meaning… (but this) rubicon … was almost certainly crossed by our primate ancestors long before the appearance of hominoids.

This view that the relationship between words and meaning is arbitrary implies that words cannot be said to constitute meaning; they can only convey it – in over 7,000 different ways/ sound groups. Words are a 'sign to' something.

8.4.4   Classification systems

Eppler et al. (2011, p. 2) outlines the advantages and pitfalls of typologies, listing advantages as to "make sense… by distinguishing items or phenomena based on their similarity… reduce complexity, provide a systematic overview, facilitate detailed comparisons, enable a change

of perspectives, and help in structuring observations or imagining new solutions". They also note that the goals of any classification are the minimization of within-group variance and maximization of between-group variance, i.e. they seek within-group homogeneity. They note that "segmentation, according to most scholars in the field, has to exhibit the following traits… consistent, unique classificatory principles… the categories are mutually exclusive (non-overlapping); the system is complete (all items can be placed in a group)". (Eppler et al. 2011, p. 4).

They list the potential disadvantages/ risks associated with classifications as:

> their tendency to render concrete those items, that are in short-term flux, long-term evolution, or poorly understood; and to reify items that are not so neat and tidy in the first place… (and they may) have an inertia that marginalizes alternative viewpoints and under-emphasize important attributes… (such as) the loss of information due to generalization inherent in classifications… framing effects… (which) limit creativity and the ability to "think outside of the box"… (and) may lead to stereotypical thinking and false dichotomies taking things apart that naturally belong together. (Eppler et al. 2011, pp. 6-7).

They also commented on relevance of typologies, noting there is a need to sort and arrange things to achieve successful outcomes and that "Convenience, economy and efficiency are the bases of classification." (Eppler et al. 2011, p. 18).

This gives a clue as to the need for and limitations of any conceptual framework that is developed to explain anything. A framework is basically a classification system that can be both the gift and the curse from the experienced insightful practitioner; it can be very useful in most cases while also being false and misleading at the margins. Reification of any framework can then lead to marginalisation of people at those margins.

8.4.5 On Definition generally

The importance of definition has been recognized for a very long time. Smith (2014) notes that "The definition was an important matter for Plato", "Concern with answering the question "What is so-and-so?" are at the centre of the majority of Plato's dialogues" and "Aristotle himself traces the quest for definitions back to Socrates". Thomas Hobbes (1588-1679) said:

When a man's discourse beginneth not at definitions, it beginneth either at some other contemplation of his own, and then it is still called opinion; or it beginneth at some saying of another, of whose ability to know the truth, and of whose honesty in not deceiving, he doubteth not; and then the discourse is not so much concerning the thing than the person; and the resolution is called Belief and Faith." Hobbes (1996, p. 43).

John Locke (1632-1704) asked:

whether the greatest part of the disputes in the world are not merely verbal, and … if the terms they are made in were defined, and reduced in their signification (as they must be where they signify anything) to determined collections of the simple ideas they do or should stand for, those disputes would not end of themselves, and immediately vanish" Locke (1690, p. 502).

John Stuart Mill (1806-1873) said

It would, however, be a complete misunderstanding … to think that because a name has not at present an ascertained connotation, it is competent to anyone to give it such a connotation at his own choice. The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought (Mill 1874, pp. 469-70).

Before proceeding to the ten issues identified as causing definitional confusion in management terms, there are several key terms which require prior definition. This is done below by applying a cut-down version of the Mangle, referred to as 'the mini-Mangle'. This is an application of the Mangle that accepts the Oxford dictionary without surveying other dictionaries, reduces its definition to an essential definition, and ranges across the issues identified in the Mangle without writing to its formal structure.

8.5 Definition of key terms

The key terms identified in analysing the ten issues as requiring prior definition are: definition, meaning, essence and soul. In definition meaning, it was necessary to first define truth. The term 'concept', which is pivotal to the argument presented here, is included below for completeness, as is the term 'normative' which is used throughout. The term 'purpose' is also used in resolving some of these definitions and so is also included.

As many of the terms have independent application across many fields, the order of definition is unimportant and so they are presented alphabetically. The definitional method ranges from accepting the Oxford dictionary definition through a mini-Mangle approach to full formal application of the Mangle as appropriate to the term being defined. Resolution of within-group consistency issues is done within each term and cross-referenced to the other terms where necessary.

8.5.1 Summary of derived definitions

The definitions derived below are presented here in Table 3.

Table 3: Derived refined definitions of philosophical terms

Term	Definition
Concept	*an abstract idea*
Define	*to state what is signified by a term*
Definition	*a statement of what is signified by a term*
Essence	*a property or group of properties of something without which it would not be what it is*
Essential definition	a *definition in terms of essence only*
Mean	*intend to convey*
Meaning	*what is intended to be conveyed*
Meaning of life	*nil*. The purpose of life is a separate question that does make sense.
Normative	*including an opinion*
Purpose	*the reason for which something is done or created or for which something exists*
Soul	*life-force*
Truth	*the quality of being in accordance with the facts*

8.5.2 Concept

The word 'concept' is not one that is colloquially confused or contested, and so the default position of using the Oxford Dictionary and reducing it to its essential content can be adopted.

The Oxford Dictionary definition of concept is an abstract idea. This is already an essential definition and so can be accepted. This will be used in discussing Issue 7 below.

The word 'concept' will therefore be defined here as *an abstract idea*.

8.5.3 Definition

The term 'definition' is not one whose everyday usage is uncertain or prone to causing contention and so the default position of using the Oxford dictionary and reducing it to its essential content can be adopted.

The (Oxford) Dictionary (accessed on 28/1/2017) defines 'define' (verb) as:

1 State or describe exactly the nature, scope, or meaning of.

1.1 Give the meaning of (a word or phrase), especially in a dictionary.

1.2 Make up or establish the character or essence of.

2 Mark out the boundary or limits of.

2.1 Make clear the outline of; delineate.

Origin: Late Middle English (also in the sense 'bring to an end'): from Old French definer, from a variant of Latin definire, from de- (expressing completion) + finire 'finish' (from finis 'end').

It also defines 'definition' (noun) as:

1 A statement of the exact meaning of a word, especially in a dictionary.

1.1 An exact statement or description of the nature, scope, or meaning of something.

1.2 mass noun The action or process of defining something.

2 *mass noun* The degree of distinctness in outline of an object, image, or sound.

2.1 The capacity of a device to make images distinct in outline.

The essence of these can be expressed as define = *to give the meaning of a word* and definition = *a statement of the meaning of a word*. However, this tempts what (Mill 1874, pp. 469,70) calls vulgar definition (the full quotation appears in the discussion of Issue 2 below) and will therefore be amended to *a statement of what is signified by a term*. This is applicable to both physical objects and concepts. It also accommodates all the above Oxford Dictionary definitions. The definition of define therefore becomes *to state what is signified by a term*.

Essential definition can then be defined as *definition in terms of essence only*. This will be used in discussing Issue 2 below.

8.5.4 Essence

The term 'essence' may have had varying interpretations, including ethereal and physical, put upon it historically, but it is not one whose everyday usage is uncertain and so the default position of using the Oxford dictionary and reducing it to its essential content can be adopted.

The (Oxford) Dictionary defines essence as:

> **1** The intrinsic nature or indispensable quality of something, especially something abstract, which determines its character.
>
> > **1.1** *Philosophy count noun* A property or group of properties of something without which it would not exist or be what it is.
>
> **2** An extract or concentrate obtained from a plant or other matter and used for flavouring or scent.

The sense of these definitions is of something that is purely what it is, with nothing else added, specifying the bare minimum to be able to identify it. A food essence is a thing that can be pointed at and chemically analysed for purity and is a physical instantiation of the abstract concept. It is the abstract concept itself that will be defined here. Definition 1 above contains examples and is vague. Definition 1.1 will therefore be worked on. Although inanimate objects exist, using the word existence can introduce belief systems and so will be excluded it to keep the definition purely secular. This avoids the metaphysical or ethereal/ religious question of whether or not it is the intrinsic nature of a human being to have a soul and whether a soul therefore constitutes essence. Including values or beliefs in definitions can only lead to unresolvable debate and lack of agreement and we simply seek to uniquely

identify what it is we are actually talking about, free from any unnecessary connotations. Omitting existence from our definition can have absolutely no impact upon whether a soul exists or not. Furthermore, if we can recognise things from their presence or actions then we do not need to venture into another dimension of comprehension such as an ethereal one to describe them; and if we cannot agree on what our words represent in the three physical dimensions plus time that we know we have access to, then we have little chance of resolving anything in dimensions beyond that anyway.

Essence is therefore defined as *A property or group of properties of something without which it would not be what it is*.

Note that this does not exclude soul from being an essence, but it does exclude soul from being a <u>required</u> part of essence.

8.5.5 Meaning

Defining meaning requires application of the full Mangle process and consideration of various 'isms'. Because of its length, it is presented in Appendix A. It first defines truth then in defining mean and meaning, considers the impact upon these of essentialism, existentialism, relativism (which required definition of truth), nominalism and nihilism. It challenges the logic of the phrase 'meaning of life', suggesting use of the phrase 'purpose of life' instead. The definitions derived are reported in the summary of definitions at the end of this definitional section.

This produces definitions of truth as *the quality of being in accordance with the facts*, mean as *intend to convey*, meaning as *what is intended to be conveyed*.

8.5.6 Normative

The word 'normative' is not one that is colloquially confused or contested, and so the default position of using the Oxford Dictionary and reducing it to its essential content can be adopted.

The Oxford dictionary defines 'norm' as "something that is usual, typical, or standard" and normative as "establishing, relating to, or deriving from a standard or norm, especially of behaviour".

The words 'typical' and 'standard' can both be described as 'usual'. Furthermore, the word 'norm' is not used in relation to engineering or project management standards, which give

requirements rather than norms, and the term 'normal practice' is used rather than the single term. The Oxford definition of 'norm' can therefore be reduced to an essential definition as *something that is usual*. This can refer to physical objects, behaviour or concepts, and concepts include opinions, which in turn includes attitudes, beliefs and value judgements.

The term 'normative' has a more restricted scope than the term 'norm' but refers to more than just behaviour and "establishing, relating to, or deriving from" can be expressed more succinctly and generically as 'including', producing an essential definition as *including a norm*. However, this does not convey the full sense in which the word is normally used, which is referring to something that is based upon opinion rather than fact. The word 'norm' will therefore be replaced with 'opinion' producing a definition as *including an opinion*. This could be expressed more succinctly as *opinionated* however its Oxford definition is "*characterized by conceited assertiveness and dogmatism*". Opinions are generally included in definitions by accident rather than by design and while it is appealing to just substitute that word, it contains connotations beyond what is intended and so will not be used.

Normativity causes difficulties when included in definition as what is a norm for one person or group may not be for others and it is not the business of definition to impose norms; it is just to adequately describe things.

This produces definitions of normative as *including an opinion*.

8.5.7 Purpose

The word 'purpose' is not one that is colloquially confused or contested, and so the default position of using the Oxford Dictionary and reducing it to its essential content can be adopted.

The Oxford Dictionary defines purpose as *the reason for which something is done or created or for which something exists*. This is already an essential definition and so can be accepted.

The word 'purpose' will therefore be defined here as *the reason for which something is done or created or for which something exists*.

8.5.8 Soul

While there may not be universal agreement on the existence of a human soul, the term is not one whose everyday usage is uncertain and so the default position of using the Oxford dictionary and reducing it to essential content can be adopted.

The (Oxford) Dictionary defines soul as:

1. The ethereal or immaterial part of a human being or animal regarded as immortal.

- a person's moral or emotional nature or sense of identity.

   synonyms: spirit · psyche · (inner) self · innermost self · (inner) ego · inner being · true being · essential nature · animating principle · life force · vital force · inner man/woman · persona · identity · personality · individuality · make-up · subconscious · anima ·

2. Emotional or intellectual energy or intensity especially as revealed in a work of art or an artistic performance.

   synonyms: inspiration · feeling · emotion · passion · animation · intensity · fervour · ardour · enthusiasm · eagerness · warmth · energy · vitality · vivacity · spirit · spiritedness · commitment · fervency · ardency · passionateness

3. the essence or embodiment of a specified quality.

The third definition equates soul with essence. While this usage may be widespread, this is most unfortunate as, in this secular age, it appears to have caused an aversion to an essential definition, throwing out the possibility because of the ethereal association it has acquired. This has led to Wittgenstein's family resemblance concept and its consequent vagueness gaining currency. Essence will therefore form no part of the essential definition of soul. Definition 2 does not do this and is acceptable, abbreviated to be just emotional or intellectual energy or intensity. However, one of the synonyms listed, namely life-force expresses this more succinctly and so soul will instead be defined as *life-force*. This is more generic and reflects something that can be sensed in the four dimensions (3 spatial, 1 time) we have ready access to. It does not preclude it coming from a further dimension but does not require it. This neither requires nor precludes any religious belief and would seem to have the capacity to be agreed by people ranging from atheist to devoutly religious without requiring either to adopt the convictions of the other. This leaves out of its definitions anything that could cause debate or confusion on such matters.

This produces definitions of soul as *life-force*.

8.6 Philosophical examination of the 10 issues causing definitional confusion

I will now examine individually each of the 10 definitional issues in Table 2. I will first explain the issue, then identify how it arose from the papers in Parts 2 and 3, give examples of its occurrence within management where possible, and consider its philosophical background before developing/ deriving definitional axioms and/ or rules.

8.6.1 Issue 1 Fact v opinion (attitudes)

This issue deals with whether the inclusion of attitudes should be accepted in definitions or not.

There is little opportunity for attitudes to intrude into the definition of physical objects such as a table or a cup, but the same cannot be said for terms like ethics, essence, governance and program. The interviews conducted with practitioners in Paper 5 of Part 3 found that some held the opinion that a program must be transformational while others contradicted that. This was causing problems and wasting time within one organisation. Project managers can also be faced with ethical dilemmas. Colloquial use of the term 'ethics' presumes that that ethics equates to 'good' ethics, but there can also be 'bad' ethics and the presumption of 'good' can confuse the definition of the basic term and its subsequent usage, as mentioned in the ethics paper in Part 3A. Similar confusion can result from including an opinion about ethereal or religious matters in the definition of essence, and the difficulty this creates is sufficiently serious to warrant it being identified as a separate definitional issue below. The view that 'good' ethics should form part of the definition of governance was also noted in the paper about interviewing practitioners on their understanding of governance, Paper 6 of Part 2, and was a confusing factor in resolving a satisfactory definition of governance and project governance. Such a view overlooks the fact that even a brutal dictatorship will have governance. It is therefore erroneous to include good ethics in a definition of governance.

This issue has not received overt consideration in the writings of major philosophers on the subject of definitions other than **John Stewart Mill** (JSM) who was very clear, saying "But to impose upon the facts in the first instance the yoke of a theory, while the grounds of the theory are reserved for discussion in a subsequent stage, is not a course which a logician can reasonably adopt" (Mill 1874, p. 29). **Aristotle** left open the possibility of introducing value judgements to definition by allowing the value judgement of ethereal belief to infiltrate definition as elaborated in the section below dealing with essence. **Popper** identified "a

logical mistake which is connected with the close analogy between the *meaning* of our words, or terms, or concepts, and the *truth* of our statements or propositions" (Popper 2002, p. 24). He noted that definitions link meaning and truth (Popper 2002, pp. 25,6). This is based on accepting the view that meaning comes from its original meaning 'because we learned it correctly from a true authority' (Popper 2002, p. 25). This is debateable as we often have differing understandings of the same concepts, and/or of the same word labelling the concept, as **Wittgenstein** recognised, and as also evidenced by the analyses of contested terms in Papers 2 to 4 of Part 2 and the papers in Part 3A. We also might have learned it from someone who was also confused. However, Popper later concluded somewhat similarly to Wittgenstein that 'truth is above human authority' (Popper 2002, p. 39) and that we should:

> give up the idea of ultimate sources of knowledge and admit that all knowledge is human; that it is mixed with our prejudices, our dreams, and our hopes; that all we can do is grope for truth even though it is beyond our reach (Popper 2002, p. 39).

While hopes and dreams are important in living our lives, this statement goes much further than Aristotle and presumes that value judgements must enter into definition. **Derrida** similarly considered "that our perception of unconscious traces occurs long 'after the event' " (Derrida & Spivak 1976, p. xliv). These statements refer to perception, not to definition and it appears Derrida did not make that distinction. While perceptions are vitally important for communications and in deciding what action to take living our daily lives, they are riddled with value judgements and their suitability for inclusion in definition is another matter entirely.

Based upon the outcomes of the definitional papers in Parts 2 and 3, opinion/ value judgement/ normative matters are best excluded from definition as allowing their inclusion has contributed to confusion and conflict about the concepts discussed in those papers. Paper 2 of Part 2 defining governance gives a method for excluding these which was successfully applied in that paper and in the remaining definitional papers. The difficulty with Popper associating meaning with truth becomes evident if we separate out the assumption of the need for an authority or original use to determine or 'fix' the definition, and accept that there is no authority, so the best we can do is reach agreement on what the words we use actually signify.

Magee and Searle (1987) mention that many of the words that trouble us in philosophy and ethics are words like good and beautiful and that Wittgenstein was suspicious of these words,

thinking part of our failure was in looking for some essence of goodness or beauty. While there may be difficulty of looking for the essence of goodness or beauty, there is a more significant problem in looking for absolute right and wrong/ good and bad which does not exist and can only be matters of opinion. It is absolutist, pre-evolutionary thinking which overlooks consideration of who or what the matter under consideration is 'good' for, as mentioned in Paper 4 of Part 3A (defining ethics and associated terms); what is good for the larvae of the ichneumonidae wasp feeding within the live bodies of caterpillars is not good for those caterpillars. There is no absolute 'good' here, unless one makes a value judgement on which entity has the greater value, or on the overall value (to humans) of a food chain that we sit on top of. As Darwin and Beer (2008, p. 360) point out, "natural selection works solely by and for the good of each being". As such, natural selection works on self-interest, not on morality or value judgement.

To be blinded by this mistaken search of conflicting opinions for an absolute truth is simply to accept a false premise, which can only lead to a poor theory with little explanatory power – such as Wittgenstein's family resemblance theory, as will be discussed separately below. The approach of determining secular essence is much more realistic (Issue 5), but it does require a definitional refining method setting out a process that can resolve competing views. This is what has been done in Paper 2 of Part 2 (redefining governance) and further tested in Papers 3 (defining stakeholders) and 4 (defining accountability and responsibility) of Part 2 and Papers 1 to 4 of Part 3A (defining power, ethics, leadership, strategy, management and strategic management).

Definitional laziness can produce the excitement of emotional conflict. However, it is more productive to persist in determining and reaching agreement on what we mean for any contested terms we use. Failing to reach such agreement simply perpetuates confusion in discussion, producing the farcical situation where none of us really has a clue what we are all talking about. In this respect, I empathise with both Popper and Wittgenstein; it makes no sense. It correlates with Wittgenstein's non-sense about which, to paraphrase the last line of his Tractatus, we might all be justifiably implored to shut up.

This question of reaching agreement is a crucial one. It is one that is so obvious but is so easily overlooked. As **Wittgenstein** himself said:

> The aspects of things that are most important for us are hidden because of their simplicity and familiarity. (One is unable to notice something—because it is always

before one's eyes.) The real foundations of his enquiry do not strike a man at all. Unless *that* fact has at some time struck him. —And this means: we fail to be struck by what, once seen, is most striking and most powerful (Wittgenstein & Anscombe 1958, p. 30).

In summary, the issue of inclusion of opinion in definition was clearly identified by Mill and was not adequately identified or addressed by the other philosophers considered here. Furthermore, clarity did result from excluding opinion from definition (as distinct from debate) of both ethics and governance, as well as in all the other subjects dealt with in the definitional papers in Parts 2 and 3. For the purposes of gaining understanding and enlightenment about any entity or phenomenon, a definition is best served by taking great note of any person's experience with it and little note of their opinion of it, unless the phenomenon we are seeking to understand is their emotional reaction to it.

This leads to proposing the following:

> **Axiom 1:** *A definition states what a group of people have <u>agreed</u> a particular sound will represent or signify*. This means that there is no absolute correct sound or absolute correct definition of what that agreed sound means; correctness of definition can only be judged relative to that agreement. If agreement has not been reached, or different groups have agreed different things, there will be contention over correctness. Words are meaningful only insofar as we have agreed their meaning/ signification.

> **Definitional rule 1:** *Exclude attitudes from definition*. Accommodate them <u>after</u> definitions have been agreed, not before.

However, Axiom 1 raises a further question about senses other than sound. Nuances in looks, gestures, tones and actions can completely change the meaning of spoken words. We have five senses available to us, all of which can potentially be used in determining the meaning of any communication. So, while speech may at times convey the full meaning, there will be many cases in which it cannot, and will therefore convey only part of the meaning. This leads to a further axiom:

> **Axiom 2:** *Meaning does not come from words alone*. We have five senses, each with its own capacity to give us information about the external world which we use to derive internal meaning regarding impact on us, which we call understanding. The

senses that the spoken and written word do not use can also contribute to meaning and, in some cases, words may have difficulty expressing or communicating that meaning.

8.6.2   Issue 2 Meaning v representation

This issue deals with whether the <u>meaning</u> we communicate is in the terms we use, or in what the words we use to define/ denote/ <u>represent</u> those terms actually signify.

The issue is most evident in project management terms in governance, which is generally considered of great importance but is a concept that does not physically exist. It exists only in its instantiations, which may or may not be written down. This issue was realized (together with Issue 4) in reflecting above on all Part 2 and Part 3 papers collectively and recognising the analogy of the relationship of project management frameworks (such as PMBOK and PRINCE2) to the essence of project management with the relationship of words to meaning. It was then realized this had created some of the difficulty for project management practitioners in offering definitions of governance, as noted in Paper 6 of Part 2. Adopting a 'words equals meaning' approach to project management leads to conflicting positions on the very basic question of what a project actually is, as detailed in Papers 5 and 8 of Part 3; it differs between PMBOK and PRINCE2, with one defining it as an endeavour and the other defining it as an organisation. This makes it obvious that words can only represent meaning and cannot actually be meaning. Adopting a 'words represent meaning' approach allows 'truth' to be sought through realising each framework represents meaning but does not have a mortgage upon it.

Philosophically, this gets to the question of whether we think we are defining the thing itself or the word labelling the thing. This may seem abstract, until one realises the differences between major philosophers on the subject. This issue may not have been recognized by **Aristotle** but it has been part of philosophical thinking since the seventeenth century. Cohen (2016, p. S7) said "It is important to remember that for Aristotle, one defines things, not words". When taken at face value, this seems reasonable; it indicates that we are not just playing word games and that words actually stand for something. But it invites the view that the words we use to describe something are actually that thing, which, of course, they cannot be; they can only represent or signify it in speech.

In the seventeenth century, **Thomas Hobbs** very clearly expressed the dangers of inappropriate signification and definition and the consequent compounding with the passage

of time. He mentioned use of speech as signs as well as abuses of speech which included "inconstancy of the signification of their words; by which they register for their conceptions that which they never conceived, and so deceive themselves" (Hobbes 1996, p. 21). He also said:

> a man that seeketh precise truth had need to remember what every name he uses stands for, and to place it accordingly; or else he will find himself entangled in words, as a bird in lime twigs; the more he struggles, the more belimed. … men begin at settling the significations of their words; which settling of significations, they call *definitions*, and place them in the beginning of their reckoning… For the errors of definitions multiply themselves, according as the reckoning proceeds, and lead men into absurdities, which at last they see, but cannot avoid, without reckoning anew from the beginning; in which lies the foundation of their errors. … So that in the right definition of names lies the first use of speech; which is the acquisition of science: (Hobbes 1996, pp. 23-4).

John Locke was also aware of the distinction between words and what they signify in saying that terms should be "reduced in their signification… to determined collections of the simple ideas they do or should stand for" Locke (1690, p. 502). **John Stuart Mill** said "Definitions are properly of names only, and not of things" (Mill 1874, p. 117). He also said:

> To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name. When this can be done without rendering any received assertions inadmissible, the name can be defined in accordance with its received use, which is vulgarly called defining not the name but the thing. What is meant by the improper expression of defining a thing … is to define the name, subject to the condition that it shall denote those things (Mill 1874, pp. 469-70).

Thus Mill clearly distinguishes between defining the name and defining the thing. I take the word 'abstract' in the paragraph above to mean an instance of i.e. abstraction of the attributes contained in the connotation determined for a concrete name, albeit that that concrete name may label an abstract concept. I also understand the word 'vulgar' to also mean 'common'.

Neither **Wittgenstein** nor **Popper** followed Mill in this respect, pursuing instead absolute meaning in words themselves, taking the lead from Aristotle, even though Wittgenstein seems to have been aware of the distinction in saying "descriptions ought to take the form: 'The word …. Signifies' " (Wittgenstein & Anscombe 1958, p. 6). The combination of other

mistakes he made such as not recognizing the importance of agreement in determining the choice of word and the signification of it before anything exists to teach about it (Issue 1) and others detailed below in considering other issues, perhaps combined to produce this circumstance.

Wittgenstein rushes past the difficulty of gaining agreement. "26… One thinks that learning language consists in giving names to objects… 27. We name things and then we can talk about them" (Wittgenstein & Anscombe 1958, pp. 12-3).

Ferdinand de **Saussure** introduced the concept of a word being a sign of a two-sided psychological identity comprised of a signifier and a signified (Saussure 1966, pp. 65-7). **Derrida** adopted Saussure's concept of the sign (Derrida 1970, p. 3) and developed his deconstruction of structuralism from it (Derrida & Spivak 1976).

In more recent times, with the prevalence of modernism and the pervasion of the influence of Wittgenstein and his family resemblance concept, as further discussed below, the importance of this distinction has been largely overlooked or forgotten. The overall analysis above of all the analytical and empirical papers in Parts 2 and 3 indicated the importance of the two-faced aspects of words as signs – the signifier (the word) and signified (what it represents), which is equivalent to the realisation that words *represent* meaning, they do not equal it. But Aristotle's requirement to state the essence of what the thing is, tends to overcome the representational aspect of words that he overlooked in saying that we define things rather than words. It effectively says the closer that definition of the word can be to the essence of the thing itself, the less the confusion.

This leads to proposing the following:

> **Axiom 3:** *A word simply provides the label or <u>signifier</u> for what is <u>signified</u> by its agreed definition*. A word can only represent something; it cannot actually be it.

8.6.3 Issue 3 Word v phrase meanings

This issue deals with whether recognising silent or assumed qualifying words that provide context should be regarded as a necessary part of definition or not.

It would seem to be almost self-evident that it should be, but the definitional papers in Parts 2 and 3A found it is so often not done that it was identified as a separate definitional issue. These papers found definitional competition within and between various fields, with one field

desiring its definition of a particular term to be regarded as generic and supreme above all others. This resulted from not considering whether it adequately expresses the essence of the term across other fields or assuming a qualifier (context) that the proponent did not recognise and which needed to be made explicit. For example, overlooking this issue has led to both governance and corporate governance being used synonymously by the fathers of the term, simply because their context was private corporations and the need of government departments to have governance was overlooked, unforeseen or not considered to present any terminological problem. The error here was in adding the unwarranted qualifier "corporate". A similar thing occurred in stakeholder theory, which implicitly assumed a company rather than an activity base, as documented in Paper of Part 2, causing confusion in application to government departments. The error here was in not recognizing and adding the qualifier 'corporate' before 'stakeholder theory'.

This issue has also historically not received overt consideration in the writings of major philosophers on the subject of definitions. However, overlooking this has caused difficulties. **Bertrand Russell** developed his theory of descriptions (RTD) (Russell 1905) to deal with the problems of co-referring and non-referring expressions. These only start to become problematic if it is assumed that words are meaning rather than just labels representing meaning and the context or qualifiers are overlooked. The problem of referring to the same object (Venus) in two different ways (morning and evening star), or the issue of good versus bad feelings about governance depending upon which side of it you are on, as stated by one of my interview participants, is easily resolved if the context of the label assignment is made clear by stating the silent or assumed qualifiers. Similarly, the problem of non-referring expressions (referring to non-existent things) also vanishes when it is recognized that words are not meaning but just simply label or represent or signify it and that the full context needs to be made explicit. Searching for absolute truth in and applying Boolean logic to statements containing words which represent only what a group of people think they have agreed those words will signify is an exercise that cannot help but throw up insoluble conundrums when people have differing understandings of what is signified. Logic, and what can be agreed upon, can sometimes be two very different things. Identification of the existence of a conundrum may simply indicate that there is a problem with the representational framework, which might represent meaning well enough for practical use but isn't really fully correct as it is still a human representation of something, not the thing itself.

For example, a unicorn doesn't exist, but a governance doesn't either. Neither can be captured and put on display. The latter term is a useful construct in our heads that enables regulation for the common good and so keeps everyone happy to some degree. Ideas or concepts have existence in the human "mind" or "consciousness" that is neither physical (apart from electrical impulses) nor mystical but they do have an impact upon human disposition and behaviour, simply because they are independent concepts that can be held in our thinking. They signify or represent a meaning that it would be helpful if we all agreed on. A unicorn is easily drawn and converted into an object of fantasy. A governance can't be drawn; it can only be represented abstractly.

The deconstruction technique of (Derrida & Spivak 1976) is another case where difficulty has occurred. This seeks the point of inversion in a text where the inbuilt hierarchy can invert itself because of the undecidability of meaning. This inversion point, according to Kleinberg (2013), is found by deconstructing or taking apart the text to identify subconscious bias (normativity) and looking at the pieces to recognise if and where some have been given prominence over others for historical/ cultural/ other reasons. Kleinberg (2013) also notes that deconstruction is a method of enquiry that asserts that all writings are full of confusions and contradictions, and even a writer cannot overcome these by deliberate effort to convey meaning. Deconstruction can therefore never end and so meaning is undecidable.

This, in effect, condones, builds upon, and even reifies the family resemblance concept of Wittgenstein. Both have the common effect of perpetuating loose definition of conceptual terms. That concept of Wittgenstein's is dealt with in more detail under its own separate heading below.

The need to apply deconstruction to find such an inversion, if there is any such need at all, can evidently be either greatly reduced or avoided if we apply the Mangle, identifying silent or hidden qualifiers, providing the basis for reaching agreement as demonstrated in the papers in Parts 2 and 3. This has provided a means of clarifying meaning, contradicting, or one could say, deconstructing this aspect of deconstructionism. As noted in Issues 1 and 2 above, words do not have absolute meaning of themselves, but we can simply agree what they mean, then judge understanding of meaning against that and move on, without becoming stuck in an unending infinite deconstructive loop.

This leads to proposing the following:

Definitional rule 2: *Identify any silent or assumed qualifiers*.

8.6.4   Issue 4 Dogma v human framework

Note that the Oxford Dictionary (OED) (accessed on 28 December 2018) defines a framework as an essential supporting structure of a building, vehicle, or object. It also defines dogma as a principle or set of principles laid down by an authority as incontrovertibly true. A human framework is therefore a framework developed by man rather than by God and so its authority can be questioned, and it may not necessarily be incontrovertibly true.

This issue deals with the nature of our beliefs about things and whether those should be regarded as absolute truth or as a framework constructed by some human being(s) to represent aspects of the world.

With the question framed in that way, the answer again may seem obvious, until one asks the question "what if those beliefs are religious dogma?" In project management, the issue arises in relation to approaches, practices and beliefs common to IT having spread inappropriately to other parts of the project management world, causing confusion. One example is the focus of MSP on the internal organisational transformation resulting from an IT change project. This leads to difficulty in applying MSP to engineering infrastructure organisations where no such transformation occurs. Dogmatic applications require such a transformation to be found, which it can be in the transformational affect that infrastructure projects have upon communities; but this is artificial because it doesn't apply to the delivery organisation when it's supposed to. This causes further confusion when it overlaps with a stakeholder management framework. These and many other such instances are described in the program paper (5) and the PRINCE2 and MSP papers (8 and 9) of Part 3. This issue was realized (together with Issue 2) in reflecting above on all Part 2 and Part 3 papers collectively and recognising the difference between underlying meaning or truth and the human framework we use to explain it. This issue also reflects into Issues 3 and 10.

Within project management, various frameworks are promoted with some degree of fervour that may help in increasing sales, but that is not helpful in reaching a common understanding across frameworks. In the program paper (5) in Part 3B, the power of dogma became apparent where a particular project management system (PRINCE2) had been reified to the point of accepting it as dogma, leading to superseded interpretations of the terms program and portfolio from an out-of-date manual being adopted, causing ongoing confusion. It became evident that frameworks provide belief systems which lead their followers to take action in accordance with those beliefs which they believe are 'right'.

As noted in Issue 2, **John Stuart Mill** regarded words in a language as a means of signifying something. This can be viewed as recognizing language as providing a framework for representing things. Language provides a verbal means of expressing our feelings, notions or ideas about things. Furthermore, as noted earlier, words (language) are only one means by which we communicate. We also communicate with gestures, body language and touch, each within their own framework of representation. So it is evident that the speech framework cannot be a complete framework for the expression of meaning, as per Axiom 2.

Derrida considered that deconstruction meant the dismantling of excessive loyalty to any idea and learning to see the aspects of the truth that might lie buried within its opposite. Derrida and Caputo (1997, p. 79) expressed this as "explore what it omits, forgets, excludes, expels, marginalizes, dismisses, ignores, scorns, slights, takes too lightly, waves off, is just not serious about!" Guarding against excessive loyalty to any idea or framework is a useful aspect of deconstructionism and this is consistent with the approach taken in the Mangle, which guards against this problem by requiring exclusion of all normative matters.

This leads to proposing the following:

> **Definitional rule 3:** *Exclude beliefs from definition*. Accommodate them <u>after</u> definitions have been agreed, not before (This is the same as rule 1 with beliefs substituted for attitudes. Both attitudes and beliefs can be regarded as opinions).

8.6.5 Issue 5 Secular essence v ethereal essence (beliefs)

This issue addresses whether use of an ethereal interpretation of essence should be excluded from definitions or not.

It emerged indirectly from preparation and submission of the power papers (2 and 3) of Part 3 because of their implied challenge to Wittgenstein's family resemblance theory (see separate section on it below), which would hold that what the Mangle achieves is not possible. The reasoning for this is that essence includes ethereal essence which can't be verified therefore any form of essence cannot be universally determined. While this argument is quite obviously illogical, saying that because a word has two different senses that disproving one sense of it disproves the other, it is nevertheless pervasive. The many definitional papers in Parts 2 and 3 contradict this position by successfully using essence in defining a wide range of terms including governance, program, stakeholders, accountability, responsibility, power, ethics, leadership, strategy, management and strategic management. These essential secular

definitions were made possible by excluding ethereal essence. However, there is still a residual in governance, for example, as found in the practitioner interviews, where the concept was reified or considered reverently, as would befit a relationship to an ethereal entity, without anyone being really confident they knew what it was or how to define it.

A secular understanding of essence considers what a thing is within the limitations of the four dimensions we have sensual access to. Going beyond this into other dimensions involves an ethereal understanding of the term. Essence is defined above as *A property or group of properties of something without which it would not be what it is.* The definition is equally applicable to both secular and ethereal essence. This means that another qualifying word is necessary (Issue 3) to identify which sense of essence is being referred to.

The following discussion indicates how these two understandings have arisen philosophically, how they have become inseparable causing confusion, and how this has enabled the secular interpretation to be discounted or over-ridden by the ethereal one. In this, we have a situation where two different and almost mutually exclusive understandings from different dimensions have been assumed and applied to the same term. This is a pernicious form of polysemy that can be expressed as two terms having 'dual simultaneous meanings' with the 'higher order' meaning gazumping the secular meaning without any subconscious awareness that this has even happened and in the process, ensuring that the rules resulting from Issues 1 (fact versus opinion), 3 (word versus phrase meanings) and 4 (dogma versus human representation) have all been contravened.

Aristotle used the term essence in both secular and ethereal senses and his secular use is examined here before considering his ethereal use of the term. He considered that everything contains an essence or an essential feature that enables it to be <u>identified</u>. We can therefore know what a thing is and what its natural role is. This essence of a thing must remain the same as its attributes <u>change</u> over time. Aristotle asks what features something must lose to not be what it previously was (Whitty 2013). Aristotle also says:

> what belongs to a thing in respect of itself belongs to it in its essence (*en tôi ti esti*)" for we refer to it "in the account that states the essence" (*Posterior Analytics*, 73a34–5). He reiterates these ideas in Z.4: "there is an essence of just those things whose logos is a definition" (1030a6), "the essence of a thing is what it is said to be in respect of itself" (1029b14). (Cohen 2016, p. S7).

(Cohen 2016, p. S10) also notes:

Some maintain that Aristotle's theory is ultimately inconsistent on the grounds that it is committed to all three of the following propositions:

i. Substance is form.

ii. Form is universal.

iii. No universal is a substance

All of these cannot be so and Cohen (2016) takes the following position:

> the indefinability of particulars makes it impossible for substantial forms to be particulars. … Aristotle's claim that a substantial form is an individual (tode ti) does not exclude its being a universal (katholou). Universals are contrasted with particulars (kath' hekasta), not individuals (although Aristotle does sometimes ignore the distinction between tode ti and kath' hekaston). What makes something a tode ti is its being a fully determinate thing, not further differentiable; what makes something a kath' hekaston is its being a particular thing, unrepeatable, and not predicated of anything else. There is thus the possibility of a universal tode ti—a fully determinate universal not further divisible into lower-level universals, but predicated of numerous particulars. … Aristotle's point may be that since form is predicated of matter, a substantial form is predicated of various clumps of matter. But it is not the substance of those clumps of matter, for it is predicated accidentally of them. The thing with which it is uniquely correlated, and of which it is the substance, is not one of its instances, but is the substantial form itself. This conclusion should not be surprising in light of Aristotle's claim in Z.6 that 'each substance is one and the same as its essence'. A universal substantial form just is that essence (Cohen 2016, p. S10).

This accords with Whitty (2013), whose analysis of Aristotle concluded that the essence of something is derived from its form which means more than its shape; it refers to its functional structure, and the way it is organised to function. This is similar to Governance which is the Gestalt, the emergent quality formed from the relationship the parts have with each other i.e. the parts create a form.

> And in De Anima he is perfectly explicit that the soul, which is the form or essence of a living thing, "is a cause in three of the ways we have distinguished" (415b10)— efficient, formal, and final (Cohen 2016, p. S11).

In H.6, Aristotle returns to the problem of the unity of definition and offers a new solution based on the concepts of potentiality and actuality. He begins by pointing out (recalling the language of Z.17) that the things whose unity he is trying to explain are those "which have several parts and in which the totality is not, as it were, a mere heap, but the whole is something besides the parts" (1045a8–10). His task is to explain the unity of such complexes. The problem is insoluble, he says, unless one realizes that "one element is matter and another is form, and one is potentially and the other is actually." Once one realizes this, "the question will no longer be thought a difficulty" (1045a20–25) (Cohen 2016, S13).

And since proper definables are universals, it remains to be seen how the proposed solution applies to them. After all, universals are not material objects, and so it is not clear how they can be viewed as hylomorphic compounds. But Aristotle has at his disposal a concept that can do this perfectly, viz., the concept of intelligible matter (hulê noêtê).

Aristotle goes on (1045a33) to introduce matter into the current context. If this is so, we may conclude that the material component in the definition of a species is intelligible matter (Cohen 2016, p. S13).

Elsewhere, he explicitly describes genus as matter: "the genus is the matter of that of which it is called the genus" (I.8, 1058a23). So a species too, although it is not itself a material object, can be considered a hylomorphic compound. Its matter is its genus, which is only potentially the species defined; its differentia is the form that actualizes the matter.

Summarising all of this, substance is essence is form; the form of a hylomorphic compound may be accidentally predicated of matter; that form is potentiality (e.g. governance, to direct and control if properly related/ coupled) and matter is actuality; material may refer to its material or its structure or its 'intelligible matter', making it the kind of thing that it is. Aristotle's essence can therefore be understood to be the form of the thing qualified by its material or structure or its 'intelligible matter' and the precedence of causes in any definition is formal followed by material, with the efficient and final causes generally not being relevant to definition.

However, in saying the soul is the essence of a living thing, Aristotle sowed the seed for soul to be regarded as a proxy for essence. But this is only an association; if substance and essence are the same, ascribing the term soul to be the essence of one class of entity looks beyond the four dimensions and five senses we have ready access to and ignores other characteristics

within those dimensions and senses that could have been used. For example, he does not actually say that intellectual concepts, which will have an essence, must have a soul. Nevertheless, later philosophers have been induced into equating essence with soul, as will be demonstrated in further discussion of this issue below, producing uncertainty in treating it as physical or secular, to the point where the ethereal dimension is seen to predominate and almost over-rule purely secular consideration. This leads to the circumstance of one term having two very different applications of the same definitions within different contexts. This requires resolution if we desire definitional clarity.

This confusion in the definition of essence and the predominance of the ethereal over the secular view of essence lead **Popper** away from the concept and into an irreconcilable tangle between definition and diarrhesis (as further discussed in the separate section of that title under the heading of Popper's philosophy below). It has also allowed acceptance of Wittgenstein's family resemblance concept. This indicates the need for the secular definition of soul developed above. That definition does not preclude soul from being the essence of living things, but just leaves out any required extra-dimensional or extra-sensory belief. It is therefore independent of any particular belief, in a similar way to **JSM** defining an animal as being something which possess attributes of sensation and voluntary motion. It also takes no position on the completely separate argument concerning ethereal existence or otherwise of the soul. It just defines the term 'soul' in a way that says what the concept is without specifying where it comes from or what belief system may surround it. It is then compatible with having either secular or ethereal qualifier attached to it so that we know what we are talking about.

Whitty (2013) noted that **Locke** held the view that classification takes the pragmatic form of conventional names which we use to cover or represent the experience. We cannot claim to know the real essence of a thing, only the nominal essence through the mediated terms of our senses, which has more to do with our experience of it than with the thing itself. There are primary qualities in the object and in the experience itself e.g. hardness, and secondary qualities produced by something in the object without actually being in the object itself e.g. colour. This reinforces the additional difficulty of our particular perceptions of things being different from others because of our different experiences of it Whitty (2013, pp. 105-6). However as far as essence is concerned, this difficulty can be accommodated by distinguishing between physical and ethereal perception and excluding the latter and its associated value judgements from definition, thereby removing one source of disagreement/

confusion. Locke can be regarded as having advocated definition in terms of secular essence by saying that terms should be "reduced in their signification… to determined collections of the simple ideas they do or should stand for" (Locke 1690, p. 502).

The 'essence' of what Popper was getting at with his concept of *diarrhesis* was generating understanding by dividing the subject space into intelligible portions. This aligns with Aristotle's intent with the secular aspect of his concept of essence, as observed by (Naraniecki 2009, p. 162).

However, the ethereal connotation of the term 'essence' introduced beliefs/ value judgements/ explanations beyond the four dimensions we have ready access to. This association has been in place since the Stoics whose philosophy influenced Aristotle. As shown above, Aristotle accepted an ethereal dimension to essence but did not universally require it.

There is also a possible connection between ethereal essence and intuition because of the uncertain source of the latter. Intuition can be attributed to the combination of sense inputs or to some ethereal reality or to both. Popper's reservation about Aristotle's infallibility of intuition is understandable when it is considered that peoples' ethereal 'realities' may be quite different, and intuition can be very difficult to distinguish from strong desire at times, whereas processing of sensory input is generally reliable and may have been what Aristotle was referring to.

Derrida and Spivak (1976) also had difficulty with essence. Deconstruction seeks the point in a text where the inbuilt hierarchy inverts itself because of the undecidability of meaning, as mentioned in discussing Issue 3. If we were to focus on actually agreeing the essential signification of our conceptual terms, we would have done no more than getting to the point where we could all know what it is we and others are actually talking about, facilitating communication by reducing unnecessary confusion. Deconstructionism capitulates on agreeing essential meanings of conceptual terms.

The concept of **existentialism** provides a very clear demonstration of this definitional error. Sartre concluded that "existence precedes essence" (Sartre 1973, p. 34), based on the reasoning that human beings have no essence before their existence because there is no Creator. This means that he justified this conclusion on the basis that essence was ethereal but then expressed his reversal of Plato's statement using a secular understanding of the term. I will restate both positions by inserting the missing qualifiers:

Plato: <u>Ethereal</u> essence precedes existence.

Sartre: Existence precedes <u>secular</u> essence.

This removes the metaphysical confusion from Sartre's statement, taking it out of the realm of meta-physics and leaving Plato's statement as metaphysical and making sense, whether one believes in God or not. The modified statement of Sartre's requires no belief in God but also does not contradict such a belief. A person's essence or key character traits can still be described whether an ethereal soul exists or not. This leads to the conclusion that the conversion and reification of Sartre's unqualified statement into an 'ism' (existentialism) is grounded in nothing more than a definitional error. The same applies to Plato's unqualified statement.

However, there is also a secular sense to Plato's metaphysical statement that is not contentious. When a person <u>consciously</u> creates or makes or does something or causes something to happen, they will first have had an idea or conception of it. Of course, a person can also unconsciously create, where there is no intent and the bringing into existence is accidental, such as unintended consequences. That conscious idea or conception that precedes the bringing into existence will deal with the function it will perform and the characteristics it must have to fulfil that desired function. The secular part of Plato's words could therefore be expressed by adding the missing qualifiers as follows:

Plato further re-written: <u>The idea of secular</u> essence precedes existence, <u>where there is an intention to create</u>.

This leaves ethereal/ metaphysical aspects to be debated separately. Note that Sartre's modified statement still applies to both intentional and unintentional creation as it takes the position of all observers, including the creator, be they secular or ethereal, once the creation is done.

It is therefore evident that confusion is reduced if the definition of any term is approached through seeking its secular essence.

Possible criticisms of this position would be to question whether this is even possible, or to claim that it is an idealistic over-simplification to think that quite divergent usages of some terms could possibly have the same essence. I will therefore give an example that may prompt such criticisms and appear, at first sight, to make this position seem untenable. Take the word ball. When referring to a ball, would I mean a ball to play some sort of sport with,

or a dance which is held in a ballroom? How could any plausible argument possibly be based on finding a common essence across these two meanings of the same word?

However, I will provide three answers to this:

1. There is actually a common element, and that is fun, as borne out by considering another common usage "we had an absolute ball!". Playing ball-games is fun, as is dancing. So there is actually a common feature or essence of all of them - as being a short-hand way of referring to activities that are fun to take part in, one being a game and one a dance. It is just symbolized by the word ball which was named after something you can have fun with that just happens to be round(ish) and happens to provide a physical object that can be used to symbolize or represent.

2. I am here only seeking to remove ambiguity from the management environment, not from all environments. The example is not from a management environment and so this criticism is invalid. I seek to address this within the management area where clarity/ removal of ambiguity is actually an advantage.

3. Considering the hidden or silent qualifiers as well as context, the problem is actually between ball-game and ball-room and both have simply become abbreviated in common usage.

Consider the management example of regulations existing in two government departments, one in a democracy and one in a dictatorship; what is the common essence there? It is the fact that both sets of regulations form part of the governance system of their organisation. Ethics can be written into governance arrangements, but it is those arrangements that then form part of governance, not the ethics themselves; they can be either 'good' or 'bad'.

Two further examples demonstrate the same thing. The term 'card' can be say a nine of diamonds in a card game, a red or yellow card in a football game or a punched computer card. All of these are a piece of patterned cardboard, with a pattern appropriate for the circumstances, and specifying the context removes uncertainty regarding what sort of card it is. Furthermore, the cards all symbolize something and the particular card provides the physical means of signifying the intended concept. Similarly, a 'tap' can be a knock, a water outlet, the thread on the inside of a metal sleeve or a piece of metal on the bottom of a shoe. All of these have the connotation of letting something out, whether it be sound, water or a bolt.

These examples demonstrate just how easy it can be to fail to find secular essence. Just because it may be difficult to identify does not excuse failing to adequately look for it or failing to adopt a perspective that allows it to be found. It may be that there are some terms/ usages that are particularly resistant to this approach of finding common secular essence by examining uses across different contexts. But it is difficult to avoid the utilitarian position of maximising the greater good, concluding that if we can greatly reduce confusion by adopting this position, that we should do so. Any remaining difficulties can be viewed from the perspective of Issue 8 which deals with precision versus clarity; here we would be opting for clarity rather than full theoretical precision.

This approach adopted here could be further criticised for just being convenient. However, the alternative is to ignore the importance of context/ boundaries/ environment/ limits in any problem, which is not a scientific approach. In this light, it is worth remembering that Newton's theory had small errors which went unexplained for some centuries until Einstein's theory of relativity, but Newton's theory actually enabled the industrial revolution to occur, producing the standard of living we have today. Had such an objection been sustained then, it may have prevented the industrial revolution occurring. Ideas do not have to be fully correct to be useful.

The Mangle seeks essential definitions that exclude normative considerations, thereby selecting secular essence and excluding ethereal essence. Its success in resolving definitional difficulties across a range of subjects as documented in the papers in Parts 2 and 3, indicates that the approach works and supports excluding ethereal essence from definition.

This leads to proposing the following:

> **Axiom 4:** *The closer the signification of a word comes to the important attributes that a thing must have (i.e. <u>essence</u>) for that label (signifier) to be correctly assigned to it, the closer it gets to accurately representing the auditory part of meaning contained in the written word*, and the less the confusion that can result. The closer it comes to representing the meaning received from all five senses, the closer it comes to representing the full meaning.

> **Axiom 5:** *Some words such as essence have dual simultaneous meanings that are <u>secular</u> (four dimensional) and <u>ethereal</u> (extra-dimensional) and the 'higher order' ethereal meaning will gazump the secular by subconscious default unless the issue is called out.* Defining in terms of secular essence removes the dependence of

definition on matters of ethereal belief. Ethereality emerges from seeking definition/ meaning in dimensions other than those that are physically accessible to us.

Definitional rule 4: *Exclude ethereal significations from the definition of unqualified terms with dual simultaneous meanings such as 'essence' by adding the qualifiers 'ethereal' or 'secular' to them.* Accommodate the ethereal <u>after</u> definitions have been agreed, not before (This is the same as rule 3 with ethereal essence substituted for beliefs).

8.6.6 Issue 6 Intension v extension

This issue deals with the method of definition and addresses the question of whether intension or extension should be the first choice of definitional method in circumstances of definitional contention.

Definition by extension lists all the items or instances the thing may include or be found in. Definition by intension lists the minimum attributes the thing must have. The former runs the risk of omission and the latter runs the risk of selecting the wrong attributes. However, as Copi and Cohen (1990, p. 142) state, "the extension of a term is determined by its intension, but the reverse is not true... intension must determine extension". This means that the risk of omission in definition by extension is avoided if the correct intension is identified, indicating that definition by intension is generally preferable. This conclusion was reached in developing and using the Mangle to resolve conflicting definitions of governance terms in the governance paper (2) in Part 2. The problem of definition by extension also became apparent in the range of definitions of governance given by practitioners, as reported in Paper 6 of Part 2. These definitions included oversight, decision-making, structure, approvals, way finding, management of risk, gates, Quality Assurance (QA). These are all extensions or instantiations of the term, but they do not tell us what the essence of governance actually is, whereas definition by intension does tell us that. The intensional definition derived using the Mangle defines governance as "the system by which an entity is directed and controlled".

Definition by intension is equivalent to definition of secular essence, the philosophical background to which has been detailed above in discussing Issue 5, requiring no further enumeration here.

This leads to proposing the following:

Definitional rule 5: *Define by intension rather than by extension where-ever possible.*

8.6.7   Issue 7 Objects v concepts

This issue addresses whether a common understanding of objects and concepts can be reached using the same linguistic approach or not.

The realization that this may be an important distinction arose from reflection upon how it may have been possible for so many different conceptions to be in circulation of what management terms are thought to mean. A wide range of understandings of governance was found in both the academic literature and the practitioner interviews reported in Papers 2 and 6 of Part 2. The same was found for other management terms, such as ethics, stakeholders, strategic management and power which were considered in the other analytical papers in Parts 2 and 3. In searching for an explanation, it was noticed that there is one key word in the label 'essentially contested concept' given by Gallie (1956) and that is the term concept. That implies that the only terms that are contested are concepts i.e. we don't have difficulty reaching agreement on what we understand by the terms we use to label objects. This suggests that there is a process we use for reaching agreement on labels we assign to objects and that that process works. It also suggests that whatever process we use for agreeing what we understand by a label given to a conceptual term doesn't always work. That led to the following analysis.

Concepts are thoughts which have no physical existence that is detectible by our five senses i.e. they cannot be seen, touched, heard, smelt or tasted; there is nothing that can be pointed at to verify that we have reached a common understanding. So the verification process we use for objects cannot work for concepts and a separate means of verification is needed for them. One means of doing is to rely on authority, i.e. believe a person we think seems to know a lot about the subject. That may produce a result that is not contested, but it also may not. We have no way of knowing whether that person may have learned their understanding from someone who was also confused or whose experience covered only some of the possible circumstances the term can be applied to. Another way is to rely upon what everybody else thinks. But we have no idea where the view originated, or the motivation of the initiator, or the standard of proof they may have found necessary, or even whether there was any proof at all – it may have just suited the initiator's convenience, or they may have simply overlooked communicating their context. In other words, there are so many things that can go wrong with

reaching agreement on a common understanding of conceptual terms that it became evident that the readily available means, the commonly accepted process, is inadequate and a different and more reliable process of reaching agreement is required. The Mangle can fill this process gap by providing a verification process for concepts that is unnecessary for physical objects, which we can verify agreement on by pointing at or triangulating.

This need for an additional process for verifying that we do have a common understanding of conceptual terms does not appear to have been previously recognised as a philosophical issue of any importance.

The word 'concept' has been defined above as an abstract idea. It is necessary to distinguish between a grammatical object and a physical object as a grammatical object is itself a concept that can include physical objects as well as concepts. In addressing this issue of the distinction between objects and concepts, only physical objects which are being dealt with here.

The notion of what a concept is in relation to its philosophical background was considered by Whitty (2013, pp. 111-2), who said:

> **Kant** shunned the relativist view that everyone experiences everything completely differently and felt that there must be some commonality or common grounding of experiences… **Locke** introduced the idea that our knowledge of the world comes to us through our senses... In computing terms, **Hume** has discovered that we have an operating system that provides a platform for all the other mental software to run on. But Kant is asking: what is it that enables us to proceed with running this mental operating system? There must be a mental BIOS that needs to be run in order for the mind to proceed to come to know something (Whitty 2013, pp. 111-2).

He further considered this BIOS (Basic Input Output System) comprises:

> Kant's four 'pure categories of the understanding' which are; quality (unity, plurality, and totality), quantity (reality, negation, and limitation), modality (possibility, existence, and necessity), and relation (inherence, causality, community, and correlation) … (and) The application of these categories *is* thinking. … using these cognitive powers is literally what understanding is (Whitty 2013, p. 114).

He then summarizes Kant's view of concepts as follows:

> Kant puts forward the case that we build our most basic mental concepts on fundamental axioms which we hold as unquestionably true. They intuitively feel right… We build our ideas and concepts on them. The first axiom is that we distinguish 'between' things, between one object and another in the mind… the mind cannot come to know any other concepts without the spatial axiom. The second basic axiom is the mental capacity to make distinctions 'within' things. So within the ideas we hold in our mind there are certain dynamics which we call changes or motions or actions, and the experience of observing this is what we call temporality or time (Whitty 2013, pp. 112-3).

Temporality is necessary for concepts to exist and for physical objects to be observed. However, concepts exist only in our thoughts and this makes verifying our collective understanding of them more difficult than it is for physical objects we can point to.

Difficulty with the issue of linguistic treatment of objects and concepts occurs most noticeably in **Derrida**'s concept of deconstruction. Kleinberg (2013), in commenting on deconstruction with respect to text, notes that the first step is to examine the text for moments that betray when the inbuilt hierarchy inverts itself, creating aporia or undecidability of meaning and the second step is to locate the moment where the seemingly dependent term turns out to be foundational for the dominant term. This presumes that there must always be some binary hierarchy present, some struggle between two opposites, in all terms. This may be possible for some concepts but is a step too far for terms representing physical objects.

This need to find an inversion in deconstruction only exists because we are chasing a phantom that emerges only when we haven't agreed on what is signified by the signifier when we are considering conceptual terms. The Mangle provides a means of doing this without needing to rely on deconstruction. If we were to focus on actually agreeing the essential meanings (signifiers) of our conceptual terms, we would have done no more than get to the point where we could all know what it is we and others are actually talking about, facilitating communication by reducing unnecessary confusion. If there is still anything left of deconstructionism's point of inversion beyond that, the amount of potential confusion will have at least been much reduced. As mentioned in Issue 5, deconstructionism capitulates on agreeing essential meanings of conceptual terms.

Derrida also saw the subjectivity of language as its principal problem. He thought that absolute truth could not be found through language because of the undecidability and

subjectivity of language, and that words could not be pinned down to a single definite meaning because of their invisible <u>trace</u>, according to Kleinberg (2013). But, of course there will be subjectivity if the meanings of conceptual terms haven't been agreed. If it were true that meaning differs from reader to reader, from time to time, <u>on every word</u>, then would indeed be no possibly of having a shared truth that we can all access. But then there would be no point at all to any language we may have as none of them could serve any useful purpose. But language does serve the useful purpose of enabling communication; we don't actually have too much difficulty agreeing on the signifiers of physical objects we can point to and say "that's what a 'such n such' is" in whatever language it is we happen to speak. This means that the fundamental premise of deconstructionism, of subjectivity of language generally, is false. Expression of subjectivity using language is a general occurrence that language accommodates, but introduction of subjectivity into definition is not universally so, as evidenced by the relative ease of reaching agreement on what labels denoting physical objects signify. Introducing subjectivity into definition simply causes confusion. This effectively deconstructs deconstructionism.

There is shared knowledge we can all access in the physical sciences such as engineering, otherwise things (physical structure) fall down, leaving the reality of failure, injury/ loss of life, destruction and litigation. That is a reality check not necessarily present in the social sciences until long after the social construction is installed, and the causes of any failure are then very difficult to trace. However, the consequences for injury and loss of life of any failed social system, such as Nazism, can be much greater than the failure of any physical structure. The physical sciences are constantly grounded in an immediacy of reality that the social sciences are not, or at least not until the consequences become evident and attempts to attribute cause and effect become possible. By that time the 'thought architects' who conceived it, and the 'thought engineers' who figured out how to implement it (if anyone actually did so) may well be long gone and the trace of the idea very difficult to determine.

If the meaning of both signifier and the signified in language is really "the relationship between two palimpsests (such that) reading then resembles those X-ray pictures which discover, under the epidermis of the last painting, another hidden picture of the same painter or another painter, no matter" (Derrida & Spivak 1976, pp. lxxv-lxxxvi), then how could we have ever learned to speak and agree on any terms at all, let alone to the level we currently do. The proposition may be esoterically appealing for concepts, but it is inapplicable at a physical level. The only heat likely to be applied will be emotional and that certainly won't

reveal the palimpsest; it is far more likely to hide it and/ or result in (possibly murderous) conflict.

An aspect of deconstruction that Kleinberg (2013) focuses on is seeking the point of inversion, or the point at which the writer's assumed social hierarchy is exposed. He does this by examining only the text for moments that betray when the inbuilt hierarchy inverts itself, as mentioned in discussing Issue 3, to expose the arbitrary or constructed nature of that hierarchy. This presumes there is an inbuilt hierarchy in everything. This may be so for some concepts but falls down for physical objects which simply exist and are allocated a sound to signify them. Any hierarchy determined according to any criteria for objects can only be between objects and will refer to a relationship between them rather than a definition of them. This is quite different to finding the inversion point for a concept.

Wittgenstein overlooked this issue through adopting as his basis for analysis a primitive language dealing with a builder and assistant communicating about physical objects. In this, he took the lead from Augustine, and was only secondarily concerned with the names of certain actions and properties. He saw "the remaining kinds of word as something that will take care of itself" (Wittgenstein & Anscombe 1958, p. 2). However, it is within these types that concepts fall and there is an additional difficulty in reaching agreement on concepts that physical objects do not have because the simple means of verification, namely pointing, is not possible. The processes of teaching and learning that preoccupied him as an educator have little to do with what is agreed before there is something to teach.

These considerations lead to proposing the following:

> **Axiom 6:** *Concepts require an additional definitional process to physical objects for agreement to be reached, as they cannot be pointed at, to collectively verify meaning*. The Mangle provides this. (Note that this does not refer to grammatical objects which can include both physical objects and concepts.)

> **Definitional rule 6:** *Use the Mangle to resolve contention for conceptual terms*. It provides a triangulation process to verify that a common understanding of concepts has been reached. It also provides a means of incorporating any new realizations or applications. It is not necessary to apply it to objects which can be seen/ touched; their physical existence automatically generates agreement upon the signification of any term used to represent them.

8.6.8 Issue 8 Detail v overview

This issue considers the relationship between depth and breadth; between detail and overview.

It addresses the level of precision required to provide clarity sufficient to generate agreement on definition (what is signified) by considering two opposing philosophical views, one that increasing precision universally obscures meaning and the other that it clarifies it.

An example of this occurring in project management is in the definitions of a project found in practitioner reference documents. PMI publications define it broadly as an activity whereas PRINCE2 and MSP define it as an organisation, focusing on just one aspect or detail of what is involved in many, but not all projects. Similarly, PRINCE2 claims to be about and for projects yet does not adopt a project lifecycle, choosing instead to use a product development cycle and chose the iterating part of one 'stage' of that cycle to base its whole process upon, having the effect of requiring an extraordinarily detailed, bottom-up approach without any strategic perspective or overview.

However, the first inkling of the importance of this distinction came from Part 2 Paper 4 dealing with distinguishing accountability from responsibility, in which I observed "Universal definition of terms can produce clarity whereas universal application of different understandings of a term cannot". This raised the issue of how to accommodate Karl **Popper**'s philosophy which promotes clarity but decries definition, claiming it goes to increasingly impractical detail, towards the point of infinite regress (Popper 2002, p. 25). He was concerned with induction, which he said "Hume had shown was invalid because it led to an infinite regress" (Popper 1979, p. 86). He deals with the issue of precision versus clarity somewhat inconclusively in saying:

> although clarity is valuable in itself, exactness or precision is not: there can be no point in trying to be more precise than our problem demands. Linguistic precision is a phantom, and problems connected with the meaning or definition of words are unimportant (Popper 2002, p. 37).

He considered that "a definition can only reduce the meaning of the defined term to that of undefined terms" and concluded "this Wittgensteinian belief is nonsense" (Popper 2002, p. 376).

This raises the question as to how we can reach this point of clarity that he values without defining what we understand to be the meaning of the labels we give our concepts. Where is the threshold between clarity and detail? He uses a process he calls diarrhesis which subdivides the conceptual space, but he doggedly refused to acknowledge a place for definition. He also said that no diarrhesis is final (Popper et al. 2008, p. 251).

Popper (2002, p. 25) proposed his Table of Ideas showing how he considered truth and meaning were related. That table is reproduced below as Figure 2.
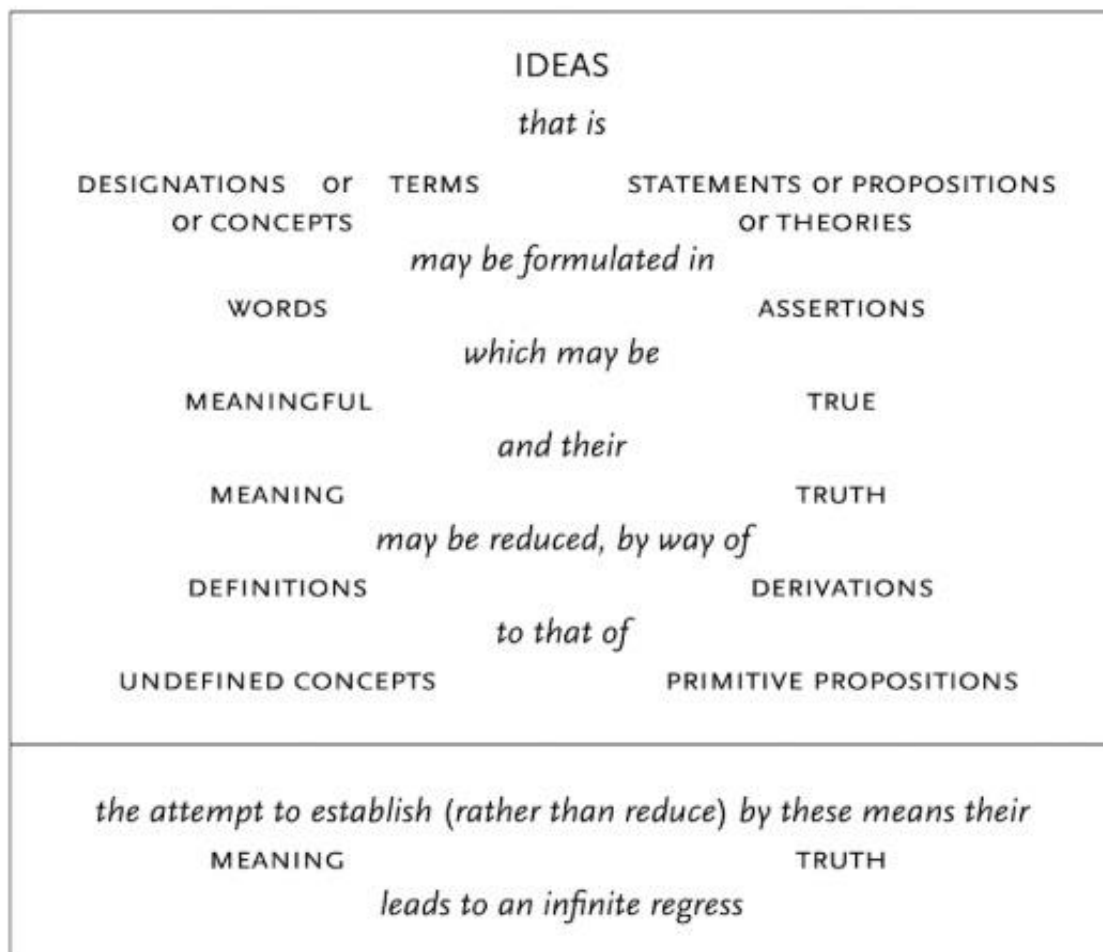
Figure 2: Popper's Table of Ideas
(Sourced from Popper (2002, p. 25))

I will enumerate the left-hand side in full, using his capitalisation:

> IDEAS that is DESIGNATIONS or TERMS or CONCEPTS may be formulated in WORDS which may be MEANINGFUL and their MEANING may be reduced, by way of DEFINITIONS to that of UNDEFINED CONCEPTS and the attempt to

> establish (rather than reduce) by these means their MEANING leads to infinite
>
> regress (Popper 2002, p. 25).

This enumeration indicates Popper overlooked the possibility that there are some contested concepts, so we do not get the opportunity to progress through increasing precision to the point of infinite regress as we can't even get to the point of agreeing in very general terms what the labels we give them signify. So, we are stuck with no original use or authority to fall back on. We have words to describe contested concepts, all of them meaningful to someone but not necessarily to everyone.

Another example, although unrelated to management, demonstrates very well a further problem with the table. It is the definition of an animal mentioned earlier as "all things which possess attributes of sensation and voluntary motion" (Mill 1874, p. 467) (Book IV Chapter IV §2). This definition was sufficiently clear to include an ape, a bear, a mouse, a bird or a human. There was no infinite regress there, unless the pedantic step of defining sensation and voluntary motion was pursued. We could therefore say that it defined an animal in terms of other undefined concepts, but the definitions were sufficiently clear to not need further definitional effort in the direction of infinite regress.

However, sense can be made of this inconsistency if we distinguish between defining for the purpose of usage and defining for the purpose of understanding the internal workings of the entity or phenomenon labelled by the term. If we accept the former purpose, we need go only as far as facilitates communication and we then do not reach infinite regress. If we accept the latter purpose, then it is possible we may get to infinite regress. Popper was apparently focusing on the latter purpose in his table.

The following revision of the left-hand side of the table (with changes underlined/ struck-through) would accommodate the definitional difficulties and render the table more generic:

> IDEAS that is DESIGNATIONS or TERMS are used to label CONCEPTS and may
> be formulated in WORDS which may or may not be generally AGREED and the lack
> of agreement on their MEANING may be leading to prevention of adequate
> DEFINITIONS. The attempt to ~~establish (rather than~~ reduce~~) by these means~~ their
> MEANING leads to an infinite regress.

Here the underlying meaning is separated from the representation or formulation of it in words. By not distinguishing between the label of the concept, the words representing it, and

the thing itself, Popper's view of definition would be considered 'vulgar' by John Stuart Mill. Perhaps he was over-reacting reacting to Wittgenstein's obsession with the mechanics of language, which erupted in the famous poker incident as documented in Edmonds and Eidinow (2001). Popper stated "if philosophy was all about word puzzles, I would not have gone into it". However, he does not appear to have recognised language as just a framework for representing things (Issue 4), even though he wrote a whole book about the myth of the framework. As Popper points out in that book, it may well be difficult for people to communicate when they have different frameworks (Popper & Notturno 1994), but an aversion to definition will generate unnecessary difficulty. He may well have been referring to what would now colloquially be termed a paradigm rather than a framework, where a framework is an unemotive term referring to some structure of thought, whereas a paradigm has the connotation of being a framework that is strongly believed in or is so deeply ingrained that it is assumed to be true and/ or we may not even be aware of having it.

(Popper 1995, p. 20) claimed that "the attempt to define terms would only increase the vagueness and confusion". This statement suffers greatly from being a universal statement. It also overlooks the process versus content distinction dealt with below in Issue 9. It simply demonstrates that Popper must have had a completely different view (or definition) of definition. This statement may have been true in the political example he chose to demonstrate his point, of political speeches becoming much longer, to the point of defining every single word they use. But this is an extreme example that pursues understanding of components rather than understanding of usage. It is only words where contention (i.e. lack of agreement on what is signified by the term) where clarification is necessary; otherwise, what is the purpose of language if, no matter what we say, nobody knows anything of what we mean. That would simply render communication impossible. Of course, it may be difficult to know when we have a different understanding of a concept to somebody else, but on the majority of words, that difficulty does not exist and there is no need to clutter the verbal space with definitions of those terms, or proceed towards pedantic infinite regress any further than the point where agreement can be reached. The falsity of this universal claim of Popper's is also evident from the number of successful applications of the Mangle in Parts 2 and 3 in resolving significations for 'essentially contested terms', in the terminology of Gallie (1956).

Popper was most critical of definitions, saying:

The following passage from Crossman's *Plato Today* is characteristic of a view held my many contemporary philosophers of repute, for example, by Wittgenstein [46]. 'if we do not **know precisely the meaning of the words** we use, we cannot discuss anything profitably. Most of the futile arguments on which we all waste our time are largely due to the fact that we each have our own vague meanings for the words we use and assume that our opponents are using them in the same senses. If we defined our terms to start with, we could have far more profitable discussions…'. This passage is very characteristic of one of the prejudices which we owe to Aristotle, of the prejudice that language can be made more precise by the use of definitions (Popper 1995).

I contend that Aristotle was correct, and that Popper was mistaken in inferring that increasing precision was the problem, as was Wittgenstein, as the quotation from him bolded above indicates, exposing the workings of his mind in thinking that words = meaning. The papers prepared in developing this thesis/exegesis indicate that the problem is in rather lack of agreement on what conceptual terms signify (Issue 1/ Axiom 1). Describing what is meant in sufficient detail to arrive at an understanding sufficient for the purpose of communication or system use will rarely involve the infinite regress that can be encountered in seeking to understand ever increasing levels of detail/ precision about the structure or workings of an entity – a problem Popper was most concerned with as a philosopher of science.

Focusing on agreement rather than on precision implies a relative rather than an absolute concept of truth. Truth or accordance with the facts can be established deductively for (i.e. relative to) a particular entity or system being considered, but it cannot be established inductively for a class of such entities or systems in ignorance of all their relevant, particular circumstances.

Popper's Table of Ideas may have been useful in relation to induction, but it is not fully generic, and his definition of definition is problematic. It also represents a somewhat deterministic over-simplification if we are looking to influence opinion by making emotional sense as well, rather than just being intellectually, rationally, pedantically correct.

It is also worth noting that Popper's diarrhesis is not to be confused with (scientific) reductionism. The former goes down only as far as is necessary (often only one level) to divide the space into parts where (macro) sense can be made. The latter divides the subject space (often down many levels) to make (micro) sense of its elemental components. The

former produces functionality, as Popper's World 3 concept exemplifies, and the latter produces understanding of detailed workings, but not necessarily of usage or system performance.

Clarity of meaning or at least of labelling and of what we understand the label to signify is necessary to allow the meaningful discussion and criticism which Popper advocates. It is interesting to note that this can often be achieved by applying just one further level of diarrhesis, in this case, recognizing a distinction between the purposes of communication and achieving understanding of an entity.

Derrida, according to Pathak (2014), questioned the finality of signifiers, asserting that we keep moving from one signifier to another and the ultimate meaning or supposed signified remains elusive; there is always some lack, some incompleteness and so no entity is a unified whole. This makes micro-sense but not macro-sense and effectively prioritizes understanding ahead of use and does not produce clarity. If what is signified is not final i.e. constant and depends on our developing associations with and feeling for it, then the understanding of labels we give things can change over time, defeating the purpose of communication that allocation of a label serves. The detail that this aspect of deconstruction provides is therefore counter-productive to definition and does not result in clarity.

Furthermore, prioritizing understanding ahead of use can paralyse action. One does not have to understand everything about the micro-structure of something (for example a medicine) for it to be useful. The same applies for organisms. Lack of finality may be universally true for an organism in the progression of Kantian time, but at any given time, it does physically exist in Kantian space in whatever fullness it happens to be in. Any other organism has to deal with it as a complete entity, without focusing too much on seeking to understand any one particular detail of it. This dealing may range from ignoring it to mating with it, or from killing it to being killed by it. Its internal physiological state and biological processes inevitably change and will always be incomplete, simply because it is alive, but that is of little relevance to any other organism dealing with it; it must therefore be regarded by others as a unified whole. If we want to understand its internal workings, then we may need to know the details of its biological processes. But if we just want to deal with it immediately in the here and now, we only need to accept its existence and do so fairly quickly.

Separating understanding for the purpose of using or dealing with a system from understanding for the purpose of understanding internal workings or sub-systems enables the

level of detail appropriate to the task at hand to be determined. This diarrhesis exposes the falsity of both the absolute Popperian argument that increasing precision always leads to infinite regress and the notion that deconstruction can produce clarity.

The Mangle effectively offers an alternative paradigm to deconstruction for conceptual terms through the same process that falsifies text deconstruction; namely reaching agreement on what conceptual terms mean, through stripping them to their essence, which, in conceptual terms, is analogous to pointing. It removes the need to perpetuate dichotomies and confusion through chasing undecidability through the detail of finding hierarchical inversion. It avoids unending esoteric discussions of text deconstructionism that cannot tell us what we should do. The precision inherent in deconstruction does not provide clarity of use or decidability of what we should do.

This leads to proposing the following:

> **Axiom 7:** _**Clarity is more important than precision in reaching agreement on definition, but precision may be useful to reach a point of clarity, albeit that it may obscure matters if taken beyond that point**_. Infinite regress does not occur if we seek only the detail necessary to agree usage and do not pursue deeper understanding of the internal workings of an entity or concept.

> **Axiom 8:** _**Connections between divisions or component parts also require labelling and definition**_. Properties or characteristics of systems that emerge from having made those connections comprise the 'whatever it is' that is more than the sum of the parts.

> **Definitional rule 7:** _Use precision only to the point where clarity is reached_. If clarity is not reached, go back up a level. Precision regarding sub-systems or components does not produce clarity at the system level. Further precision is required only if an understanding of the internal workings of parts or sub-systems of an entity is being sought.

> **Definitional rule 8:** _In defining a system, recognize the connections between its parts_.

8.6.9 Issue 9 Process v content

This issue is concerned with whether it is beneficial to separately consider process and content or not.

The need to distinguish between these two things was identified in the first definitional paper (2) of Part 2 in considering whether decision-making should be included in the definition of governance or not. It was excluded because it is a process that is broader than and not unique to governance, and a definition of governance should say what it is rather than one aspect of how it is done, which would then have required definition by extension rather than by intension. I had also had experience of this distinction being used successfully in practice for gaining user acceptance during the introduction of a new project management methodology. The philosophical distinction it aligns with is between epistemology and ontology. Resolving process, including boundaries and definitions, deals with how we come to know things, i.e. epistemology. This then establishes the basis for gaining knowledge of content, for knowing what we know, i.e. ontology.

Popper (1995, p. 17) said that definitions "do not contain any knowledge whatever, not even an opinion; they do nothing but introduce new arbitrary shorthand labels; they cut a long story short. In practice, these labels are of the greatest usefulness". I consider Popper recognised the problem but did not escape from it himself. Identifying boundaries and clearly labelling them does contain knowledge of where the boundaries of consistency or coherence lie. It therefore provides a process for determining knowledge or truth, or rather, it provides knowledge of the <u>process</u> of labelling or categorising our thinking (diarrhesis) as distinct from gaining knowledge of the <u>content</u> of the particular subject or concept being considered (which Popper would not admit to calling definition). Knowledge is knowledge, whether it is of process or of content. Furthermore, the difficulty is not in finding a shorthand label; we have plenty of them and the real difficulty is in agreeing what those labels actually signify for conceptual terms. Consciously separating process from content is itself a sub-classification that can achieve clarity, as Popper himself did with identifying and labelling his Worlds 2 and 3.

Whitty (2013) noted that **Hume** classified propositions into two types; <u>Analytic propositions,</u> which refer to the structure of the relation of things and can be known *a priori* (i.e. without depending on our experience) (e.g. mathematics); and <u>Synthetic propositions</u> that are concerned with things we observe that cannot be known *a priori* so an experience (of the senses) is required to determine their truth. Hume concluded that we habitually see cause or infer cause everywhere. I note the similarity with **Aristotle** distinguishing between things that are "better known to us" and things that are "better known in themselves," and maintaining that we should begin our study of a given topic with things better known to us and arrive

ultimately at an understanding of things better known in themselves (Cohen 2016, p. S1). Whitty (2013) likened Hume's view to having a mental subroutine that we habitually run and are insensible of running it. We cannot actually know anything because our observations are so personal and subjective. The cause and effect habit of mind creates a feeling that we know, but we as individuals cannot have enough information in the moment to truly know. In other words, we need a process that provides some surety that we are not just accepting some particular content knowledge as universally applicable just because it seems to us that it is. The Mangle developed in the governance paper in Part 2 provides such a process for verifying the genericity of content. It accommodates **Mill**'s view as noted above that the truth of the representation is to be sought and cannot be determined by any authoritarian decree.

The need to separate content from process is not one that is readily apparent, and it can be much more engaging to just jump into the emotionality surrounding competing content than it is to be bothered with following some unemotional, potentially boring process of first determining definitions. It can also be argued that following such a process will straight-jacket people and stifle their creativity. My response is that we can, as anyone who seriously poses such a question seems to wish, all waste our time arguing about process; but that simply prevents us from getting to the real work of understanding content. The process stuff should be just that - simply procedural. But because it is unattractive to sort that out first, we keep bumbling around in a confused haze, seeking to justify the lack of discipline with woolly arguments like freedom of creativity or Wittgenstein's family resemblance theory or with the popularised theory of pragmatism, which has been corrupted into the opposite of its original purpose, as identified by Rescher (2016). If so much of our creativity has to go into sorting out turmoil over process, we may have little time left for applying our creativity productively.

This leads to proposing the following:

> **Axiom 9:** _**Diarrhesis can facilitate definition by enabling sense to be made within divisions that cannot be made without them**_. Knowledge therefore does come from establishing boundaries and divisions (diarrhesis) (such as Popper did with his three worlds).

> **Axiom 10:** _**One such diarrhesis that can reduce confusion in definition is the separation of epistemology from ontology, through distinguishing between content**_

(what we know) and <u>*process*</u> *(how we know it).* This can avoid enshrining non-generic content within a process that may potentially be generic.

Definitional rule 9: *Consider process and content separately*; this supports exclusion of non-generic content from definition. The Mangle sorts out process, leaving the focus on content and true genericity.

8.6.10 Issue 10 Set v sub-set

This issue is concerned with definitive statements being made for a whole set based upon extrapolation from a sub-set.

This issue became evident from Paper 6 of Part 2 dealing with confusion of governance terminology. It occurs most notably in practice in the mistaken assumption that some aspects of the IT sub-set of project management are generic to all forms of project management, as demonstrated in papers 5, 8 and 9 of Part 3. For example, early versions of MSP stated that programs were transformational. This generalised from the IT sub-set of programs to all programs in general. While IT programs often bring about transformational change to the organisations they are delivered in they do not do so for most conventional maintenance programs or for infrastructure organisations that routinely deliver programs without internal transformation. What applied to most of the sub-set did not apply to the full set. Later versions of MSP corrected the definition but left the internal process upon which MSP is based untouched. Further examples include the definition of project as an organisation rather than as a more generic activity, and the use of an IT product rather than a generic project basis for the whole PRINCE2 management process are given in the papers referred to above.

This is reflected philosophically in **Mill** noting "the great danger in all things philosophical is not so much of embracing falsehood for the truth, as of mistaking part of the truth for the whole" (Mill et al. 1987, p. 181). Examples of this occurring in the philosophy of Popper and Derrida were mentioned above in discussing the detail versus overview dichotomy (Issue 8).

To establish whether a definition or an observation made for a sub-set applies universally at the next level up, it needs to be tested in that wider environment/ context. Truth cannot be established universally through induction inferring from what happened previously in terms of cause and effect, but it can be established with reference to a particular system relative to its usage and boundary conditions (context).

This leads to proposing the following:

> **Definitional rule 10:** *Identify the context within which the term is being defined and refrain from making any generalisations that have not been tested outside that context*. This is similar to definitional rule 2 which deals with making assumed or silent qualifiers explicit. Both rules deal with making context explicit. The Mangle provides a recognized way of doing this.

8.6.11 Consequent philosophical problems

Before a coherent philosophical position on definition and a theory of meaning concerning management terms can be articulated, there are philosophical problems arising from conflict within and between the positions taken by previous major twentieth century philosophers, identified in analysing the issues above, that require resolution. These are Wittgenstein's family resemblance concept, the philosophical difference between Popper and Wittgenstein that famously erupted in the poker incident, internal difficulties in Popper's philosophy including the diarrhesis versus definition question, the philosophy of Derrida and the general philosophical trend away from definitions.

I will attempt to reconcile these based on the position that all of them dealt with real problems that their system of thinking addressed and so there must have been a truth (reasoned line of argument) in all of them within the boundaries of their consideration, in-so-far as they were aware of them. I will examine these boundaries and look for occurrences of the above 10 issues. In doing so, I will rely not only upon the empirical and analytical work I have done here, but also on advances in technology, geology, archaeology, and evolutionary theory that have occurred since these philosophies were developed.

8.7   Resolution of philosophical problems

8.7.1   Wittgenstein's Family Resemblance Concept

This concept holds that some terms have quite varied usages such that it is not possible to determine essence or "What is common to them all" (Wittgenstein & Anscombe 1958, p. 31), and that there are instead, similarities or resemblances which may or may not be present, in the same way that family characteristics may be present or not in the physical appearance of individual family members. This concept arose as a challenge to publication of the power papers in Part 3, as mentioned in Issue 5. The definition of essence via the Mangle has formed part of the basis for resolving contest in all of the analytical definitional papers in

Parts 2 and 3 dealing with governance and related groups of terms. The following discussion outlines the flaws, as I see them, in the family resemblance concept.

John Stuart Mill (1806-1873) was critical of the concept of resemblance in definition that Wittgenstein would later develop. He said:

> But when a name is in common use, the difficulty is … of ascertaining and fixing the connotation with which it is already used… But the vulgar (including in that term all who have not accurate habits of thought) seldom know exactly what assertion they intend to make, what common property they mean to express, when they apply the same name to a number of different things. All which the name expresses with them, when they predicate it of an object, is a confused feeling of resemblance between that object and some of the other things which they have been accustomed to denote by that name… This rough general impression of resemblance is, however, made up of particular circumstances of resemblance; and into these it is the business of the logician to analyse it; to ascertain what points of resemblance among the different things commonly called by the name, have produced in the common mind this vague feeling of likeness; and have given to the things the similarity of aspect, which has made them a class, and has caused the same name to be bestowed upon them. (Mill 1874, p. 468).

This points out the need to qualify the term to the particular circumstances it is used in, then look at the meanings in context with the qualifications used to understand what the essence of the term really is. This is the task the Mangle performs. Mill further says:

> In attempting to rectify the use of a vague term by giving it a fixed connotation, we must take care not to discard (unless advisedly, and on the grounds of a deeper knowledge of the subject) any portion of the connotation which the word, in however indistinct a manner, previously carried with it. For otherwise language loses one of its inherent and most valuable properties, that of being the conservator of ancient experience; the keeper-alive of those thoughts and observations of former ages, which may be alien to the tendencies of the passing time (Mill 1874, p. 476).

(Wittgenstein 2007) himself also warns against mixing terminology, noting that "philosophical puzzlement occurs by using the terms from one language-game as if they belonged to another e.g. judging moral or religious talk as if it were scientific"

Use of **Wittgenstein's** 'family resemblance' concept has been advocated by Haugaard (2010) who argues that "there is no single best definition of power". He considered "pragmatic criteria of usefulness, rather than essence, define better or worse usage. When moving language games, the relationship between signifier and referent changes, which leads to confusion, unless the family resemblance nature of power is understood" (Haugaard 2010).

> Wittgenstein himself used the examples of games to justify his family resemblance concept. He looked for something common in them, some essence and found none. He considered board-games, card-games, ball-games, Olympic games, and so on. He considered and rejected amusement, competition (in the process confusing play with games), skill, luck and finds no common essence, only a resemblance in some changing features (Wittgenstein & Anscombe 1958, pp. 31-2) (Sections 66 & 67).

I will look closely, as Wittgenstein exhorted, but without falling into the trap of ostensive definition, which consumes much of Wittgenstein's lead up to this point. Copi and Cohen (1990, p. 146) point out that 'The primary way of learning to use language is by observation and imitation, not by definition' and 'the process of frequently hearing the word when the object it denotes is present.' They go on to say 'But such a process would not be a definition at all … it would be the primitive, pre-definitional way of learning to use language'(Copi & Cohen 1990, p. 146). The governance paper in Part 2 McGrath and Whitty (2015) notes in discussing this quotation that this statement refers to 'an "object" and governance is an intangible concept, not a tangible object. Demonstrative learning and definition may suffice for objects which are present for all to see, but such methods present difficulties when used in defining abstract concepts. Wittgenstein in his Philosophical Investigations falls into this trap and does not get out of it. As Copi and Cohen (1990, p. 147) further note:

> the set of all attributes the speaker believes possessed by the objects denoted by that word. But this set plainly varies from individual to individual and even from time to time for the same individual – and thus cannot serve the purposes of definition.

Wittgenstein then compounds this error by extrapolating into children's "language games" (Wittgenstein & Anscombe 1958, p. 5), thereby falling into a further trap of classifying language as a competitive activity. While language may be used competitively in debate, that is not its sole or universal purpose - refer to Hobbes's four uses of language given above. Language is, at its heart, a means of communication and cooperation. Children play with things, but can clearly distinguish, as Wittgenstein did not, the difference between playing

with things and playing a competitive game. Children's play with objects can progress to the level of mastery where competition becomes possible. But this is opposite to the view that in play with objects, competition is missing. Such a misconception does become possible if one views language as a competitive activity. Undoubtedly there is an association between games and playing, but it is a loose one that is not exclusive.

These two mistakes undermine the legitimacy of using Wittgenstein's argument on essence in relation to definitions. His argument can be completely invalidated if a definition that does capture the essence of the term 'game' can be developed, and I will proceed to do just that.

In Magee and Searle (1987), various potential essences of the term 'game' were rejected including pastimes and diversions because some can be grim and some people derive their livelihood from them, such as at gaming tables in Las Vegas. Wittgenstein himself rejected amusement in the quotation above. I agree that these are unsuitable candidates for essence as they do not cover all circumstances. However just because an essence may not be readily apparent or an unsuitable one may have been chosen does not prove it does not exist. Listening to the remainder of the Magee and Searle (1987) interview, the essential elements that constitute all of these types of activities called games were actually given. I assemble them here into an essential definition of the word 'game' as a competitive activity with rules players are obliged to follow, or, more succinctly, a competitive rule governed activity. The two essential features are that it is competitive, and it is rule governed. This definition passes no judgement on whether the players follow the rules or not or whether they get caught or not or whether the consequences are frivolous or dire or whether there are associated with grim or happy emotions or whether the activity is physical or mental or whether it is played on a board or on a marked field or even somewhere not demarcated at all or even whether the rules are written down or not. It is non-normative and contains the essence of what a game is. It does not overlook the distinction between games and play or confuse learning a language with defining words. It appears Wittgenstein was misled by his assumptions into not adequately looking for essence.

Wittgenstein may also have been misled by his tendency towards mysticism, which he stated as "There are indeed, things that cannot be put into words. They make themselves manifest. They are what is mystical" (Wittgenstein et al. 1974, p. 89). Understanding sourced from other senses apart from hearing may be unseen but is not mystical. Furthermore, it is worthwhile contrasting this statement of Wittgenstein's with Mill's clarity regarding

definition, in expressing an equivalent sentiment as 'The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. … To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name' (Mill 1874, p. 469).

It was possible to derive the definition of 'game' above just by excluding all the silent or assumed qualifiers that describe whatever sort of game it is. The result is entirely compatible with Wittgenstein's observations but reaches a very different conclusion. Yes, as Wittgenstein notes, all sorts of things drop out and others get added in when considering the word with a different silent or assumed qualifier. But that is just due to the simple fact that the definition of a word and a phrase are different. The additional word is actually necessary to make the distinction. All superfluous characteristics do drop out when one searches for just the essence of the word rather than for the essence of a series of phrases and of course, the essences of all the phrases using a common term will be different by at least some nuance, otherwise the qualifying terms used would not have been needed.

To make a further point, Wittgenstein's 'language game' view would actually be excluded by the definition of 'game' above, as language is a cooperative not a competitive activity unless we are contesting something. This simple example indicates again the dangers of proof by induction contained in his Wittgenstein and Anscombe (1958) P31, referred to above. Picking the wrong essence provides no justification for a false view. This leads into the very circumstance that Wittgenstein describes:

> If I am inclined to suppose that a mouse has come into being by spontaneous generation out of grey rags and dust, I shall do well to examine those rags very closely to see how a mouse may have hidden in them, how it may have got there and so on. But if I am convinced that a mouse cannot come into being from these things, then this investigation will perhaps be superfluous (Wittgenstein & Anscombe 1958, p. 26).

There are two other presumptions stated in Wittgenstein's works that are problematic/ erroneous. The first is the statement in his Tractatus: " 5.6 The limits of my language mean the limits of my world" (Wittgenstein et al. 1974, p. 68). This suffers from the logical positivism he was pursuing along with Bertrand Russell in attempting to establish a logical correspondence between language and mathematics. Although he later renounced his Tractatus, his later work did not escape this thinking. He evidently considered language was

reality, rather than just one means of representing it and communicating about it. He appears to have had no concept of language as being just one of a number of frameworks we use to represent the world. This led to lengthy futile analysis of grammatical forms seeking understanding of something that just isn't there to be found, examining the 'grey rags and dust'. The realisation that speech is just one of a number of sensory frameworks we use to determine meaning did not become widely known until the work of Bandler and Grinder (1975) in family therapy and the deductive proof in the thought experiment of Sypniewski (2008), where the same characters used or responded to the same words "Look! there's snake in the grass" in different contexts, demonstrating that the meaning of the same words could vary with context.

The second is that Wittgenstein in his later work, as observed by Magee and Searle (1987) says that because the sum total of the possible uses of a word constitutes its meaning, in the end what language and words mean depend on 'forms of life', on the social contexts within which they are used, so all the criteria of meaning are not personal or private at all. They are social. There are at least three problems with this. Firstly, this presumes definition by extension is the only valid definitional method and ignores definition by intension (Issue 6), which implies essence (Issue 5). Secondly it promotes mysticism around circumstances where just following simple grammatical rules can produce understanding, as outlined in my definitional papers in Parts 2 and 3. Thirdly it ignores the confusion resulting from silent or assumed qualifiers (Issue 3). Furthermore, this issue was resolved by Popper's distinction between second and third worlds, which addressed Issue 1.

It could be argued that a different interpretation of the above two presumptions might make sense of them. This argument would be that Wittgenstein was simply stating that we are all limited by the bounds of our private language, but language is social and so private language is a non-sense. He says "And sounds which no one else understands but which I appear to understand might be called a 'private language' " (Wittgenstein & Anscombe 1958, p. 94). I do not contest that language is social, but this does not mean it needs to remain confused in contested areas. That is exactly why a process is needed for agreeing conceptual terms. I consider Wittgenstein inadvertently promotes 'private language' rather than rendering it invalid for the reasons I have given in the above two paragraphs.

Magee observes on Wittgenstein:

His first book, *Tractatus Logico-Philosophicus*, which was published in 1921, was the text most influential on the Vienna Circle. He came subsequently to regard it as mistaken, and mistaken primarily because it incorporated a false theory of meaning. He thereupon set out to investigate the different sorts of ways in which we can be mislead by our own use of language, having been so mislead himself, and this nourished a new school of philosophy, usually called 'linguistic analysis' (Magee 1973, pp. 52-3).

Using a mini-Mangle approach produced an essential definition of the word 'game' above, which bars Wittgenstein's 'language game' from actually being considered a game. I could equally well have defined beautiful as a form that pleases human eyes, without getting into all the various ways it may be found in nature, art and architecture.

The family resemblance theory has simply reified the confusion that can result when the trap of defining by extension is fallen into. Having established the fundamental flaws in Wittgenstein's language game argument and disproven it by developing an essential definition of the term used to justify it, I will consider it no further and it will play no part in my definitional philosophy.

8.7.2 Popper v Wittgenstein

The conflict between Wittgenstein and Popper can be reduced to conflict over words and meaning and so needs to be understood in considering definition. Here again, this affects the philosophical basis of the Mangle which has been successfully used to reconcile definitional conflict in many groups of terms.

Naraniecki (2009) has achieved significant insight into Popper through analysis of his unpublished as well as his published work. He also identified difficulties with Popper's view of definition and provides an exposition of it as follows:

Popper turned from definition to the notion he called *diarrhesis*, and he claimed to have appropriated it from Plato's Laws (932e). *Diarrhesis* mean a 'division'. Explaining the advantage of *diarrhesis* over the definition of a word in that knowledge derived from definitions are impossible as 'definitions are an attempt to lay down some "absolute" meaning of a term in advance'. *Diarrhesis*, however, holds the meaning of a concept is always *ad hoc* and pertains to the current problem under

discussion. Thus the distinctions developed and the term used can only be understood in regard to the argument into which they are situated (Naraniecki 2009, p. P167).

This is very similar to Wittgenstein's 'family resemblance' concept. Naraniecki further comments:

> Popper states that 'distinctions' (*diarrhesis*) may always be refined, that is, carried one step further; but one should do so only if the needs of the discussion require it. … What Popper was aiming at with his understanding of *diarrhesis* appears in practice what Aristotle originally meant when he introduced the term 'definition' which was intended as a statement regulating the extension and designate of a given name. However, for Popper the Aristotelian origins of the problem of definitions occurs in Aristotle's understanding of induction not as being 'a method of inferring natural laws from particular individual instances' which he associated with the inductivism of the Vienna Circle, 'but a method by which we are guided to the point whence we can intuit or perceive the essence or the true nature of a thing' (Naraniecki 2009, p. 171).

This provides an account as to how Popper ended up in a self-contradictory position. It corresponds with Issue 5, dealing with the attribution of ethereal dimension to essence.

Naraneicki also noted:

> The problem is of applying a meta-linguistic theory designed for formal mathematical languages to ordinary human languages… Popper applied a theory from one field of inquiry to that of another… A definition of truth for ordinary languages of every day usage is not possible according to Popper, yet he rightly saw that with caution, Tarski's semantic theory can confer theoretical benefits on the understanding of human communication beyond the narrow field of semantics. In 1944 Tarski even stated that: *I happen to believe that the semantic conception does conform to a very considerable extent with the common-sense usage*" (Naraniecki 2009, pp. 261-2).

Here, I concur with Naraniecki and deal with the relationship to mathematics in a separate section below in developing an emergent theory of meaning.

Naraniecki also considered Popper also had an 'evolutionary' view that meaning comes from our childhood 'by listening to adults' (Naraniecki 2009, p. 182). Popper therefore had a similar view of language acquisition to Wittgenstein. This view fails to recognise imitation and definition as two methods of how we come to understanding what a word signifies or is a

sign to. To propose that meaning comes from one alone is to fall into the error of induction. Imitation comes first and definition comes later as we mature:

> The primary way of learning to use language is by observation and imitation, not by definition' and 'the process of frequently hearing the word when the object it denotes is present... But such a process would not be a definition at all … it would be the primitive, pre-definitional way of learning to use language' (Copi & Cohen 2009, p. 146).

Erroneous generalisations provided a starting assumption for both men and while their chain of reasoning diverged, as evidenced by the poker incident, it also led to their views coalescing as noted by Naraniecki (2009, p. 183). Furthermore,

> Wittgenstein's opposition to a private language very closely reflects some of Popper's arguments concerning "knowledge in the objective sense" … For Wittgenstein, unless we can appeal to some larger social gathering there is no difference between my thinking that I am actually using the word correctly and my actually using the word correctly (Naraniecki 2009, pp. 184-5).

This supports surveying existing usages in pursuit of meaning, as included in the Mangle, and then reaching shared agreement.

Popper, according to Naraniecki considered:

> It is only in direct relation to the process of a problem situation in which we attempt to reduce error and by extension harm that we form meaning and accept the meaning on the basis of a correct or successful outcome' (Naraniecki 2009, p. 183).

For contested terms, we have not achieved the successful outcome of reaching agreement. This does not require arbitrary determinism in advance; rather it just requires closer consideration, as John Stuart Mill put it:

> The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. … To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name (Mill 1874, p. 469).

This implies that language is a product of meaning, not the other way around, as both Popper and Wittgenstein held. It is a response to us directing another's attention to something.

I do not see how it would have been possible for Russell, Wittgenstein and to a lesser degree Popper to have pursued their view of definitions without presuming JSM's 'vulgar' view of definition. My research failed to find any evidence that they viewed definition as representing rather than being meaning. Wittgenstein and Russell were concerned with the mathematics of words which led them in a deterministic direction that overlooked the physical object/ concept distinction and the confusion present in understanding conceptual as distinct from physical terms. To take this 'words = meaning' approach, they would have had to have been either unaware of the significance of or ignored what JSM had to say about definition quoted above. Russell's problems of co-referring and non-referring expressions in his theory of descriptions do not arise if the full meaning of what the words represent within their context is taken into account; in other words, if the assumed or silent qualifiers are stated and it is recognized that the signification of words depends upon human agreement.

It appears that neither philosopher regarded language as just one of a number of frameworks for expressing meaning (Issues 2 and 4); others include gestures and sound. I consider that recognising language as a framework allows understanding of the positions of both philosophers and helps avoid the problem of determinism, differing interpretations of which led to their disagreement. It also highlights the Aristotelean need for definitions.

I draw on Popper's principle of diarrhesis and attempt to implement his view of expressing things understandably but without accepting his aversion to calling that definition. I consider he must have been talking about the signifier rather than the signified and that, in so doing, he also had to have accepted the view that words = meaning rather than just representing it. When that distinction is drawn, infinite regress can occur if we are attempting to find meaning in a word. And we could chase its traces (to use Derrida's term) ad-infinitum. However, if we just take it to the level where it is possible to agree what we are all talking about, what it is that is just the essence of what we understand the label we give it to signify in an auditory sense, then we do not get into infinite regress and that supports the principle of clarity that Popper advocated. It stops at the point of utility rather than at a point enabling understanding of the workings of the entity (Issue 8).

Popper's progression to an infinite loop is similar to Derrida's concept of the ongoing possibility of inversion of the dominant hierarchy. I consider that infinite regress can be avoided by simply going only as far as necessary to agree or establish recognition.

8.7.3 Popper's philosophy

Popper took an anti-definitional stance and so any argument that definition is essential has to reckon with that aspect of his philosophy. Here again, this affects the philosophical basis of the Mangle which has been successfully used to reconcile definitional conflict in many groups of terms.

8.7.3.1 Diarrhesis versus definition

Popper said:

> The myth of the framework can be stated in one sentence, as follows:
>
> A rational and fruitful discussion is impossible unless the participants share a common framework of basic assumptions or, at least, unless they have agreed on such a framework for the purpose of the discussion. … I mean by 'framework' here a set of basic assumptions, or fundamental principles - that is to say, an intellectual framework. (Popper & Notturno 1994, pp. 34-5).

This could be construed to align with the views of Hobbes and Mill on definition but is quite at odds with Popper's stated view of definition:

> I am, as you know, a conscious and determined enemy of definitions: definitions are attempts to lay down some ('absolute') meaning of a term in advance, as it were, of a discussion, without explicit reference to the problem under discussion. I replace definition (except right-to-left abbreviations) by what I call diarrhesis (see Plato, Laws, 932e: 'division' or 'distinction') which is always ad hoc, with respect to the needs of a discussion of a certain problem… No diarrhesis is final, or formal: it is always possible that the problem in hand may require further distinctions (Popper et al. 2008, p. 251).

Here I must take issue with Popper on the basis of the results of my analysis in the papers in Parts 2 and 3 of this thesis which found problems arising precisely because of this sort of thinking. It was absolutely necessary to exclude reference to the particular problem under discussion, namely normative references and the interpretation of terms used by particular fields with reference only to their field, which generally involved silent or assumed qualifiers. Furthermore, if we don't come to discussions with some absolute meaning or

common understanding of our terms, then it would be impossible to communicate verbally at all.

The passage Popper refers to from Plato's Laws that prompted his idea of diarrhesis distinguishes poisoning causing injury from poisoning causing death, and further divides the former into two types, physical injury and mental injury - "sorceries and incantations and spells". Plato then divided the appropriate punishment for such crimes into two further categories; doctors and lay-persons (Plato & Bury 1967, S933a & d). These passages do not relate to definition at all, but Popper evidently used the division principle contained within them as the model and philosophical justification for his position.

Popper applied the principle of diarrhesis in conceptualising his three worlds – 1 objects, 2 subjective thought or consciousness and 3 objective contents of thought (Popper 1979, p. 106). His subdivision of thinking into two categories - worlds 2 and 3 - neatly bypasses the normative problem of universality of right and wrong (the view that there is absolute right and wrong), differentiates between concepts and our personal views of them and also happily accords with the idea of separating issues from personalities. This simple device of establishing a new classification provides clear subdivisions or boundaries that enables consistency of pattern to be recognised and apparent contradiction or inconsistency to be explained. So establishing the boundaries of what we are talking about is an important issue for removing incoherence. However, he does not seem to regard this as definition but does say "coherence cannot establish truth, but incoherence and inconsistency do establish false-hood" (Popper 2002, p. 37).

Popper's diarrhesis accords with Kant's distinguishing between things using the spatial axiom and within things using the axiom of time. Our judgements on those are based on quality, quantity, modality and relation. Kant's axioms and categories of understanding correspond to classifying the thinking space into divisions where sense can be made.

In conceptualising, labelling and describing his three worlds, Popper has, according to the Oxford definition given earlier, defined, as he has "marked out the boundary or limits of", even though he refers to it as diarrhesis. Furthermore, he has done so without progressing to infinite regress. Popper's distinction between definition and diarrhesis can be seen as some sort of (partial) recognition of the distinction between the concept of words = meaning and the concept of words representing meaning.

He seems to have considered that definition must necessarily chase undefined terms back to their source hence creating an infinite regress. He avoided definition by creating as many divisions or distinctions as is necessary to make sense of what we are talking about. Many subdivisions may be necessary if we are seeking a full **understanding** of the internal workings of a phenomenon or entity, and he was principally concerned with the philosophy of science, but this is unnecessary for verbal communication. Furthermore, as noted above, it also does not accommodate contested terms which have competing definitions.

In attempting to understand and resolve the diarrhesis versus definition question, I will accept and employ his view of deduction rather than induction, which "has been called 'Hume's problem'… Popper's seminal achievement has been to offer an acceptable solution to the problem of induction. In doing this he has rejected the whole orthodox view of the scientific method" (Magee 1973, pp. 21-2). I analyse various aspects of Popper's philosophy below.

8.7.3.2   Empiricism v rationalism

My approach addresses the empiricism / rationalism conundrum, allowing both to apply but in different portions of our linguistic space; our rationalism has been faulty because of poor definitional practices rather than because of any abstract fifth dimensional mystical notions. We have simply treated physical existence and the existence of mental concepts in the same way; and that has not worked very well for many concepts.

Verbal communication can only successfully occur when the communicants all agree upon what the words being used actually signify. This becomes very quickly evident when two people with no knowledge of each other's language attempt to communicate.

It is relatively easy for a group to agree sounds signifying physical objects that can be seen or touched or pointed at or generally experienced through our senses, which is the basis for empiricism. This is evidenced by the fact that over 7,000 surviving languages have independently evolved Lewis et al. (2017) and it is possible to translate between them. Language evolves in a particular geographic area among inhabitants who have to interact. So different groups of people have agreed upon different sounds to signify the same object.

However, the same easy process of coordination or error correction does not exist for mental concepts and an additional means of doing so is required to achieve clarity about them. Such a process has been developed in this thesis; that is to recognize and make explicit any silent/

assumed qualifiers to provide a basis for reaching agreement. This process, the Mangle, has been developed in the governance paper in Part 2.

The Mangle approach relies on an economy of words; an Ockham's Razor approach; an assumption that if a word does not signify a nuance of its base term, then it would not have been necessary to develop that word to express it in the first place.

Use of the approach developed in this thesis, as encapsulated in the Mangle, can avert or correct some linguistic mistakes that occur in the normal uncontrolled machinations of language development. Those machinations can be regarded as occurring in two ways; one legitimately extending the language by developing new or nuanced terms not expressible by a single root term alone, and the other making mistakes causing confusion by failing to recognize silent/ assumed qualifiers.

One could conclude that this calls for language regulation such as occurs in France via the Academie francaise. However, an alternative approach would be to focus on 'essentially contested concepts' and other circumstances where definitional contention and confusion is known to exist and apply the Mangle method documented in the governance paper in Part 2 to produce clarity in a transparent way that facilitates moving towards agreement. Such an approach would admittedly have the difficulty of not dealing with circumstances where the communicants don't know they have different understandings of the same term, but a regulatory approach wouldn't identify this either. That circumstance lies more in the provinces of education and conflict resolution.

I consider it important for both objects and concepts to be defined by essence where possible. This limits the difficulty and confusion that may be caused in reaching agreement on what is signified by a conceptual term.

The Mangle focuses on intensional definition = essence and the processes built into it identify and strip away silent/ assumed qualifiers.

This approach simply applies a Popperian diarrhesis to the linguistic communication space. The common factor for both physical and conceptual terms is reaching agreement on what they signify, but the additional feature necessary for conceptual terms is to make the silent/ assumed qualifiers explicit.

I consider that it is only when we are sufficiently rational that we can be as definite and confident and factual in mental concepts as we can be with objects we can see, touch and

point to. My position is therefore both empiricist and rationalist. I consider them both part of the same linguistic space and that because a conundrum has existed around them, neither fully understands or adequately represents reality. They are both frameworks of thinking that are deficient and now obsolete.

8.7.3.3   Nominalism versus essentialism

Popper argues for nominalism (universals are mere names with no corresponding reality) and against essentialism (everything has attributes necessary to its identity and function). He says 'Aristotle's essentialist definitions … serve to substitute a long formula for a short one' (Popper 1995, p. 17). In this respect both nominalist and essentialist approaches agree. Popper (1995, p. 17) says "For Aristotle's essentialist definitions are the principles from which all our knowledge is derived; they thus contain all our knowledge". This latter phrase appears to be an unsubstantiated assertion that suffers from being a universal statement, which only requires a simple example of knowledge not contained in a definition, such as that presented above regarding knowledge of boundaries or process, to negate. If 'means of agreement on' (i.e. distinguishing between content and process) were inserted before 'all our knowledge', I would agree with Popper.

Popper notes "I have called it 'essentialism' – which tries to link meaning and truth so closely that the temptation to treat both in the same way becomes almost irresistible" (Popper 2002, p. 26), and he presents the following to demonstrate that they should not be treated this way:

> According to essentialism (especially Aristotle's version of it) a definition is a statement of the inherent essence or nature of a thing. At the same time, it states the meaning of a word – of the name that designates the essence (Popper 2002, p. 26).

This then requires a further distinction between the words used to label a concept and the concept itself, as Popper noted here but did not explore further, and as John Stuart Mill had previously done, as noted above. Failing to make this distinction produces confusion between signifier and signified (Issue 1) as well as between process and content (Issue 9); the process of coming to know what we know about a concept through all of its instantiations or applications, and our understanding or what we know of the content matter of the concept itself.

Naraniecki (2009, p. 158) said "It is very difficult to arrive at a clear understanding of what Popper meant by 'essentialism' as his arguments concerning the problem of essences constantly evolved". Naraniecki (2009, p. 159) said "Popper's opposition to essentialism is based on the understanding that we cannot know if objects have *de re* (*about the thing*) essences". That is only true if it is presumed that essence has an ethereal dimension. I have defined essence above in non-ethereal terms and, as mentioned earlier, I consider that Popper's interpretation of Aristotle as requiring a ethereal dimension is a mistake that has led to confusion. Naraniecki (2009, p. 159) continues "Even though Popper did not like to speak of essences, he did not consider himself to be a nominalist. In relation to the problem of essences, however, his fallibilism would force a nominalist stance". But not fully embracing a nominalist stance seems to have also led Popper away from adopting the signifier/ signified view of definition.

Naraniecki (2009, p. 157) also noted that "Popper's ethical theories are presented as if they were epistemological theories, thereby revealing a tendency in Popper's thought to disguise ethical and subjective convictions as epistemological principles… Popper's arguments in the social sciences are often justified by empirical support from biology or analytic support from logic or geometry. Such arguments analogously applied to the social sciences however, are not demonstrable and are used to develop Popper's ethical position". This indicates several issues; he introduced value judgement into his concept of definition, accepted proof by analogy and his mind-set was appropriate to the physical sciences.

Popper also, as mentioned above, did not adopt the signifier/ signified view of definition. As Naraniecki (2009, p. 160) says, "For Popper, language was the means by which humans receive knowledge of the external world". Naraniecki (2009, p. 162) also notes:

> Popper's anti-essentialism cannot be a doctrine against ontological existence of essences in the world, or against our capacity to have knowledge of such entities. It is rather an impossibility of our ability to have scientific or rational knowledge of essences. As we cannot have scientific knowledge of essences it is thus not possible to refute their existence. Popper's anti-essentialism may have appeared, following Aristotle, to have seen the need to define *things* and not *words*, which gave rise to his disputes with the linguistic philosophies of the neo-positivists in Cambridge and Vienna. However, Popper did not follow Aristotle in linking the notion of essence (*to tie n einani*) with the notion of definition (*horismos*) as is evident from Aristotle's

Topics 'a definition is an account (*logos*) that signifies an essence… In Popper's view philosophy cannot, as Wittgenstein claims, purge our language of linguistic puzzles through the clarification of meaning, so that science can get on with the business of investigating facts. For Popper, *horismos* would be reduced to *diarrhesis* in relation to the scientific task of searching for invariants.

So Popper did not link essence with definition as Aristotle did because of the impossibility of refuting the existence of an ethereal essence. Aristotle used essence in both secular and ethereal senses and Popper focused on its ethereal dimension which he felt should be excluded from consideration. This means that Popper effectively accepted a definition of essence from a dimension outside time and three-dimensional space which left him in the position of having to attack the very thing that going to the next level of diarrhesis (distinguishing between secular and ethereal essence) would have solved.

Russell (2005, p. 161) noted similarly in saying that "Metaphysicians, ever since Aristotle, have interpreted syntactical differences metaphysically".

In the definitional work outlined in the papers in Parts 2 and 3 of this thesis, I have found definitional confusion in every field I investigated. It is therefore perhaps not surprising to find it was present in ancient times as well.

Popper's three world conception provides more precision around the thought process, more precise definition, providing two categories of thought which assists us in reaching agreement on what it is we are actually talking about. It provides two regions where some consistency of pattern can be observed, versus considering it as one whole region where there is no consistency of pattern. That categorisation does itself provide some conceptual knowledge, contradicting the absolute nominalist view that that universals or general ideas are mere names without any corresponding reality. The nominalist statement may be true, as asserted, but for content only, not for process.

Definition for Popper appears to have had a connotation of precision. He refers to labelling as if it is completely arbitrary. This may be so in some cases for the original use of the term, but to assume it continues to be so for every subsequent use of the term, especially after its use has become established, is akin to believing in the tabular razor, which he decries. Once a term is in circulation, we are constrained by previous usage and any usage contrary to that can be regarded as unreasonable and excluded; the confusion that its gaining currency may induce is worth avoiding. As Popper points out:

Thus the Aristotelean claim that intellectual intuition is a source of knowledge as opposed to opinion, unerringly and indubitably true, and that it furnishes us with definitions which are the safe and necessary basic premises of all scientific deduction is baseless in every single one of its points. And a definition turns out to be nothing but a sentence that tells us that the defined term means the same as the defining formula, and that each can be replaced by the other (Popper 1995, p. 325).

However, we nonetheless have to deal with all those opinions. I contend that the way to do so without making any value judgements that would be subject to conjecture, is simply to make sure we describe what any contested or misunderstood term means without any silent or assumed qualifiers; that is to say, simply apply the Mangle to them. I also disagree with Popper that Aristotle's claim is fully baseless as applying a diarrhesis would make the distinction between internal knowing (feeling) resulting from intuition and that resulting from strong desire. This approach would regard Aristotle's truth of intuition as referring to things that we sense through the human condition to be true.

8.7.3.4 Overall evaluation

I accept Popper's focus on clarity, but without his hang-up about definition. I consider his distinction between diarrhesis and definition to be artificial and invalid.

I consider his definitional philosophy relied on six mistakes/ invalid assumptions, as follows, all of which were identified in the ten definitional issue list above:

1. Accepting the inclusion of value judgement in definition, i.e. not distinguishing between opinion and fact in definition and excluding the former (Issue 1).

2. Inadequate distinction between signifier and signified (Issue 2).

3. Equating essence with soul or ethereal dimensions (Issue 5).

4. Overlooking some aspects of context, leading to omitting necessary qualifications e.g. drawing conclusions on language based on analysing conceptual terms without checking their applicability to physical objects, or claiming universality for infinite regress when that is not the case for physical objects (Issue 7).

5. Precision versus clarity - Not distinguishing between understanding and usage (Issue 8).

6. Not distinguishing between process and content (Issue 9).

I note that Popper was not alone in making such mistakes, as indicated above and in some of the reviews of other philosophers in this Exegesis. It is also interesting and ironic to note that all these mistakes involve not proceeding with just one further level of diarrhesis.

In contradiction with Popper, I consider there are three methods of definition:

1. General definition where various extensions are listed.

2. Essential definition which defines essence by stating the intension of the term.

3. Diarrhesis which clarifies the definitional space by dividing or segmenting it into chunks that enable sense to be made

Note that methods 1 and 2 are distinguished by Copi and Cohen (1990, p. 143).

Method 1 is commonly used in dictionaries.

Method 2 is also used in dictionaries and is heavily used in the Mangle – the method developed in the governance paper in Part 2 - to achieve consistency by removing duplication and value judgements and by considering all possible usages.

Method 3 is used when identifying silent or assumed qualifiers, dividing the communication space up into homogeneous chunks. (Note that a similar concept is mentioned in different terms in Copi and Cohen (1990, p. 142) effectively use the same technique to clarify extensions changing with time, pointing out that fixing the extension of a term in time also fixes its extension. They also note that the reverse is not true).

I accept the wisdom but not the universality of Popper's insistence that all theories are tentative, as this can itself produce an infinite regress; i.e. if we were to accept that it applies universally, then we can legitimately conclude that we can never know what it is we are talking about. While this may often be true, it is actually contradicted by the fact that we have in our language development managed to agree commonly accepted meanings of words denoting physical objects which we are not attempting to explain (Issue 7). So I regard this as a problem of not fully stating context, rather than a universal truth. Provided we state/ are aware of our context, then we can know or establish truth within those limitations or boundaries e.g. I know for sure that if I put my hand on the hot-plate of a stove that is turned on and to which power is connected or fuel supplied, then I will get burned. I do not need to experiment with that. So we need to qualify or restrict the universality of this aspect of Popper's view to theory rather than to objective space or to objects we can touch.

I acknowledge that definition for *understanding* the workings or existence of objects (in which I include living things) can lead to Popper's infinite regress. But I consider that definition for the purpose of *usage* in communication does not lead to infinite regress. I consider it likely that Popper's preoccupation with the philosophy of science led him to not distinguish between understanding and usage.

Popper's development of the concept of diarrhesis may have been sparked by Plato but making the process conscious and transparent and (one could mischievously say defining it by) giving it label, was, in my view, a major realisation whose significance is both profound and easy to overlook and under-estimate.

I consider we need to simply address the question 'how far do we need to go to avert avoidable confusion and conflict'? This is a means of avoiding doing unintended emotional violence to those we may think we disagree with, such as has occurred under the labels of Marxism and Fascism. Logical flaws detected by emotional intuition may initially be very difficult or even impossible to prove. This is not assigning absolute truth to intuition as per Aristotle. It is merely accepting that intuition can in some circumstances provide an alternative theory for testing (conjecture), which it is actually most unscientific to dismiss, as Popper has demonstrated:

> we do not start from observations but always from problems: from practical problems, or from a theory which has run into difficulties - that is to say, a theory which has raised, and disappointed, certain *expectations*. Once we are faced with a problem, we proceed by two kinds of attempt. We attempt to guess, or to conjecture, a solution to our problem. And we attempt to criticize our usually somewhat feeble solutions. Sometimes a guess or a conjecture may withstand our criticism and our experimental tests for quite some time. But as a rule, we find that our conjectures can be refuted, or that they do not solve our problem, or that they solve it only in part. And we find that even the best solutions - those able to resist the most severe criticism of the most brilliant and ingenious minds - soon give rise to new difficulties, to new problems. Thus we may say that our knowledge grows as we proceed from old problems to new problems by means of *conjectures and refutations* - by the refutation of our theories or, more generally, of our *expectations* (Popper & Notturno 1994, p. 96).

Support for not rejecting any reasonable usage of a word can also be found in Popper (1979, p. 43) where he mentions Churchill's epistemology in glowing terms - taking cross bearings

to get independent testimony to reality, rather than considering that actual existence is metaphysically dependent on the observer's senses. In a physical sense, we can determine where something is by taking bearings from independent positions. In a linguistic sense, we can determine what something is by corroborating the observations of more than one person. This can be directly translated into something meaningful for concepts, which inhabit Popper's worlds two and three. We can only verify the meaning of any concept by considering it from different perspectives; different fields; different areas of study. Only by this process can we reduce or refine or remove the non-essential elements from our description of the concept to whatever its essential features are, so we can then obtain agreement on it. So, looking to triangulate meanings to reach agreement on 'what is it?' is actually taking an essentialist approach. Once a conceptual term has a label that is commonly accepted, thought to be commonly understood and used regardless, then the concept itself becomes objective rather than subjective and therefore becomes part of Popper's World 3. If we can't determine what it is, so that our World 2 can account for it, then we are in trouble. Popper's praise of Churchill's cross-bearing approach in effect calls for a definitional cross-check for this purpose, and the method developed in the governance definitional paper includes such a check.

8.7.4 Derrida's philosophy

Derrida developed the concepts of deconstruction, logocentrism and aporia. Deconstruction has been described under Issue 3 as seeking the point of inversion were meaning become indeterminable. Logocentrism is "the metaphysics of phonetic writing" (Derrida & Spivak 1976, p. 3). Aporia is "an irresolvable internal contradiction or logical disjunction in a text, argument, or theory" (Oxford). The conflict between deconstruction and definition evident in Issue 3 has also been discussed in Issue 7. Pathak (2014) also notes this in saying that Derrida questioned the finality of signifiers, considering there is always some lack or incompleteness. The analytical papers in Parts 2 and 3 of this thesis use the Mangle to successfully reconcile definitional conflict in governance and other groups of related terms. Deconstructionism was deconstructed in Issue 7 through applying the diarrhesis of dividing linguistic space into terms denoting physical objects and those denoting conceptual terms.

I consider there are both useful aspects and deficiencies in Derrida's philosophy. I consider the deficiencies in his theory of deconstruction are:

1. It makes generalisations about the undecidability of concepts that do not apply to physical objects/ entities (Issue 7).

2. It allows and encourages the introduction of normative matters of human relationships into definitions via their trace, producing complication and confusion (Issue 1).

3. This masks the need to agree definitions of conceptual terms, condones deficient definition and supports reifying confusions such as the family resemblance concept.

4. The intellectual exercise of everywhere seeking the point of inversion, presumes there is an implied hierarchy in every text/ sentence/ word, which cannot be so for those dealing only with physical objects. It also seems to default (or have a trace) back to and therefore super-impose a simplistic, binary choice view of the world, which is almost Marxist in presuming an all-pervading and eternal struggle between oppressor and oppressed, the worker and the bourgeoise.

5. It invites "complexification" (Derrida & Caputo 1997, p. 31) beyond the point of usefulness.

These aspects of his theory of deconstruction dealing with the written word will not therefore form any part of my definitional philosophy.

I consider the following aspects of his philosophy dealing with speech to be most useful:

1. The 'two-faced' aspects of words as signs – the signifier and signified, as originally developed by Saussure. This corresponds with my finding from the definitional and empirical work that words do not equal meaning but rather represent it (Issue 2).

2. Taking deconstruction to be a discourse to discover what the other person's unconscious assumptions to be (their trace) and to then 'deconstuct' both their views and my views. This corresponds with one of the key ideas incorporated within the Mangle. This facilitates separating fact from opinion (Issue 1) as well as encouraging investigation of all previous uses of particular terms.

3. A less rigorous interpretation of deconstruction than the seeking of an inversion point taken by Kleinberg (2013) which is the identification of subconscious bias (normativity), by taking things apart and looking at the pieces to recognise if and where some have been given prominence over others for historical/ cultural/ other reasons. As Derrida and Caputo (1997, p. 31) say, it is about "cracking nutshells

wherever they appear". There is a parallel with governance – what makes it all work is the system part, which accommodates the directing and controlling part of the definition that draws people's attention.

8.7.4.1   Impact of the Mangle on Derrida's philosophy

The Mangle takes the mis-mash of usage from multiple sources to determine essence which then produces definition with all the traces, all the impurities, contaminants or infecting agents, distilled/ flung/ shaken/ crushed/ separated out. This resolves definition first, leaving increased clarity when discussing or writing about concepts. It separates definition from discussion, removing the normativity of value judgements and placing them squarely in the field of discussion, where they can be explicitly dealt with, rather than being implicitly included and unknowingly concealed in presumed definition. It offers an alternative paradigm for conceptual terms through the same process that falsifies text deconstruction; namely reaching agreement on what the conceptual terms mean, through stripping them to their essence, which, in conceptual terms, is analogous to pointing. Using the Mangle removes the need to perpetuate dichotomies, conundrums and confusion through chasing undecideability through hierarchical inversion within text. It also avoids the endless esoteric discussions of text deconstructionism that cannot tell us what we should do.

8.7.5   Summary evaluation of all considered philosophers' positions

In summary, my position on the philosophers considered above in relation to their views on definition is as follows:

Aristotle used the concept of essence in both secular and ethereal senses and not making this clear led to subsequent misinterpretation. I accept his view that truth can arise from intuition but do not accept this is universally so, as intuition or 'gut feeling' can so easily be mistaken for strong desire. I accept Aristotle's and Hobbes's view on the importance of definition. I accept Whitty's interpretations of Hume, that we have a mental subroutine that we habitually run and are insensible of running it, and of Kant in that we have a mental BIOS for running it which represents things and feelings to our minds. I accept John Stuart Mill's view that language is a means of expression of what we feel our concepts mean and so I regard language as just another framework we use to communicate and represent meaning. I regard seeking absolute meaning in words, as Wittgenstein attempted, to be an error. I reject his view on family resemblance as applied to definition. I consider his doubts on the ability of

philosophy to address absolute moral questions fully justified. I accept his later view that language is something that is under our collective control. I accept, as Popper did, Tarski's definition of truth as correspondence with the facts. I accept Popper's view on the desirability of simplicity and clarity of expression as well as on the need to not divide or define further than is necessary to achieve clarity. I consider Popper's diarrhesis most useful and as basically constituting definition.

8.7.6 Observations on philosopher positions

Identification of the same initial error in both Wittgenstein's and Popper's work (presuming words were meaning rather than just representing it) enabled a conclusion alternative to both of theirs to be reached by simply distinguishing between process and content, in a similar way to separating epistemology from ontology. This allowed the validity of the concept of Aristotelean essence to be retrieved from the current Wittgensteinian view of family resemblance and from the corrupted view of pragmatism documented by Rescher (2016).

From the analysis conducted in this thesis, it became apparent that influential 20th century philosophers regarded language as meaning rather than as just signifying something requiring agreement, and that this approach still persists and permeates contemporary philosophical thinking. This does not matter so much for objects we can verify our understanding of by seeing and touching, but it becomes quite important when we move beyond objects to abstract concepts.

Reification of concepts to the point of considering them dogmatically universally true can result in overlooking the simple grammatical device of making sure we define a word rather than a phrase (a word with a silent or assumed qualifier). This become evident in developing resolutions of meaning for the many contested concepts addressed in Parts 2 and 3. I consider that overlooking this simple factor has produced a focus on the philosophy of language and led to both Wittgenstein and Popper realising in their different ways that we simply haven't known what it is we are talking about; with Wittgenstein constantly asking people he met 'What do you mean by that?' (Edmonds 2002) and Popper saying 'if philosophy was all about word puzzles, I would not have gone into it' (Edmonds & Eidinow 2001).

I contend that we can avoid trouble if we just agree what our conceptual words signify, and I have developed a process in this thesis to enable this to occur (the Mangle).

I will conclude these observations with the words of Magee:

> Many different twofold distinctions have been applied in the history of philosophy … and none of them should be driven too hard: what can make them particularly misleading is that, whichever of them is applied, large-scale figures usually straddle the divide. But one of the dualisms which runs through most of the subject's history is that between a view of philosophy which sees it as an attempt to understand our use of concepts, and a view of philosophy which sees it as an attempt to understand the world. Obviously it is impossible to understand the world without the use of concepts, and therefore people on both sides of the distinction will usually believe with some justification that they are doing both jobs (Magee 1973, pp. 51-2).

I am not really attempting to do either deliberately, but perhaps I have done both to some extent accidentally, by simply attempting to get agreement on what we all mean by any particular conceptual term and the context we are considering it within, before we even start to debate it.

8.7.7 The trend away from definitions

There has been a trend in recent years away from definitions, as evidenced by Pothos and Hahn (2000) noting that "Despite the wealth of evidence to the contrary, much research overtly or covertly continues to promote the case for definitions."

As indicated above, this work has found much definitional confusion wasting academic and practitioner resources in project management and related fields and has found this has resulted at least in part from Wittgenstein's family resemblance concept. The inversion of the Peirce's original conception of pragmatism as being rigorous analysis to select the principles that are most successful into political expediency independent of principles, as noted by Rescher (2016), may also have contributed.

I view the trend away from definitions as resulting from looseness of thinking, as well as from convoluted, complicated reasoning, ignoring the advice of earlier sages (Aristotle and Mill) who it is now evident knew better after all. Regarding that part of their advice as being out of date and no longer modern and needing a post-modernism label to address this appears an act of hubris, that as this thesis demonstrates, has resulted in the almost inevitable hamartia of confusion in so many fields identified by the definitional papers in Part 2.

8.8   A theory of meaning for conceptual terms in management

Having considered the philosophical influences behind all ten definitional issues identified, developed axioms and definitional rules from them, and then proposed resolutions to the philosophical problems they highlighted, I will now develop a theory of meaning which encapsulates all of this and reflects contemporary society and the current state of scientific knowledge. To put this in context of broader social views, I will first consider the relative merits of clarity and ambiguity, the concept of qualia and the relationship of mathematics to the definitional problem before finally stating my definitional position.

8.8.1   Clarity over ambiguity

Both clarity and ambiguity can be a hindrance in some circumstances and advantageous in others. Furthermore, clarity and ambiguity produce different behaviours. Clarity works well for building things both physical and intellectual, where we are constrained by 'laws of nature' that cannot be broken and so can be considered within our environment as absolute and in which emotion plays no part. Ambiguity works well for relative matters such as marketing, advertising, politics, the arts, and psychology, and in these matters, emotion can play a legitimate and pivotal role.

This means that we need to use both in appropriate circumstances. Ambiguity in matters which are absolute produces an ontological problem of not knowing where to look next. Ambiguity can also result from the epistemological problem of not having clear, generally accepted essential definitions. I am here dealing with management theory and while emotion can play an important role in its application to particular environments, the view I have come to through the empirical and analytical work reported in this thesis is that ambiguity just causes confusion in circumstances where clarity works best and so ambiguity needs to be kept out of theory development, at least in defining the basic terms we wish to discuss.

This is particularly so when we are dealing with the human-machine interface, where we need to be more structured; the machine won't accommodate our feelings, it will just respond to our actions.

However, ambiguity can also sustain markets for competing project management frameworks/ products and desire for application of the Mangle may vary between professional practitioners and framework/ training suppliers. Nevertheless, ambiguity in project management terminology can inhibit and hinder productivity and circumstances

where application of the Mangle can reduce confusion are documented in Papers 2 to 4 of Part 2 and the papers in Part 3B.

8.8.2 Qualia

If full comprehension of something only emerges after we have processed all our sensory input, we need a word that describes that comprehension, that perception, the totality of the sensory experience of it. That word would be qualia.

Qualia (singular 'quale') in common modern usage are "properties of experiences", according to Byrne (2016) who credits American pragmatist C. I. Lewis for introducing the term in 1929 in *Mind and the World Order* as "recognizable qualitative characters of the given". I will accept the modern definition as it is more succinct and is also an essential definition.

Whitty (2013, p. 107) gives ideas and concepts as examples of qualia or mentally perceptual features. Pain is another. These are formed in our brains in response to our sensory experiences and so are properties of those experiences.

I take qualia to be the evaluation of the subjective sense experiences we are conscious of, our overall impression or awareness that is developed from all the senses but does not actually have a visible physical existence anywhere, the totality of our comprehension or experience of a particular thing. I take intuition and 'sixth sense' to be qualia.

When we consider any concept, we are likely to have difficulty describing it as there is no physical entity to be seen. Furthermore, we can become stuck or loop recursively when we attempt to describe all of the meaning coming from all of the senses when using only one of them (sound).

This adopts an Aristotelean view as opposed to a Platonic view. A Platonic approach leads to mysticism as it holds that we can never know the ultimate ideal of perfection and it will always be beyond our comprehension and experience. An Aristotelean approach however offers the recognition of the whole as being something besides the parts, which implies essence, so that the key characteristic(s) can be identified in various instantiations of a particular concept, enabling it to be recognised (as distinct from being fully internally understood). Whitty (2013, p. 99) points out the difficulties of the Platonic approach, noting that groups define the essence of 'chairness' as "a seat with a back, all of which is elevated approximately knee height off the floor" and it is impossible to sit in this ideal chair because

it is suspended in mid-air and any attempt to connect it to the ground renders it a particular chair rather than a universal form.

So qualia are in effect, our comprehension of things, the sum total of all the impulses being processed across synapses in our brains plus our responses (including emotional reactions) to them, as a result of our instinctive application of Kant's four pure categories of understanding. It is our sense-making mechanism, combining and processing information from all five senses, the thing that we as humans do almost instinctively about things we have previously experienced, provided our minds have not been previously hijacked or desensitized through familiarity or other means to that particular thing. It is not a thing that exists separately elsewhere. Aristotle would contradict Plato in saying that 'chairness' isn't there; it is distributed across all chairs and is a human experience of things. As Diogenes of Sinope said, "I've seen Plato's cups and table, but not his cupness and tableness" (Davernport 1979, p. 57).

To relate this to governance, there are numerous and various governance arrangements (moving parts of the governance machine) that many organisations have in place. Governance itself is however emergent behaviour which can be experienced by the human brain as a universal or qualia, which does not actually exist as a separate entity anywhere. The concept of it exists and is spread across all implementations of it. The word governance refers to the system formation of the various governance arrangements that result in the emergent behaviour of being able to direct and control an entity. But these ideas of direction and control are human constructs that exist only as concepts and describe the key activities that we understand to comprise the essence of governance, together with the system for bringing them about. However, any change in direction and control can be explicitly measured, and also 'felt' as evidenced by the observation made in the empirical paper on governance in Part 2 "The overall feeling (of participants) can be broadly summarised as indicating that you get good feelings if the governance is good and you don't if it isn't". They did not distinguish between bad governance and an absence of governance, regarding them as equivalent.

Using the governance analogy above, while qualia cannot have a separate physical existence we can see, if we feel so inclined, we can just all agree on what the word qualia represents and leave it at that. So once we have an initial feeling or sense of something, we can label that as a quale. That's as far as we should go, otherwise we are deterministically proceeding

in the belief that further reduction (compartmentalisation) will universally bring increased understanding. There is a point beyond which further reduction takes things out of focus, rendering them opaque, falling into the trap of Issue 8. To go further also tempts the mistake of ascribing an ethereal essence beyond a descriptive essence (Issue 5). This is akin to the view of Artificial Intelligence researcher Marvin Minsky who regards it as a mistake to:

> attempt to reify "feeling" as an independent entity, with an essence that's indescribable… feelings are not strange alien things. It is precisely those cognitive changes themselves that constitute what "hurting" is... The big mistake comes from looking for some single, simple, 'essence' of hurting, rather than recognizing that this is the word we use for complex rearrangement of our disposition of resources (Minsky 1998).

In other words, we use a particular conceptual word to describe or represent the state of having a particular sense of the nature of an experience and we should avoid seeking ethereal essence. Qualia is a label of a group that any one feeling or perception can be categorised as belonging to, but the diversity of feelings or perceptions that the term can be applied to make it meaningless to reify it into some form of ethereal existence. It's just a useful label for our sense of experience. Qualia, like essence and governance, is a useful concept with no actual physical existence.

Minsky does not accept that there is any deep or essential difference between thinking and feeling. He considers emotions are not alternatives to thinking; they are simply different types of thinking. It is worth noting that the Mangle doesn't exclude emotion either; it just defines without making any value judgement.

This concept of qualia is of relevance to Issue 8 and Axiom 8 and so reference to it will be included in the final statement of position below.

8.8.3 Mathematics and the definition of conceptual terms - Omitted variables (OVB), autoregression and endogeneity

Consideration of this subject enables the linkage/ trace of the origins of the words equal meaning approach embodied in the work of Russell and Wittgenstein (Issue 2) to come full circle and be brought to a close.

An **omitted variable bias (OVB)** is an error that occurs when a mathematical equation leaves out one or more relevant variables, producing a biased or incorrect answer. If meaning

is a function of the words we use, then to fully express that meaning, all variables contributing to that meaning must be included, and irrelevant ones excluded.

An omitted definitional variable was identified in Issue 3 –silent or hidden qualifiers. This can result from abbreviation or imprecision for the sake of convenience resulting in accidental omission. It can occur within professional fields, geographical areas, sub-cultures and even in individuals omitting (sometimes unconsciously) the qualification of some particular key aspect of their environment. The prime example of this is the interchangeable use of governance and corporate governance by the fathers of governance terminology, which is also an example of Issue 10. When a term is picked up outside the particular community it was developed in and applied more broadly, confusion is likely to result where environmental conditions (context) are different. A further example is Popper's exclusion of process from identifying boundaries from definition, which is also an example of Issue 9.

Extraneous or irrelevant variables can also be included in definition/ meaning, which could be regarded as the inverse of an OVB issue. This can occur where an opinion/ attitude/ belief has been included in definition, such as identified in Issues 1, 4 and 5. These are normative matters and can include moral, cultural or religious value beliefs and value judgements (Issue 5 – attribution of ethereal meaning to secular words) or belief in the genericity of certain aspects of IT project management to the whole of that field, exemplifying (Issues 4, 9 and 10). As noted in defining the term 'normative above, it is the business of definition to adequately describe things, not to impose norms. Note that "addition of extraneous variables does not lead to biased coefficients. However, adding extraneous (or "junk") variables to the model will result in inflated standard errors and all the problems they create" (Williams 2015).

These OVB problems in definition can create a further OVB problem in communication as well; that is not realising that others have a different definition of the same conceptual word, as expressed in Axiom 1. Communicable words simply constitute an agreement on what particular noises will signify. Contention between sub-groups over the meaning of a word, such as occurs for contested terms, can confound communication and indicate that agreement is missing.

There is also a further omission that can modify the meaning of words and govern or over-ride their place in communication and that is other sensory input. Where this exists, it will determine the full meaning of both what is conveyed and what is received (understood). The

senses apart from hearing, namely sight, touch, taste and smell, have their own ways (frameworks) for communicating meaning (e.g. gestures and body language for sight). In other words, there are aspects of meaning that words may not completely capture i.e. elements of communication/ meaning that are missing from words.

These omissions and inclusions can be expressed succinctly in a semi-mathematical way as follows:

Meaning in words = Fn (essence, context) [Note: This is the province of definition]

Meaning communicated = Fn (words, agreement on their signification, over-riding sensory input) [Note:This is the province of communication]

Where Fn = a function of.

Given these missing and/ or unwarranted variables that can confuse meaning in our use of words, and the number of ways in which these confusions can occur, it makes little sense to regard words as having absolute meaning of themselves or to regard them as always comprising the totality of meaning. Such an approach was attempted by Russell and Wittgenstein who considered that all we had to do was develop sufficient true statements and their totality would produce the ultimate theory of meaning (Wittgenstein et al. 1974, p. 85, Section 6.343). This approach has an inherent OVB problem. Wittgenstein did eventually recant from this position and developed his family resemblance concept, but that did not step outside the realm of the words = meaning approach and was therefore similarly subject to OVB. One could possibly set out to prove that the approach of Russell and Wittgenstein was correct when all the other missing variables are included, but this would be an enormous and almost incomprehensible investigation of little value given the above reasoning.

To restate the problem in another way, the evolution of language has generated omitted and extraneous variable mutations that has produced confusion which has not helped human communication, cooperation and therefore survival. Once this mistake was made, it then generated a further problem which can also be expressed in mathematical terms as **autoregression**, where future understandings and conclusions are based upon past events. Subsequent understandings are generated having cause and effect (causal) relationship with the prior-period data values and on a stochastic (random) term (normative matters - value judgements and beliefs). This can vary randomly, producing random answers. This is another

way of saying that understanding of meaning strays further away from essence the more such definitional mistakes are made.

A further way of expressing or labelling this is in econometric terms as an endogeneity problem. **Endogeneity** occurs where an external (exogenous) variable outside the model (such as different sensory frameworks, context or normative matters - value judgements and beliefs) is correlated with both the independent variable (meaning) and the dependent variable (auditory representation via words).

These considerations demonstrate that there is some mathematical link that can be made between language and mathematics; but it is not the absolute one that Russell and Wittgenstein imagined. This section has demonstrated that following a mathematical approach to words that just represent agreements will be stymied by disagreements and will be unproductive, as Witgenstein eventually sensed. The product of that thinking, his family resemblance concept, proceeds in that same unproductive direction and definitional clarity would be greatly served by its abandonment.

8.8.4 Generic applicability

The position taken in this thesis is that resolving agreement on conceptual terms using a transparent process can provide a basis for agreement and resolve unnecessary contention. This has been determined deductively in the Papers in Parts 2 and 3, which have provided a basis for agreeing cross-field definitions of governance, accountability, stakeholders, strategic management, power and ethics. These investigations were conducted within the management environment for circumstances where achieving clarity is desirable and productive.

8.8.5 Definitional position

Having reconciled with the views of the major philosophers on the subject of definition, I can now state my position that emerges from this exegesis and from the empirical and analytical work reported in this thesis that it forms part of. My philosophical position on definition and meaning is in direct opposition to Wittgenstein's family resemblance concept. It comprises the ten axioms and ten definitional rules developed from the ten issues identified above. These axioms and rules are listed together below, with embellishments added to Axioms 1, 2 and 8 following the philosophical considerations above.

8.8.5.1 Definitional Axioms

1. ***A definition states what a group of people have <u>agreed</u> a particular sound/ word will represent or signify***. This means that there is no absolute correct sound or absolute correct definition; correctness of definition and of assignment of the label to instances where the signification is found can only be judged relative to that agreement. If agreement has not been reached, or different groups have agreed different things, there will be contention over correctness. Words are meaningful only insofar as we have agreed their meaning/ signification. Contention over definition indicates agreement hasn't been reached yet. Overlooking or rushing past this critical point has delivered confusion and philosophical linguistic tangles, from Aristotle to Wittgenstein. All we can do is identify contention and just sort it out, recognising that full knowledge of any concept is spread across many individuals. That requires a new process for doing so, which the Mangle provides.

2. ~~2.~~ ***Meaning does not come from words alone***. We have five senses, each with its own capacity to give us information about the external world which we use to derive internal meaning regarding impact on us, which we call understanding. The senses that the spoken and written word do not use can also contribute to meaning and, in some cases, words may have difficulty expressing or communicating that meaning.

3. ***A word simply provides the label or <u>signifier</u> for what is <u>signified</u> by its agreed definition.*** A word can only represent something; it cannot actually be it.

4. ***The closer the signification of a word comes to the important attributes that a thing must have (i.e. <u>essence</u>) for that label (signifier) to be correctly assigned to it, the closer it gets to accurately representing the auditory part of meaning contained in the written word***, and the less the confusion that can result. The closer it comes to representing the meaning received from all five senses, the closer it comes to representing the full meaning.

5. ***Some words such as essence have dual simultaneous meanings that are <u>secular</u> (four dimensional) and <u>ethereal</u> (extra-dimensional) and the 'higher order' ethereal meaning will gazump the secular by subconscious default unless the issue is called out***. Defining in terms of secular essence removes the dependence of definition on matters of ethereal belief. Ethereality emerges from seeking definition/ meaning in dimensions other than those that are physically accessible to us.

6. ***Concepts require an additional definitional process to <u>physical objects</u> for agreement to be reached as they cannot be pointed at, to collectively verify meaning***. The Mangle provides this. (Note that this does not refer to grammatical objects which can include both physical objects and concepts.)

7. ***<u>Clarity is more important than precision</u> in reaching agreement on definition, but precision may be useful to reach a point of clarity***, albeit that it may obscure matters if taken beyond that point. Infinite regress does not occur if we seek only the detail necessary to <u>agree usage</u> and do not pursue deeper understanding of the <u>internal workings</u> of an entity or concept.

8. ***<u>Connections</u> between divisions or component parts also require labelling and definition***. Properties or characteristics of systems that emerge from having made those connections comprise the 'whatever it is' that is <u>more than the sum of the parts</u>. This can be expressed as <u>qualia</u>. Qualia have no physical existence but provide a useful conceptual term to describe the extra bit that we feel or sense that's otherwise difficult to give a general name to or to find an essence of.

9. ***<u>Diarrhesis</u> can facilitate definition by enabling sense to be made within divisions that cannot be made without recognizing them***. Knowledge therefore does come from establishing boundaries and divisions (diarrhesis) (such as Popper did with his three worlds).

10. ***One such diarrhesis that can reduce confusion in definition is the separation of <u>epistemology from ontology</u>, through distinguishing between <u>content</u> (what we know) and <u>process</u> (how we know it)***. This can avoid enshrining non-generic content within a process that may potentially be generic.

8.8.5.2 Definitional Rules

1: ***Exclude attitudes from definition***. Accommodate them <u>after</u> definitions have been agreed, not before.

2: ***Identify any silent or assumed qualifiers***.

3: ***Exclude beliefs from definition***. Accommodate them <u>after</u> definitions have been agreed, not before (This is the same as rule 1 with beliefs substituted for attitudes. Both attitudes and beliefs can be regarded as opinions).

4: *Exclude ethereal significations from the definition of unqualified terms with dual simultaneous meanings such as 'essence' by adding the qualifiers 'ethereal' or 'secular' to them*. Accommodate the ethereal <u>after</u> definitions have been agreed, not before (This is the same as rule 3 with ethereal essence substituted for beliefs).

5: *Define by intension rather than by extension where-ever possible*.

6: *Use the Mangle to resolve contention for conceptual terms*. It provides a triangulation process to verify that a common understanding of concepts has been reached. It also provides a means of incorporating any new realizations or applications. It is not necessary to apply it to objects which can be seen/ touched; their physical existence automatically generates agreement upon the signification of any term used to represent them.

7: *Use precision only to the point where clarity is reached*. If clarity is not reached, go back up a level. Precision regarding sub-systems or components does not produce clarity at the system level. Further precision is required only if an understanding of the internal workings of parts or sub-systems of an entity is being sought.

8: *In defining a system, recognize the connections between its parts*.

9: *Consider process and content separately*; this supports exclusion of non-generic content from definition. The Mangle sorts out process, leaving the focus on content and true genericity.

10: *Identify the context within which the term is being defined and refrain from making any generalisations that have not been tested outside that context*. This is similar to rule 2 which deals with making assumed or silent qualifiers explicit. Both rules deal with making context explicit. The Mangle provides a recognized way of doing this.

8.8.6   Application

The validity of previous definitions or usages of a term can be determined by looking for evidence of any of the above ten issues/ axioms/ rules having been violated or transgressed. They can all cause ambiguity/ linguistic confusion as identified by the work reported in this thesis. If any of them are found, then the particular usage requires adjustment. The means of doing this proposed here is the application of the Mangle.

8.8.7 Features of the Mangle

The features of the Mangle that enable it to remove ambiguity and confusion are that it:

1. uses a rigorous transparent process to arrive at definitions, providing both a basis for supporting the derived definitions as well as a means of challenge

2. produces internal consistency between terms in the group of terms defined

3. defines by intension where possible, avoiding the problems of defining by extension

4. ensures a wide range of perspectives are canvassed including historical use and so it effectively triangulates

5. exposes silent and assumed qualifiers

6. removes opinion/ normative matters from consideration in definition, leaving those matters for subsequent discussion once we know what we are talking about

7. places definition firmly in Popper's world 3, removing it from his world 2 by accepting only non-normative arguments i.e. by removing value judgements.

8. 'deconstructs' the term rather than the text, looking for points of disagreement rather than hierarchical inversion

9. ensures epistemology is addressed before ontology, avoiding ontological error that the existence of definitional contention indicates exists

10. accommodates Popper's diarrhesis (categorization through the process of division or distinction), without accepting Popper's aversion to labelling this process as definition.

It is also worth noting that the Mangle process is self-correcting because every element deals with removing epistemological error; so, no matter how rudimentary a mini-Mangle application of it may be conducted, it will tend towards facilitating ontological agreement.

8.9 Implications

There are a number of implications of this definitional position which I will now point out.

8.9.1 The converse of diarrhesis

It is worthwhile exploring the converse of Popper's diarrhesis insight in sub-classifying the thinking world. That is the tendency for particular specialities to think their world is actually the wider universe and attempt to apply their thinking biases, opinions and beliefs to it. This approach can result in attempts to have something accepted as universal that is actually so not. This is actually an inductive approach. It can lead to errors ranging from small misunderstandings between two people, to, for example, Wittgenstein's error in classifying language as a competitive activity. We may find a particular person difficult to understand or deal with and then generalise that to all men/ women/ children/ adults/ old people/ people of a certain race or creed to resolve our difficulty, proposing an explanatory theory which we then proceed to apply, omitting all the silent qualifiers surrounding the particular person and the circumstances we encountered them in. Or we may talk about generic project methodology and PRINCE2 together, omitting the silent 'ICT' qualifier and not considering the fact that the IT parentage of PRINCE2 has made it very difficult to apply in infrastructure projects, where it has had very little successful adoption. There is a simple grammatical rule which helps avoid this error and that is to make assumed qualifiers explicit. The rule is simple; identify silent or hidden qualifiers. However its application can be quite difficult, as we are often unaware we are assuming a qualifier. But its application can avoid the meaning of a sub-set being confused with or taken for universal truth.

8.9.2 The problem of universals

This problem dissolves upon accepting that:

1. words simply represent what a group of people agree they will signify within the four dimensions we have ready access to and

2. universals or qualia or the sum total of the processing of all our senses in relation to some object or concept, do not have to be ethereal; they are concepts that exist in our thinking but have physical existence that cannot be 'seen' without sophisticated equipment.

Again, applying a diarrhesis solves the problem by simply specifying whether the existence is physical or conceptual. Concepts exist in our thoughts, once we understand what the word denoting the concept signifies, via whatever physical means of biological and electromagnetic impulses that exist in our brain to produce the phenomenon called

understanding. These are actually physical processes, but they are hidden in our heads such that we cannot see them. So the diarrhesis is effectively between what we can physically see and what we can't, for the purposes of communication.

This means that both opposing positions on universals are wrong without the necessary silent qualifiers and both are right when these are added; universals do have <u>conceptual</u> existence <u>that cannot be seen,</u> and universals have no physical existence <u>that can be seen</u>. They may be conceptually found in things (objects or concepts) simply as a property of those things.

The existence of concepts neither requires nor precludes ethereality, yet we have comprehensively confused ourselves with it for millennia. The omission of silent qualifiers was understandable in former times without the access to the technology and knowledge of the human body that we have today.

Ethereality, or any normative matter (opinion or claim derived from our cultural values and beliefs rather than from evidence), is a legitimate topic for discussion, but any such discussion is best deferred until we have defined our words such that we can all know what each other is talking about. Universals are concepts that emerge from observing the functioning of combinations of things (objects and/ or other concepts). We just need to agree what the word we use to label them will be and what it will signify and move on. The notion that we can invent and agree on a word like chair-ness and that there can then be some ultimate perfect chair-ness that only godliness can aspire to is untenable. This in itself demonstrates the dysfunctionality of allowing ethereality into definition.

8.9.3 Essentially Contested Concepts

I regard Gallie's 'essentially contested concepts' as a symptom of 'acting as though words = meaning' that does not require any further enumeration or sub-classification, but rather application of the Mangle to individual instances to remove them.

8.9.4 The relationship between language and mathematics

Russell and Wittgenstein identified the parallel between language and mathematics but pursued it in a way that did not provide explanatory power and so did not produce a satisfactory outcome. They effectively assumed correlation between meaning and the signifier, overlooking the signified, did not recognize that words signifying conceptual terms represent only a past agreement (that may be absent) and consequently fell into the OVB problem.

8.9.5 Support for the Mangle

Wanderer (2007, p. 195) notes:

> General semantics points out how we 'create reality' by selecting things to notice
> from Out There, selecting things to relate them to from In Here, and creating a Picture
> in Our Head from all that. One major problem is that we tend to think the picture we
> have created is a representation of what's happening Out There, when so much of that
> picture comes from stuff already In Here.

The Mangle provides a way of aligning individually created realities.

Support for the approach taken in the Mangle can also be drawn from the work of Sypniewski (2008) in rejecting the idea that 'words equal meaning' and in exposing the importance of context. He noted "that Saussure (as do most traditional linguists) does not think that the surroundings are at all important" and holds "another pervasive abstraction in traditional linguistics. All communications are assumed to be flawless". He further observes that "Abstractions such as this, by eliminating "distracting details", are supposed to make observations easier and thought processes clearer. By eliminating important details, our observations are made harder and our thought processes cloudier" (Sypniewski 2008, p. 50). He considers "HSL (Hard Science Linguistics) admonishes us to study people communicating in the real world. We cannot afford to neglect the surroundings in our models because the surroundings, together with the other elements of a linkage, model the real world" " (Sypniewski 2008, p. 49). He further notes "The listener is not the tabula rasa of traditional linguistics but has senses and experience" (Sypniewski 2008, p. 51).

This constitutes rejection of the 'words equal meaning' concept, where the same words are presumed to convey the same meaning regardless of the surroundings. Meaning and signification are not the same thing and so it is dangerous to associate meaning with definition alone. Meaning is something besides its contributing sensory parts. But we must all understand the same signification of a term regardless of the other meanings/ nuances we extract from the environment and from our other sensory frameworks, otherwise it is pointless having language. Language exists to enable us to consistently convey something. The alternative idea that it exists so that we don't know what we are talking about is untenable.

> A clear conception means a determinate conception; one which does not fluctuate, which is not one thing today and another tomorrow, but remains fixed and invariable, except when, from the progress of our knowledge, or the correction of some error, we consciously add to it or alter it Mill (1874, p. 462).

I do not take Sypniewski (2008) to be exhorting us to adopt a position of definitional laxity. To do so would simply drop back into the confusion of Wittgenstein's family resemblance idea, which was developed in times preceding recognition that speech is just one of a number of sensory frameworks we use to communicate meaning. The Mangle gives a method of sorting out the signification of our words without pretending that the words give the full meaning. We only need to understand exactly what the words signify so that we don't unnecessarily confound the determination of meaning. The Mangle is a means of dealing with polysemy. It provides a means of reaching agreement.

The Mangle resulted from an analysis of one word – governance. It is quite different to, but has significant parallels with the work relating transformational grammar and family therapy by Bandler and Grinder (1975), both in form and in application.

The parallel in form, using their terminology, is that the Mangle exposes the transformation of the surface structure of the contested term that is required to move to the deep structure which contains the full picture and is where sense can be made. It does this by identifying the structural difficulties of the language use surrounding them - its generalisations, deletions and distortions, which are herein expressed as omissions, value judgements and unwarranted inclusions.

The parallel in application is that the Mangle has provided a basis for resolving conflict across many fields of endeavour, as documented in Parts 2 and 3. Any such field can be regarded as a member of the human family that is having an 'essentially contested concept' issue with the rest of the family group. The Mangle provides a means for the family member to resolve their issue with the rest of society/ the world in a way that doesn't cause further difficulty.

8.9.6 Observations on the axioms and rules

The problems highlighted by this research and the solution developed to it does suggest that there may be potential beneficial implications well beyond the field of project management.

So it is perhaps worthwhile to extract some meta-axioms and meta-rules from it and state them in a way that is potentially suitable for wider application.

8.9.6.1 Meta-axioms

The following meta-axioms have been derived from considering all of the conclusions drawn collectively **as** follows:

1. Truth is relative to context but absolute within it.

2. Communication isn't what you think you meant. It's what the other person thinks you meant. What you think you meant is just talking or writing.

3. Consequently, many disagreements are simply misunderstandings or miscommunication over the signification (meaning) of terms.

4. Any application of the Mangle will tend towards facilitating understanding and agreement - whether it's application is 'full', 'midi' (full formal structure with just a single dictionary selected) or 'mini' (neither full formal structure nor tabulation of multiple lexical sources i.e. a single widely recognized dictionary (e.g. Oxford) is selected and eclectic observations made, with a mental post-check that all Mangle steps have been covered and axioms and definitional rules followed). The triangulation process this requires is self-correcting. Even if mistakes in reasoning are made – the process provides transparency, enabling identification and correction. (see meta-rule 1 below).

5. Referring in definition to context outside the four dimensions we have ready access to (the three spatial dimensions plus time) introduces difficulty and confusion that can take millennia to resolve (see meta-rules 3 to 5 below).

8.9.6.2 Meta-rules

Two meta-rules arise from the first four meta-axioms as follows:

1. Apply the Mangle to any disagreement first to make sure you actually have one before drawing any conclusions or taking any verbal or physical action (from meta-axiom 3. Note that this extends and is superordinate to Definitional Rule 6).

2. Detach from any desire to have a personal or group view accepted (from meta-axiom 4).

Several meta-rules emerge from meta-axiom 6 and are developed below.

Wherever we have agreed for whatever reason in the past that a particular noise/ word will have multiple different significations, we have to take the extra step of using context to determine which one is being used. This is the case for the word 'mean' which can signify arithmetic average, nasty, excellent, dreadful or what I intended to say. Although there is a common essence of stretching all these meanings from 'half-way' and 'in-mind', each of the derivative uses has its own essence that can also be determined. It follows that in determining definitions, an insufficient search for essence should not be the default position.

However, it is where context cannot be seen that much greater confusion can arise. Such is the case for the words 'essence', 'meaning' and 'universal'; three words that are of great importance to philosophical discourse. All of these terms are commonly understood in both secular and ethereal senses at the same time, without the grammatical context necessarily indicating which is being used.

So it is not so much a matter of removal of ethereality that is the problem; it is rather of making it explicit when a ethereal interpretation (context) is being used and of not allowing the meaning to flip-flop randomly with an inherent presumption that the ethereal interpretation must always over-ride the secular. If, as Nietzsche said "God is dead" (Nietzsche et al. 2010), then we haven't buried him properly in our minds and he has resurrected. Proffering God is generally done for things that are otherwise difficult to explain; and surely definition can be explained. Furthermore, removing the ethereal dimension and any presumption of it from <u>definition only</u> can have no impact at all on whether God exists or not or on what the purpose of life may be. It is simply saying that presuming an ethereal dimension on some key words has caused so much confusion that it would be advisable to stop doing it; and to then do something else that doesn't cause confusion. This can be done by implementing the following meta- rules:

3. Add the qualifying term 'secular' or 'ethereal' to any use of the word essence.

4. Substitute the word 'purpose' for any ethereal connotation of the word 'meaning', thereby abandoning and allowing to become obsolete any reference to the illogical 'meaning of life'.

5. Add the qualifier 'in the secular sense' or 'in the ethereal sense' after any use of the word 'universal'.

Note that this discussion is irrelevant to the 'does God exist' question, upon which no statement is made here. It is simply clarifying the dimensional context that is generally omitted/ unspoken/ silent.

8.9.7 The human language usage system

The success of the many applications of the Mangle submitted with this exegesis seems to indicate there is a robustness of the (English) human language system even with the presence of all the ten usage mistakes identified above. There was not a single case where a satisfactory essential definition could not be determined by continuing the analysis until an acceptable intersection of all sets of meanings could be found, even with the presence of these possible errors. This seems to indicate that common usage somehow imposes un underlying rigor that induces some sort of innate collective intelligence. This hints at the possibility of the concept of unfoldment in (Bohm 1980) being present in the language system. This has not been pursued in this thesis, which has been preoccupied with physical unfoldment to remove ethereal confusion. It was possible to do this using quite basic techniques without needing to resort to quantum mechanics. However this observation on the outcome of this thesis does raise the possibility that if one wished to develop an understanding of the apparently self-correcting nature of language usage, the concept of enfoldment (or the related term implicate order) may be worth exploring.

It is also worth noting that the human language usage system is effectively a classification system and so is subject to the advantages and disadvantages of such systems, as outlined in Section 8.4.4.

8.10 Extent of Mangle applicability

The Mangle is useful in contexts where conceptual terms are contested or subject to disagreement. It provides a transparent basis for reaching agreement on the meaning of such terms, or, more precisely, what is signified by the terms. The Mangle could be applied to physical objects, but there is little necessity to do that; they can be seen and pointed to, whether animate or otherwise. There is also little need to apply it to concepts where general agreement already exists on what is signified by a term. Its principal use is where concepts are contested or where disputants are unaware they have a different understanding to others.

There are contexts where its application would not be necessary and perhaps even detrimental. Such would include poetry, art, political persuasion, all of which can make legitimate use of ambiguity.

However, ambiguity can also sustain markets for competing project management frameworks/ products and the desire for application of the Mangle may well vary between professional practitioners and framework/ training suppliers. Nevertheless, ambiguity in project management terminology can inhibit productivity and circumstances where application of the Mangle can reduce such confusion are documented in Papers 2 to 4 of Part 2 and the papers in Part 3B.

8.11 Wider applicability

The problems identified in the Exegesis are generic linguistic ones, not restricted to philosophy, governance or management. The recommendations for revised practice therefore have implications extending far wider than the fields of governance and management.

8.12 Conclusion to Exegesis

The statements of philosophers over the millennia indicate that we can reduce the amount of misunderstanding and consequent conflict in the world if we reduce confusion over what we actually mean by our conceptual terms, or to put it another way, what our conceptual terms signify. These terms include many that are commonly used in both management and daily life, some of which have meanings that are contested, sometimes without that either being or becoming evident. That then becomes a source of conflict, causing positions to be taken on the basis of false presumptions. We can only act upon what we believe to be true. What is actually true may be very difficult and/ or impractical to establish.

The papers that prompted this investigation establish that such confusion resulting from definition does actually occur and propose a means of addressing this through regarding language as a framework that presents or represents meaning rather than itself constituting meaning. This effectively separates process from content in our definitions, in particular, by ensuring that we are defining a single word rather than a phrase with a silent or assumed qualifier to the word. Admitting the latter unnecessarily introduces into consideration much that is associated with but extraneous to the concept, thereby misleading and confusing.

In proposing the Mangle, I seek to define the name or label of a concept by providing a process that facilitates focusing on content, and which seeks to get an understanding of what

it signifies as close to the essence of the concept as possible, without rendering any reasonable, grammatically correct usage inadmissible, while excluding those usages that make any of the mistakes in the ten issues identified above. It fills the function identified as necessary by JSM in saying "We ought not…forget that the really important agreement cannot always be discovered by mere comparison of the very phenomena in question, without the aid of a conception acquired elsewhere" (Mill 1874, p. 463). It also fulfils his requirements that:

> Whenever the nature of the subject permits our reasoning processes to be… carried out mechanically, the language should be constructed on as mechanical principles as possible; while in the contrary case, it should be so constructed that there shall be the greatest possible obstacles to a merely mechanical use of it (Mill 1874, p. 494).

This PhD commenced as an investigation into an organisational problem – why steering committees and project management governance was not working consistently well. I did not imagine that the difficulties there would lead back to the ancient idea of definition, the importance of which has been recognised and emphasised sporadically across the millennia and from which the philosophical fashion of the 20th century had departed.

> Nothing is so dull as logic, and nothing is so important. There was a hint of this new science in Socrates' maddening insistence on definitions, and in Plato's constant refining of every concept. Aristotle's little treatise on definitions shows how his logic found nourishment at this source. "If you wish to converse with me," said Voltaire, "define your terms." How many a debate would have been deflated into a paragraph if the disputants had dared to define their terms! This is the alpha and omega of logic, the heart and soul of it, that every important term in serious discourse shall be subjected to the strictest scrutiny and definition. It is difficult, and ruthlessly tests the mind; but once done it is half of any task (Durant 2006, p. 75).

The answer was so simple, so obvious, yet so difficult. It seems that a major paradigm shift is now required to return to this ancient but effective idea. As Muller and Shao (2013, p. 138) note in paraphrasing Kuhn:

> Paradigms are established because they once led to the development of theories with a higher predictability (in the natural sciences) or better explanations (in social science) than theories developed in other ways. However, once established these paradigms limit the further development of the theory developed through them, because one

single theory, developed under one research paradigm, cannot explain a phenomenon completely. This leads to a crisis in terms of further theory development and researchers address this crisis by turning to *philosophical analysis as a device for unlocking the riddles of their field*.

Paradigms can be regarded as reified beliefs, of which we may be almost unconscious. Muller and Shao (2013, p. 153) also note "The multitude of perspectives and the diversity of project governance models calls for further research and may constitute a form of current crisis of theory in this field, which may be resolved through a paradigm shift in the future". In reflecting on Popper, they also note "Theories can have high predictive power without lots of empirical evidence, just as empirically tested hypotheses might not reflect the truth to the extent that they do not lead to theories with predictive power" (Muller & Shao 2013, p. 146). They further note:

> This strongly emphasizes the argument by Biedenbach and Müller (Biedenbach & Müller, 2011) that no research should be reported without a clear statement about the underlying paradigm. Otherwise the results may not be interpreted in their proper context, thus leading for example to rejections of publications or ignorance within the research community"(Muller & Shao 2013, p. 146).

I will conclude with the words of Taleb (2014):

> There are many things without words, matters that we know and can act on but cannot describe directly, cannot capture in human language or within the narrow human concepts that are available to us. Almost anything around us of significance is hard to grasp linguistically.

One such matter, as I have discovered and documented, is governance.

9 Overall contributions

The work contained in this thesis has potential use for bringing clarity to terminology across organisational sciences. It's specific contributions are that it has :

- Established definitively and comprehensively that confusion in governance terminology does actually exist, through investigating scholarly and practitioner literature as well as interviewing practitioners.

- Developed a definitional method that can systematically resolve definitional confusion from individual terms and groups of terms.

- Developed clear non-overlapping definitions of governance and many other terms including 'stakeholder', 'accountability', 'responsibility', 'leadership', 'strategic management', 'power' and 'ethics'.

- Defined governance in a way that highlights that no one feature such as a steering committee or policy or approvals process is in itself governance and rather that governance is an emergent property of a system of various coupled components within an organisation that collectively enable the entity (organisation or project) to be directed and controlled.

- Advanced stakeholder theory by moving it beyond its previous company-centric base to an activity base that better accommodates government entities and changing circumstances. It also produces a categorisation of stakeholders that provides the basis for resolution of its 'essentially contested' status and highlighted the need to categorize customers based on who receives the output and the outcome, as these can be different for government organisations.

- Indicated through defining accountability and responsibility that there are varying sources of accountability - legislative, organisational, contractual, codes (written and unwritten), and that the two terms can transition into each other when crossing organisational hierarchical levels as each level delegates tasks.

- Identified that concepts do not have the same process for verifying agreement on meaning that physical objects do (pointing) and an additional process is required for

them (which is supplied by the Mangle) to get them out of Popperian World 2 concepts and into World 3.

- Demonstrated from this that numbers of isms together with much philosophical debate has been grounded in definitional error that has come about from failing to recognize that words are only noises we agre will signify something.

- Demonstrated that 20th century philosophy retreating from definition, embodied by Wittgenstein's family resemblance concept of definition has been a confusion inducing mistake.

- Revealed that much confusion and subsequent debate results from including in definitions dimensions outside the four we have ready access to and that this can happen simply by failing to make silent or hidden qualifiers explicit.

- Recognised that some terms have dual simultaneous meaning with the ethereal gazumping the secular.

- Resolved the matter of universals by adding the missing qualifiers.

10 Research limitations

This research has proposed defensible definitions relating to the subjects it has covered. It cannot actually produce the agreement that needs to follow. These definitions need to be taken into general usage for that to happen.

The usefulness of the Mangle technique developed by the research is limited to contexts where conceptual terms are contested or subject to disagreement. It was also not intended for application to animate or inanimate physical objects that can be seen and pointed to. Its application to concepts where general agreement already exists on what is signified by a term is generally unnecessary. Its application to contexts that make legitimate use of ambiguity, such as poetry, art and political persuasion could range from useful to unnecessary or perhaps even detrimental, depending upon the nature of the desired persuasion.

11 Areas for future research

This research has dealt with many contested concepts and resolved them but it has not dealt with all possible 'essentially contested' concepts. While the research has provided a tool that can be used in resolving them (the Mangle) and has developed mini and midi versions of it, and has also produced axioms and rules to assist, there are likely to be other areas where intensive investigation of past literature will be required to enable comprehensive assessment that is sufficient to answer all objections and generate agreement.

The earlier observation that common usage somehow imposes an underlying rigor that induces some sort of innate collective intelligence suggests that the concept of unfoldment may have some potential explanatory power for any future investigation of the self-correcting ability of language systems.

12 Ethical considerations

The waste that confusion in definition potentially generates means that it would productive to regard resolution of it as an ethical issue. The mangle facilitates this by providing a means of reaching agreement on the meaning of conestested terms with a transparency akin to that expected of governance.

However, implementing this approach will threaten livlihoods and egos, but the ethical issues involved in those considerations are well beyond the scope of this investigation.

13 Conclusion

The first part of the question 'What is project governance?'was answered in Paper 2 of Part 2 as "the system by which a project is directed and controlled and held to account". The second part of the question had two components. The first was disclosing the source of confusion which the Exegesis indicated were multiple (10) definitional errors that exisit in colloquial use. The second was the essence of governance and this was identified as the *system* part of the definition.

The work of this thesis started out as an investigation into the governance relationship between projects and their parent organisations. It has addressed that question, but in the process uncovered significant underlying problems that reflect back to general philosophy. It

appears that the logical principle that 'words do not equal meaning but only represent it' was not recognized by the three people who could be regarded as serious contenders for the title of the greatest philosopher to have ever lived – Socrates, Plato and Aristotle. The principle was recognized many centuries later by John Stuart Mill, only to be forgotten, ignored or overlooked by the three people following him who were reportedly in contention for the title of greatest living philosopher of their time – Russell, Wittgenstein and Popper. How could belief in the contrary proposition have reached the point where language, something that is just a series of arbitrary agreements on what certain sounds will mean, was reified, inducing acceptance of philosophy as almost being synonymous with the philosophy of language, to the point where writing impenetrably was found necessary, notwithstanding that JSM, Saussure and Derrida recognized it? How could the need to distinguish modes of agreement on significations of physical objects and concepts have gone un-noticed for so long? How also could the dual simultaneous meanings of words with ethereal connotations such as essence have gone un-noticed for millennia?

For all of this to have escaped prior notice, I can only conclude that there are factors at play now which facilitate a perspective that was not possible earlier. The lure of modernism that has produced our much-improved standard of living since the industrial revolution seems to have comfortably lulled us into the hubris of believing we can control everything and do so on a timescale of our own choosing. We have only now reached the position of being able to see beyond this with our current advances in technology, communication, archaeology and evolutionary thinking. Another possible factor is that the increasingly widespread access to information and the secularisation of society has been in play for sufficient time to fully permit interpretation of events without the heavy expectation of finding a 'God' presence in and answer to everything. One could have lost one's head in past centuries for failing to find such ethereal presence in one's writings, and it is perhaps not surprising that such conditioning would take generations to clear.

Whatever the enabling factors were, it has now become possible to either detect or re-evidence these definitional errors, enabling them all to be viewed as a collective, and a single means of addressing them all, namely the Mangle, to be proposed.

Hopefully, philosophy can be retrieved from the definitional confusion generated by the family resemblance concept and intrusion of the ethereal. Hopefully also, wider recognition and avoidance of the definitional issues identified in this thesis, together with further

applications of the Mangle to other concepts and an increased awareness of the need for openness and transparency in definition can reduce the amount of unnecessary confusion we currently face and can make some contribution towards reducing conflict in the world. Project management practice would also be enhanced by rectifying the issues identified in the various papers with a range of project management reference documents.

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Appendix A: The definition of meaning

This appendix defines meaning using the definitional refining method developed in Paper 2 of Part 2.

Define 'meaning'

Step 1 Define derivative or component terms

This is a derivative term with the root verb 'mean' and the noun-forming suffix 'ing'.

Step 2 Survey lexical usage

Lexical usage will be sourced from the following dictionary sources:

A range of dictionaries that have been well known for many years that were available (in 2013/ 14) online (Cambridge ; Collins ; Longman ; Macmillan ; Macquarie ; Merriam-Webster ; Oxford)

1. A range of various online dictionaries (BusinessDictionary.com ; Dictionary.com ; TheFreeDictionary ; Wiktionary) and

2. The Concise Oxford Dictionary (Fowler & Fowler 1964) - as a comparator for how these definitions may have changed over the last 50 years.

Lexical usage of both 'mean' and 'meaning' is surveyed in Table 4 and Table 5.

Step 3 Analyse lexical usage

The main sense of the word 'mean' from Table 4 is the intension to convey, refer to or signify something. The word is also used in the phrase "that means", for which the term 'implies' could be substituted, however that is defining a phrase rather than a word and so will not be pursued. It is also used in the phrase "mean to do" for which 'intend' could be substituted. There is another sense it is used in, as stingy or nasty, which will also not be here defined as it is not contested. It is also quite divergent from the main sense of the word identified from Table 4. This is a case where searching for and finding the common essence of quite divergent usages does not produce a useful result. However, it is still possible to find one such essence; from the etymological analysis below, that essence could be expressed as an extension of 'half-way' and 'in-mind'. It is of more use to seek an essential definition of the sense of the word we are concerned with here. This less-than-desirable situation of having two quite different meanings for the same word just has to be accepted as an accident of

history. This is a case where the context of the use of the word in a particular sentence has to provide the indicator as to which sense of the term is being used.

This leaves the potential definition of "intend to convey, refer to or signify" to be considered. To 'refer to' is something that can be done without any connotation of explanation, such as pointing and so will also not be selected. Signify is potentially suitable but has been used in defining 'definition' and a separate distinct meaning is being sought so that the two terms do not overlap causing confusion. That leaves the tentative definition of the verb 'mean' as "intend to convey".

The main sense of the word 'meaning' from Table 5 is what is meant (by a word, text, concept, or action). This points to communication occurring across more than words i.e. across all the senses, and so its definition will not be limited to words only. This is in contrast to definition which can only apply to words. The root word 'mean' will be selected rather than 'expressed' or 'represented', as required by the definitional refining method, and this also avoids double definition. It is a secular sense that is referred to here, but there is another meaning that appears often in Table 5 and that is purpose which indicates it is commonly used in an ethereal sense. That means that the error identified as Issue 5 in the exegesis has been made in previous usage and so will be excluded from the definition here. Its ethereal usage will be addressed in considering the phrase 'the meaning of life' in existentialism below.

This enables tentative definitions to be proposed.

Step 4 Develop a connotative (intensional) conventional definition

In line with Group Rule 2(d), the verb will be defined first, and the noun then defined in terms of the verb as follows:

<u>mean (verb): =</u> *intend to convey*

<u>meaning (noun): =</u> *what is intended to be conveyed*

Note: These definitions allow for the circumstance where it is not possible to express all meaning in words and can be applied generically to words, concepts, actions, pictures, diagrams and works of art.

Step 5 Report academic review of definitions

Various views of meaning have been proposed in various 'isms' and those relevant to definition are considered in 8(d) below after first considering etymology.

Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Checks (a) and (d) are appropriate for this term.

Step 8(a) Consider historical usage

The etymology of these words extracted from Harper (2017, pp. 95, 6 in 'M') on 11 July 2018 is as follows:

> **mean (n.)**
>
> "that which is halfway between extremes," early 14c., from Old French *meien* "middle, means, intermediary," noun use of adjective from Latin *medianus* "of or that is in the middle" (see **mean** (adj.2)). Oldest sense is musical; mathematical sense is from c. 1500. Some senses reflect confusion with *mean* (adj.1). This is the *mean* in *by no means* (late 15c.).
>
> **mean (v.2)**
>
> "calculate an arithmetical mean," 1882, from **mean** (n.).
>
> **mean (v.1)**
>
> "intend, have in mind," Old English *mænan* "to mean, intend, signify; tell, say; complain, lament," from West Germanic **mainijan* (source also of Old Frisian *mena* "to signify," Old Saxon *menian* "to intend, signify, make known," Dutch *menen*, German *meinen* "think, suppose, be of the opinion"), from PIE **meino-* "opinion, intent" (source also of Old Church Slavonic *meniti* "to think, have an opinion," Old Irish *mian* "wish, desire," Welsh *mwyn* "enjoyment"), perhaps from root ***men-** (1) "to think." Conversational question *you know what I mean?* attested by 1834.

mean (adj.1)

"low-quality," c. 1200, "shared by all," from *imene*, from Old English *gemæne* "common, public, general, universal, shared by all," from Proto-Germanic **ga-mainiz* "possessed jointly" (source also of Old Frisian *mene*, Old Saxon *gimeni*, Middle Low German *gemeine*, Middle Dutch *gemene*, Dutch *gemeen*, German *gemein*, Gothic *gamains* "common"), from PIE **ko-moin-i-* "held in common," a compound adjective formed from collective prefix **ko-* "together" (Proto-Germanic **ga-*) + **moi-n-*, suffixed form of PIE root ***mei-** (1) "to change; exchange." Compare second element in **common** (adj.), a word with a sense evolution parallel to that of this word.

Of things, "inferior, second-rate," from late 14c. (a secondary sense in Old English was "false, wicked"). Notion of "so-so, mediocre" led to confusion with **mean** (n.). Meaning "inferior in rank or status" (of persons) emerged early 14c.; that of "ordinary" from late 14c.; that of "stingy, nasty" first recorded 1660s; weaker sense of "disobliging, pettily offensive" is from 1839, originally American English slang. Inverted sense of "remarkably good" (i.e. *plays a mean saxophone*) first recorded c. 1900, perhaps from phrase *no mean* _____ "not inferior" (1590s, also, "not average," reflecting further confusion with *mean* (n.)).

mean (adj.2)

"occupying a middle or intermediate place," mid-14c., from Anglo-French *meines* (plural), Old French *meien*, variant of *moiien* "mid-, medium, common, middle-class" (12c., Modern French *moyen*), from Late Latin *medianus* "of the middle," from Latin *medius* "in the middle" (from PIE root ***medhyo-** "middle"). Meaning "intermediate in time" is from mid-15c. Mathematical sense is from late 14c.

meaning (n.)

"sense, import, intent," c. 1300, from **mean** (v.).

Summarising and interpreting this, the original usage of the word as being halfway between extremes (average or what most values lie closest to) was extended in two different and independent ways. One was being average or second class, which was further stretched to nastiness. The other was to where a group collectively reaches an average position that is taken to representing understanding 'in-mind'.

The essence of 'half-way-ness' that spawned these variations has disappeared from the two derivatives 'meanness' and 'meaning', but not without trace.

Step 8(b) Consider field/ specialty usage

See 8(d).

Step 8(c) Practitioner usage

See 8(d).

Step 8(d) Competing concepts & frameworks

Various views of meaning have been proposed in various 'isms' and significant ones relevant to definition are considered here. Each will be examined to see if the tentative definition accommodates their explicit or implied definition of meaning or requires modification for it to do so, and whether any of the definitional issues identified in the exegesis can be found.

Examining Essentialism

The idea of essence originated from Plato. The Oxford dictionary defines essentialism as "a belief that things have a set of characteristics which make them what they are, and that the task of science and philosophy is their discovery and expression; the doctrine that essence is prior to existence". The approach taken here in defining 'meaning' aligns with the method of definition contained in the first part of this statement which refers to secular essence and is independent of the doctrine in the second part of the statement which presumes a ethereal view of essence. That issue is discussed extensively in the exegesis in addressing Issue 5, has no impact on the definitional method applied here, and so will not be further considered here. Essence has been defined in the exegesis as *a property or group of properties of something without which it would not be what it is*. Essentialism is not primarily concerned with meaning other than incidentally as a result of its confusion with essence. Consideration of essentialism therefore requires no alteration to the definition of meaning.

Examining Existentialism

The key statement of existentialism was made by Sartre (1973, p. 34) (1905-1980) in saying "existence precedes essence", reversing Plato's order. This is dissected in Issue 5 of the exegesis, identifying the definitional error of 'dual simultaneous meanings' (ethereal and secular) of the term 'essence' and enumerating the silent qualifiers in both Plato's and Sartre's statements, demonstrating how both can be true.

However there are other terms used in discussing existentialism which are also similarly definitionally confused and requires attention here. The term 'meaning', like 'essence', has dual simultaneous ethereal and secular usage, and to compound that problem, the two terms have effectively come to be regarded as synonymous.

Søren Kierkegaard (1813-1855), the 'father of existentialism', said:

> What I really need is to get clear about what I must do, not what I must know, except insofar as knowledge must precede every act. What matters is to find a purpose, to see what it really is that God wills that I shall do; the crucial thing is to find a truth which is truth *for me*, to find *the idea for which I am willing to live and die*. (...) I certainly do not deny that I still accept an imperative of knowledge and that through it men may be influenced, but then it must come alive in me, and this is what I now recognize as the most important of all (Kierkegaard et al. 1978, p. 34).

He uses the term 'purpose' here and does not mention 'meaning', but the introduction of ethereal essence can be seen in the reference to God's will. While the quotation would lose none of its secular meaning if "what it really is that God wills" was omitted, its inclusion effectively states that purpose isn't possible without reference to God and that ethereal purpose is pre-eminent over secular purpose.

A similar ambiguity of meaning arises for the word 'fate' in the following excerpt:

> In existentialism you choose your own fate, and you determine what you (in essence) are: even if you avoid decisive choices, or acts, you are responsible for that avoidance. You also create your own values. There is no authoritative tablet of stone bearing God's unambiguous commandments for the good life. Even if there was once such a thing, it no longer has authority for modern man, because— in Nietzsche's dramatic declaration—'God is dead'. There are in fact Christian Existentialists— including the first Existentialist, Søren Kierkegaard— but for them, too, God's will is objectively unknowable (Gravil 2007, pp. 7,8).

The dual simultaneous meanings of the word 'fate' are eternal ethereal fate, and the secular consequences of our actions (or inactions).

It would be useful to invoke the 'spirit' (dare I say 'essence'?) of Descartes' mind-body distinction for definition only. Then we may know exactly what it is we are all talking about without needing to find a linkage between them in the definitional domain that condemns us

to 'eternal' confusion by regarding their dual meanings to be inseparable and simultaneous with a hierarchy hinting at the need for Derridean deconstruction.

Before returning to the definition of meaning, there is another aspect of existentialism that bears upon it namely subjectivity, which is evident in both quotations above. If we choose your own fate and our own values, then we can choose actions (or inaction) accordingly. These will have consequences but may or may not lead to the fate imagined, as we cannot absolutely know what outcomes (fate) our actions will produce. If God is actually dead, as Nietzsche said, and we are all alone and responsible for ourselves and our choices, what else will guide us if our fate is so subjective and unique to us? Without either someone to tell us, some authority figure or organisation) or adequate introspection, we may, either without any thought whatsoever or even with a little knowledge of and belief in existentialism, just do what we feel like and imagine that whatever outcome results, that is our fate.

This is something much less than Kierkegaard's idea "for which I am willing to live and die" and tends towards justifying an arbitrary and whim dependent 'I can do what I like' approach. The former represents a serious internal conviction in something outside of self that could be labelled 'mature'. The latter could be labelled as 'justified' if it referred to resisting moves to restrict one's reasonable personal liberty, but 'immature' if used to justify acting upon whims with no consideration for others. The immature view implies that no matter what misunderstandings I may have, I will pursue them regardless. That view simply ignores the boundaries of reality or even that any boundaries exist. Meaning for me may be subjective, but once it starts to impact other people, it isn't any longer; I will run up against boundaries that will be imposed simply by the mere existence of other people. Popper's world view would hold that we relate to people in his conceptual World 3 (where things can be put objectively so others can see), not in his World 2 (inside our heads). However this interpretation of subjectivity has more to do with relativism than existentialism and requires clarity around a definition of truth, which must be compatible with the definition of meaning. This is dealt with below in considering relativism.

The term 'meaning' is used in both ethereal and secular senses; secular meaning is descriptive whereas 'the meaning of life' is prescriptive and ethereal. The ethereal meaning makes no sense if the tentative definition of 'meaning' derived above is accepted; it begs the illogical question of who is conveying what to whom. There is no 'what is intended to be conveyed' of life. The clear ethereal invocation of the phrase 'meaning of life' invites

confusion with the secular sense of the term. And it does so when there is another word that could be used that better expresses the intent of the phrase, namely 'purpose', as was used by Kierkegaard. There is no need to appropriate a ethereal meaning to a secular term when there is already another secular term 'purpose' that adequately expresses what is intended, and no need to suffer the resulting confusion. The phrase 'purpose of life' adequately expresses the intent without inducing confusion. The phrase 'meaning of life' is internally contradictory, contains a belief (see Exegesis Issue 5) and has the effect of forcing association of meaning/ purpose with essence, bringing with it the ethereal interpretations of these terms which are assumed to be valid and to predominate over the secular. That phrase will therefore be rejected here. It is an understanding arising from a definitional error that would be best expunged from the English language, something that would occur should proper attention be paid to definition.

Consideration of these aspects of existentialism therefore provides no reason to alter the tentative definitions, which enables clear distinction between meaning, essence and purpose.

Examining Relativism

The Oxford dictionary defines relativism as "the doctrine that knowledge, truth, and morality exist in relation to culture, society, or historical context, and are not absolute". The concept of truth bears on definition and so it will be defined, and its logical implications considered from the perspective developed in undertaking the analytical and empirical work that comprises this thesis before specifically addressing relativism itself.

Definition of True and Truth

A survey of dictionaries was done and there was surprising commonality of definition. The Tables are therefore not included. This confirmed that even though there is scholarly debate about truth, there is little confusion or disagreement in the lexical sources surveyed, justifying the default position of commencing with the Oxford dictionary which defines:

- 'true' as being in accordance with fact or reality,

- 'reality' as the state of things as they actually exist, as opposed to an idealistic or notional idea of them and

- 'truth' as the quality or state of being true.

These are close to essential definitions. Uncertainty associated with interpretations of reality will be avoided by omitting it and using 'fact', and quality will be selected rather than state because a definition of truth, not 'in truth' is being sought. This produces an essential definition of truth as *the quality of being in accordance with the facts*. This aligns with the definition which Popper adopted from Tarski in 1935 which used the term "correspondence to" rather than accordance with the facts (Popper 1992, p. 112; 1995, p. 420).

This definition implies that truth may be stated definitely or absolutely when correspondence is found. It follows from this, and from good scientific practice, that the limits of that truth need to be stated, in case it may not be a truth outside those boundaries and context. It also follows that any extrapolation requires further testing/ observation/ facts to determine truth in these wider circumstances.

This corresponds with the findings of the papers in Part 3 of this thesis, detailing the false presumptions of the genericity of various IT definitions and processes having confused project management outside that field. We may be unaware of whether there is a wider group outside our own 'world' or whether that wider group might agree or not, and we may or may not choose to investigate that. And depending upon whatever our personal standard of proof might be, we may well accept something as being true for a wider environment when it isn't. That will have unknown consequences that are unlikely to be helpful.

This leads to the seemingly trivial but quite important conclusion that truth can only be stated absolutely when all boundaries i.e. all elements of context are made fully explicit. This implies the need to make statements of "true for" rather than just using the single term 'universally'.

It also follows that truth is absolute within its circumstances and there is no such thing as relative truth. Truth is absolute, notwithstanding that it may at times be difficult to establish or that many truths may be established that do not provide a clear overall picture and that there may be many true facts established along the way to reaching an erroneous verdict; but it is simply the definitional aspect only that these comments are concerned with. If truth is absolute, then the terms 'absolute truth' and 'relative truth' are illogical and should not be used. Rather, the circumstances (boundaries and context) should be specified. **Truth is relative to context but absolute within it**. It is both relative and absolute; the silent qualifiers of context just need to be stated. The argument between the two apparently competing, dichotomous positions then simply vanishes.

Use of the word 'universal' in association with truth is potentially quite confusing. It begs the question as to which universe is being referred to. Something might apply within one universe that doesn't apply in another. This gets recursive, leading nowhere and devolving into word games. Consequently, there can never be universal truth, which means truth always needs to have a suffix describing where it has been found. However, it can be definite or absolute within its circumstances. The problem is just with the words used where the signification of them has not been fully agreed or the context of competing usages not specified. I have used the term 'universal' above as an adjective, but Plato used it as a noun and ascribed ethereal essence to it. This analysis has found that the concepts of essence and meaning have been thoroughly confused between their dual simultaneous usages, ethereal and secular, with the former taking precedence over the latter, causing confusion. The term 'universal' is closely aligned with both of those terms and appears to have suffered the same fate. For these reasons, use of the term 'universal' when describing truth is avoided here.

Not all facts come from physical laboratory observations; conceptual facts can be established or agreed by various means. These range from mathematical proof, through observing people's presence or absence or actions or adherence to rules, to sensing 'what people might think' i.e. collectively agree. Once values are, for example, written into a code of conduct, or a particular attitude becomes widely accepted in a group or organisation, it represents an agreement that behaviour can be assessed against and facts observed, to determine whether conformity is present or absent, true or false. It will be absolute, as decisions made against such agreements may involve imposing penalties. Penalties are either imposed or not; they cannot be half-imposed i.e. relative, even though the severity of the sanction may be relative to the seriousness of the offence. It will also not matter for people within that group if a broader group does not agree the same things; they are within that group and so will be governed by its rules, written and unwritten. Another example is, of course, agreement on the signification of words.

It is also worthwhile to note that the above consideration of truth is one case where treating objects and concepts in the same way is beneficial, unlike definition itself where it has been problematic, as identified in Issue 7 of the exegesis. Note also that the term 'true' is more commonly applied to physical observations and events that occur, whereas the term 'correct' is more likely to be used for concepts where assessment is relative to some agreed benchmark.

Having considered the definition of truth and its logical implications, and as a result having identified various flaws in relativism, the concept itself can now be explicitly considered in relation to the tentative definition and a position stated.

It is worthwhile discussing the difficulty of determining truth. If truth is being in accordance with the facts, this begs the question as to which facts. There is a difference between an individual's World 2 facts that exist only in their own heads, which can stem from beliefs, and all relevant facts observed by others that can be agreed between people. This begs the further question of whether all the necessary facts were collected, and who the others are (which group), and perhaps what the size of that group might be, which matters in determining what people accept.

The question of standard of proof is super-ordinate to all of these considerations. There is a question of what standard an individual/ group/ whole society might require, what methods they use before accepting something as fact, and correspondence with it as being true, and whether they bother to state the contextual qualifiers.

This highlights the difficulty of establishing fact and truth, but this has no impact on the definition of truth itself.

Consider Relativism

Relativism, according to Baghramian and Carter (2015), is

> the view that truth and falsity, right and wrong, standards of reasoning, and procedures of justification are products of differing conventions and frameworks of assessment and that their authority is confined to the context giving rise to them… the truth of claims attributing these properties (of some classes of things) holds only once the relevant framework of assessment is specified or supplied. Relativists characteristically insist, furthermore, that if something is only relatively so, then there can be no framework-independent vantage point from which the matter of whether the thing in question is so can be established.

The approach taken to definition in this thesis concurs with this view aspect of relativism that is concerned with boundaries and context but does not concur with the extension of that which is evident in the Oxford definition of it that considers "truth, and morality exist in relation to culture, society, or historical context, and are not absolute".

According to Baghramian and Carter (2015), Comte developed what has become the battle cry of relativism "all is relative" in 1976. This assertion implies that the concept of relative truth makes sense, which it does not, as shown above, and the following steps were taken to preclude this:

1. the term "true for" rather than 'relative to' was used

2. suffixes qualifying the circumstances were proposed rather than a prefix qualifying the meaning of the base term and

3. use of the term 'universal' was avoided.

The (il)logical extension of this relativist battle cry is problematic. If truth were actually relative, as the battle-cry would hold, and as the Oxford definition states, then there can be no basis for assessing the value or morality or truth of any position anyone may hold. This then becomes the ideal philosophy for anyone who just wants to believe or justify anything they like. The illogicality of this position becomes evident when contexts or boundaries clash i.e. differ from the perspective of the entities involved. For example, it may well be that some things regarded as 'moral principles' are true in the context of humanity, insofar as individuals abiding by them may advantage the interests of the whole human race, requiring the restraint of particular individual desires, even though a particular individual may consider that view untrue for or irrelevant to them. They may simply be ignorant of why it may be true or relevant. Ignorance is not a determinant of truth. The twisting of the meaning of the battle-cry contains the hidden presumption of infinite knowledge in every individual. Any actions that impact on others can have at least three contexts, mine, theirs and what might be good for the overall group. Things that are 'moral' are generally good for a group and require self-restraint by individuals. Once my actions affect other people, then the world is no longer the context in which I wish to see it and my boundaries are impacted. Definition is concerned with describing things and their boundaries/ context, not with resolving what beliefs may or may not be best for a group of people. However, being rigorous about definition can avert false beliefs and unnecessary debate.

It is not difficult to state our (perception of) truth absolutely (dogmatically) within our boundaries/ context and imagine or wish those to be unlimited. But to believe they are unlimited is a fantasy.

This consideration of relativism provides a definition of truth which is clearly distinguishable from meaning and so provides no reason to alter the tentative definitions.

Nominalism

The Oxford dictionary defines nominalism as: "The doctrine that universals or general ideas are mere names without any corresponding reality". Rodriguez-Pereyra (2016) notes that "Nominalism comes in at least two varieties. In one of them it is the rejection of abstract objects; in the other it is the rejection of universals". Nominalism deals with what is meant by universals and abstract objects rather than with the definition of meaning itself. Such issues are dealt with in the exegesis in considering the problem of universals and provide no reason to change the tentative definition.

Nihilism

The Oxford dictionary defines nihilism as "the rejection of all religious and moral principles, in the belief that life is meaningless". According to Pratt (2018):

> Nihilism is the belief that all values are baseless and that nothing can be known or communicated. It is often associated with extreme pessimism and a radical skepticism that condemns existence. A true nihilist would believe in nothing, have no loyalties, and no purpose other than, perhaps, an impulse to destroy.

This fuels relativism and existentialism but is primarily concerned with argument about an ethereal belief. This is not the province of definition and we are here dealing with arriving at a secular understanding of meaning. It also considers the meaning of life which, as pointed out earlier, is a definitional error which should be stated as the purpose of life to avoid introducing an unnecessary ethereal dimension to the term 'meaning'. Nihilism is not relevant to the definition of meaning and so provides no reason to change the tentative definition.

Step 9 Check against the five rules

The definitions are operational rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, they do actually satisfy them.

Step 10 Report the derived definition

The derived definitions are as follows:

- mean (v) = *intend to convey*
- meaning (n) = *what is intended to be conveyed*

- meaning of life = *nil*. The purpose of life is a separate question that does make sense.

- Truth = *the quality of being in accordance with the facts*

Observation

These supposedly deep philosophical questions concerning meaning turn out to be grounded in nothing more than definitional mistakes, creating much ado over something we've just rushed past – noises we haven't agreed the meaning of.

Table 4: Definitions of 'mean'

Dictionary	Definition of mean (All sourced on 15/7/2018)
Business	Arithmetic average
Cambridge	(v) To express, intend or to have a result (adj.) Not generous, not kind, violent, good, bad quality, mathematical average (n) mathematical average, middle of two completely different ways
Collins	(v) what it refers to or what its message is, exact explanation Means to = importance to (adj.) unwilling to spend much money, unkind, cruel, shabby, excellent (n) average of a set of numbers, halfway between extremes (v) to intend to convey or express, to denote, connote; signify; represent, to produce or cause, have the importance of
Concise Oxford	(v) purpose, have in mind (adj.) equally far from two extremes, half-way; inferior, poor, shabby, stingy (n) condition, quality, virtue, course, equally removed from two opposites, the term between the first and last terms of arithmetical, geometrical etc. progression, (pl) that by which a result is brought about, pecuniary resources, in every possible way or at any cost.
Dictionary.com	(v) to intend to express or indicate, (adj.) offensive, selfish, or unaccommodating; nasty; malicious: small-minded or ignoble: penurious, stingy, or miserly: inferior in grade, quality, or character: low in status, rank, or dignity: of little importance or consequence: unimposing or shabby: small, humiliated, or ashamed: in poor physical condition. troublesome or vicious; bad-tempered: *Slang*. skilful or impressive: (n) midway between two extremes, intermediate, arithmetic mean

Longman	(v) to have or represent a particular meaning, to intend to say or do something, result in something, be familiar, say something seriously, how important somebody/ something is (adj.) cruel, not generous, average, poor (n) the mean (implying mathematical), the/ a mean between something and something
Macmillan	(v) to have a particular meaning; to communicate a particular meaning, feeling or piece of information; to be evidence that something exists; to intend something bad or harmful; to make something necessary or to make it happen
Macquarie	(v) **1.** to have in the mind as in intention or purpose (often with an infinitive as object): **2.** to intend for a particular purpose, destination, etc.: **3.** (*usually passive*) to intend or require (that something should happen): **4.** to intend to express or indicate: **5.** (of words, things, etc.) to have as the signification; signify. (adj.) **1.** inferior in grade, quality or character: **2.** low in station, rank, or dignity. **3.** of little importance or consequence. **4.** unimposing or shabby: **5.** without moral dignity; small-minded or ignoble: **6.** penurious, stingy, or miserly: **7.** pettily offensive or unaccommodating; nasty. **8.** small, humiliated, or ashamed: **9.** troublesome or vicious, as a horse. **10.** (of one involved in a competitive activity, as sport, business, warfare, etc.) sufficiently accomplished and determined to make success very difficult for an opponent: **11.** *Colloquial* powerful, effective, having a vicious energy: (n)

	1. something intermediate; that which is midway between two extremes: **2.** *Mathematics* **a.** a quantity having a value intermediate between the values of other quantities; an average, especially the arithmetic mean. **b.** either the second or third term in a proportion of four terms. **3.** *Logic Obsolete* the middle term in a syllogism. –*adjective* **4.** occupying a middle position or an intermediate place. **5.** intermediate in kind, quality, degree, time, etc.
Merriam-Webster	(v) **1 a** : to have in the mind as a purpose : INTEND **b** : to design for or destine to a specified purpose or future **2** : to serve or intend to convey, show, or indicate : SIGNIFY
Oxford	**(v) 1** Intend to convey or refer to (a particular thing); signify. *1.1* (of a word) have (something) as its signification in the same language or its equivalent in another language. *1.2* Genuinely intend to express (something) *1.3* mean something to Be of a specified degree of importance to (someone) **2** Intend (something) to occur or be the case. *'they mean no harm'* **2.1 be meant to do something** Be supposed to do something. **2.2** often **be meant for** Design or destine for a particular purpose. **2.3 mean something by** Have something as a motive or explanation in saying or doing. **2.4 be meant to be** Be generally considered to be. **3** Have as a consequence or result. **3.1** Necessarily or usually entail or involve. *Origin* Old English mænan, of West Germanic origin; related to Dutch meenen and German meinen, from an Indo-European root shared by mind. (adj.) **1***British* Unwilling to give or share things, especially money; not generous.

	2Unkind, spiteful, or unfair.
	2.1_North American_ Vicious or aggressive in behaviour.
	'the dogs were considered mean, vicious, and a threat'
	3(especially of a place) poor in quality and appearance; shabby.
	3.1 (of a person's mental capacity or understanding) inferior.
	'it was obvious to even the meanest intelligence'
	3.2_dated_ Of low birth or social class.
	4_informal_ Very skilful or effective; excellent.
	(1)(n)
	1 The value obtained by dividing the sum of several quantities by their number; an average.
	2A condition, quality, or course of action equally removed from two opposite extremes.
The free dictionary	**(v)**
	1. a. To be used to convey; denote:
	b. To act as a symbol of; signify or represent:
	2. To intend to convey or indicate:
	3. To have as a purpose or an intention; intend:
	4. To design, intend, or destine for a certain purpose or end:
	5. To have as a consequence; bring about:
	6. To have the importance or value of:
	(adj.)
	1.
	a. Lacking in kindness; unkind:
	b. Cruel, spiteful, or malicious:
	c. Expressing spite or malice:
	d. Tending toward or characterized by cruelty or violence:
	e. Extremely unpleasant or disagreeable:
	2. Ignoble; base:
	3. Miserly; stingy:
	4.
	a. Low in value, rank, or social status:
	b. Common or poor in appearance; shabby:

	5. *Slang*
	a. Hard to cope with; difficult or troublesome:
	b. Excellent; skillful:
	(n)
	1. Something having a position, quality, or condition midway between extremes; a medium.
	2. *Mathematics*
	a. A number that typifies a set of numbers, such as a geometric mean or an arithmetic mean.
	b. The average value of a set of numbers.
	3. *Logic* The middle term in a syllogism.
	4. means *(used with a sing. or pl. verb)* A method, a course of action, or an instrument by which an act can be accomplished or an end achieved.
	5. means *(used with a pl. verb)*
	a. Money, property, or other wealth:
	b. Great wealth:
Wiktionary	(v)
	1. To intend.
	1. (*transitive*) To intend, to plan (to do); to have as one's intention. [from 8th c.]
	2. (*intransitive*) To have intentions of a given kind. [from 14th c.]
	3. (*transitive*, *usually in passive*) To intend (something) for a given purpose or fate; to predestine. [from 16th c.]
	2. To convey meaning.
	1. (*transitive*) To convey (a given sense); to signify, or indicate (an object or idea). [from 8th c.]
	2. (*transitive*) Of a word, symbol etc: to have reference to, to signify. [from 8th c.]
	3. (*transitive*) To have conviction in (something said or expressed); to be sincere in (what one says). [from 18th c.]

	4. (*transitive*) To result in; to bring about. [from 19th c.]
	5. (*transitive*) To be important (to).
	(adj)
	1. (obsolete) Common; general.
	2. Of a common or low origin, grade, or quality; common; humble.
	3. Low in quality or degree; inferior; poor; shabby.
	4. Without dignity of mind; destitute of honour; low-minded; spiritless; base.
	5. Of little value or account; worthy of little or no regard; contemptible; despicable.
	6. (*chiefly Britain*) Ungenerous; stingy, tightfisted; North American English: cheap; formal: niggardly, penurious, miserly.
	7. Disobliging; pettily offensive or unaccommodating; small.
	8. Selfish; acting without consideration of others; unkind.
	9. Causing or intending to cause intentional harm; bearing ill will towards another; cruel; malicious.
	10. Powerful; fierce; harsh; damaging.
	11. Accomplished with great skill; deft; hard to compete with.
	12. (*informal, often childish*) Difficult, tricky.
	(n)
	1. (*now chiefly in the plural*) A method or course of action used to achieve some result. [from 14th c.]
	2. (*obsolete*, *in the singular*) An intermediate step or intermediate steps.
	3. Something which is intermediate or in the middle; an intermediate value or range of values; a medium. [from 14th c.]
	4. (*music*, *now historical*) The middle part of three-part polyphonic music; now specifically, the alto part in polyphonic music; an alto instrument. [from 15th c.]

	5. (*statistics*) The average of a set of values, calculated by summing them together and dividing by the number of terms; the arithmetic mean. [from 15th c.]
	6. (*mathematics*) Any function of multiple variables that satisfies certain properties and yields a number representative of its arguments; or, the number so yielded; a measure of central tendency.
	7. (*mathematics*) Either of the two numbers in the middle of a conventionally presented proportion, as *2* and *3* in *1:2=3:6*.

Table 5: Definitions of 'meaning'

Dictionary	Definition of meaning (n) (All sourced on 15/7/2018)
Business	Not given
Cambridge	What it expresses or represents, also importance or value
Collins	The thing or idea that it refers to or represents, the thoughts or ideas that are intended to be expressed, having a purpose that is worthwhile
Concise Oxford	What is meant, expressive, significant
Dictionary.com	1. what is intended to be, or actually is, expressed or indicated; signification; import: 2. the end, purpose, or significance of something:
Longman	The thing or idea that a word, expression or sign represents; the thoughts or ideas that someone wants to understand from what they say, do, write etc.; the quality that makes life, work etc. seem to have a purpose or value; the nature or importance of something
Macmillan	the thing, action, feeling, idea etc that a word or words represent
Macquarie	Not available

Merriam-Webster	**1 a** : the thing one intends to convey especially by language : PURPORT
	
	  b : the thing that is conveyed especially by language : IMPORT
	
	2 : something meant or intended : AIM
	
	3 : significant quality; *especially* : implication of a hidden or special significance
	
	4 a : the logical connotation of a word or phrase
	
	  b : the logical denotation or extension of a word or phrase

Oxford	**1** What is meant by a word, text, concept, or action. **1.1** *mass noun* Implied or explicit significance. **1.2** *mass noun* Important or worthwhile quality; purpose.

The free dictionary	**1.** **a.** The denotation, referent, or idea associated with a word or phrase: **b.** Something that is conveyed or intended, especially by language; sense or significance: **2.** An interpreted goal, intent, or end: **3.** A sense of importance or purpose:
Wiktionary	1. The symbolic value of something. 2. The significance of a thing. 3. (*semantics*) The objects or concept that a word or phrase denotes, or that which a sentence says. 4. (*obsolete*) Intention.

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Appendix 1 – Chronological cross-tabulation of themes by authors

Author	Year	Title	Paper has IT focus	SC role covers org strategy/ program	Research to see if sc had +/- effect	Significant +ve affect found	Survey/Case study/Interview/Analytical	Role/ purpose of SC given?	SC pros + cons reported	Governance defined?	Recognises & addresses power	SC replicates Board of Directors	Evaluates SC role/ purpose	Evaluates SC Op method	Mentions SC decis/vote v advice	Addresses 2 org structure connection	Country of source data	No
			24	21	19	16+		15	9	9	6	6	5	4	2	2		
(Grindlay 1981)	1981	Steering Committees	✓	✓	✓	+	A	✓	✓		✓	✓					None/ Canada	11
(Nolan 1982)	1982	Managing information systems by committee	✓	✓	✓	+	S	✓	✓		✓		✓	✓			USA	18
(Drury 1984)	1984	An Evaluation of Data Processing Steering Committees	✓	✓		n/a	IS	✓	✓				✓	✓	✓		USA/ Canada	8
(Robey & Markus 1984)	1984	Rituals In Information System Design	✓	✓		n/a	A	✓	✓		✓						None/ USA	23

Reference	Year	Title												Country	
(McKeen & Guimaraes 1985)	1985	Selecting MIS Projects By Steering Committee	✓	✓		n/a	I	✓	✓					Canada	17
(Doll & Torkzadeh 1987)	1987	The Relationship of MIS Steering Committees to Size of Firm and Formalization of MIS Planning	✓	✓	✓	+	S					✓		USA	7
(Gupta & Raghunathan 1989)	1989	Impact of Information Systems (IS) Steering Committees on IS Planning	✓	✓	✓	+	S							USA	12
(Raghunathan & Raghunathan 1989)	1989	MIS Steering Committees: Their Effect on Information Systems Planning	✓	✓	✓	+	S							USA	21
(Torkzadeh & Xia 1992)	1992	Managing Telecommunications by Steering Committee	✓	✓	✓	+	I	✓				✓		USA	26
(Brown 1999)	1999	Horizontal mechanisms under differing IS organization contexts	✓			n/a	C							USA	4
(Karimi et al. 2000)	2000	The Effects of MIS Steering Committees on Information Technology Management Sophistication	✓	✓	✓	+	S	✓				✓	✓	USA	14

			C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13		
(Sohal & Fitzpatrick 2002)	2002	IT governance and management in large Australian organisations	✓	✓		n/a	S			✓						Australia	25
(Mabert et al. 2003)	2003	Enterprise resource planning: Managing the implementation process	✓		✓	0	CS									USA	16
(Reimers 2003)	2003	Implementing ERP systems in China	✓			n/a	CS	✓	✓			✓	✓	✓		China	22
(Ali & Green 2007)	2007	IT Governance Mechanisms in Public Sector Organisations: An Australian Context	✓	✓	✓	-	S	✓	✓	IT						Australia	1
(Bowen et al. 2007)	2007	Enhancing IT governance practices: A model and case study of an organization's efforts	✓	✓	✓	+	I	✓		IT						USA	2
(Fabricius & Collins 2007)	2007	Community-based natural resource management: governing the commons		✓	✓	+	C									South Africa	9
(Bradley 2008)	2008	Management based critical success factors in the implementation of Enterprise Resource Planning systems	✓	✓	✓	0	C		✓							USA	3

(Crawford et al. 2008)	2008	Governance and support in the sponsoring of projects and programs				n/a	AI							✓		Australia/ China/ Europe/ Americas	6
(Lechler & Cohen 2009)	2009	Exploring the role of steering committees in realizing value from project management				n/a	I	✓	✓			✓	✓	✓		USA	15
(De Haes & Van Grembergen 2009)	2009	Exploring the relationship between IT governance practices and business/IT alignment through extreme case analysis in Belgian mid-to-large size financial enterprises	✓	✓	✓	✓	SC			IT							
(Huang et al. 2010)	2010	Influencing the effectiveness of IT governance practices through steering committees and communication policies	✓	✓	✓	+	I	✓	IT	✓						USA	13
(Prasad et al. 2010)	2010	A capabilities-based approach to obtaining a deeper understanding of information technology governance effectiveness: Evidence from IT steering committees	✓	✓	✓	+	S		IT							Australia	20

Author	Year	Title																Country	No.
(Singh & Sharma 2010)	2010	Relating critical success factors of IS implementation with organizational strategy	✓		✓	+	S												India	24
(van der Waldt 2010)	2010	Project Governance: A Municipal Leadership Challenge				n/a	IS	✓		✓	✓						✓		South Africa	26
(Vannier 2010)	2010	Audit Culture and Grassroots Participation in Rural Haitian Development				n/a	C			✓									Haiti	28
(Prasad et al. 2012)	2012	On IT governance structures and their effectiveness in collaborative organizational structures	✓	✓	✓	+	IS												Australia	19
(Cobanoglu et al. 2013)	2013	The Effect of Information Technology Steering Committees on Perceived IT Management Sophistication in Hotels	✓	✓	✓	+	S	✓		✓	✓								USA	5
(Ferguson et al. 2013)	2013	Determinants of Effective Information Technology Governance	✓	✓	✓	+	S	✓		IT									Australia	10

Appendix 2: Interview participant information sheet

USQ AUSTRALIA	University of Southern Queensland
	The University of Southern Queensland
	Participant Information Sheet

HREC Approval Number: H14REA130

Full Project Title: The role of committees in governing the relationship between projects and their controlling organisations

Principal Researcher: Stephen K. McGrath

Other Researcher(s): Dr Jon Whitty

This research project concerns the relationship between organisational and project governance generally and in particular, the role of committees in governing the relationship between organisations and the projects they control. It is seeking to determine the effectiveness of various committee arrangements.

I would like to invite you to take part in this research project.

1.   Procedures

Participation in this project will involve a structured interview of 1 - 2 hours duration with the principal researcher to determine practitioner views on steering committees and governance generally as well as the operation of project committees. There may also be a follow-up phone call to clarify any points of uncertainty. The research will be monitored by Dr Jon Whitty. The benefit of this participation to the participant is limited to satisfaction at contributing to research into improving organisational and project performance. Personal risk in participating in this research is limited by virtue of

its focus on structural and organisational interface issues rather than on personal or psychological issues.

Information collected in this study may be used again if a wider study is subsequently conducted to include different organisation types or organisational operations in other states/ countries.

2. *Voluntary Participation*

Participation is entirely voluntary. **If you do not wish to take part you are not obliged to.** If you decide to take part and later change your mind, you are free to withdraw from the project at any stage. Any information already obtained from you will be destroyed.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your *relationship with* the University of Southern Queensland.

Please notify the researcher if you decide to withdraw from this project.

Should you have any queries regarding the progress or conduct of this research, you can contact the principal researcher: Mr Stephen K. McGrath or Dr Stephen Jonathan Whitty on 041623706707 or 3470 4548 at the School of Management and Enterprise, Faculty of Business, Education, Law and Arts, University of Southern Queensland, Springfield Campus, Queensland 4300, Australia.

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the University of Southern Queensland Ethics Officer on the following details.

Ethics and Research Integrity Officer
Office of Research and Higher Degrees
University of Southern Queensland
West Street, Toowoomba 4350
Ph: +61 7 4631 2690
Email: ethics@usq.edu.au

Appendix 3: Participant consent form

USQ AUSTRALIA	University of Southern Queensland
	The University of Southern Queensland
	Consent Form

HREC Approval Number: H14REA130

TO: Participant

Full Project Title: The role of committees in governing the relationship between projects and their controlling organisations

Principal Researcher: Steve McGrath

Student Researcher:

Associate Researcher(s):   Dr Stephen Jonathan Whitty

- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.

- I understand the purpose of the research project and my involvement in it.

- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.

- I confirm that I am over 18 years of age.

- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.

- I understand that the tape will be retained and stored at the University of Southern Queensland Springfield Campus, accessible only by Dr Jon Whitty and Mr Steve McGrath.

- I understand that I will be audio taped during the study.

- I understand that data collected in this study may be used to augment data collected in future studies of organisations in other areas.

Name of participant……………………………………………………….......

Signed……………………………………………………. **Date**……………………….

If you have any ethical concerns with how the research is being conducted or any queries about your rights as a participant please feel free to contact the University of Southern Queensland Ethics Officer on the following details.

Ethics and Research Integrity Officer

Office of Research and Higher Degrees

University of Southern Queensland

West Street, Toowoomba 4350

Ph: +61 7 4631 2690

Email: ethics@usq.edu.au

Appendix 4: Semi-structured interview questions

Theme	Questions
1 Governance	1. What words would you use to describe or define governance? 2. Are there any things or terms you equate or associate with governance? 3. Do you associate steering committees with good governance? (Y/N/M) 4. What feelings does use of the term evoke for you? (None/ Weak/ Strong) 5. If I was to ask you to draw governance, how would you draw it? 6. In your view, what characteristics distinguish good from bad governance? 7. What formal or informal training have you ever received on how a committee should operate and function? 8. What training in governance is available within your organisation?
2 Project Management	1. Does your organisation require use of a single common project management system or methodology? 2. What is it/ are these? 3. What is its/ their parentage? 4. How closely is it/ are they followed? 5. Is it effective? In what ways? Where/ how is it least effective? 6. How do you/ does your organisation distinguish between a program and a project?
3 Power	1. How do you/ your organisation distinguish between responsibility and accountability?

4 Committees		
	1.	To what extent does your organisation rely on committees?
	2.	What power is given to these committees and how do they exercise it?
	3.	What decision-making responsibilities do these committees have? (These may be different for different committees. If so, list them)
	4.	How effective are these committees?
	5.	What conflict arises between committees and organisational roles?
	6.	How is this conflict managed/ resolved?
	7.	Do project committee roles or mandates vary during the project lifecycle?

Part 2

WHAT IS PROJECT GOVERNANCE?

Disclosing the source of confusion and revealing the essence of governance

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Table of Contents

Do steering committees and boards constitute good project governance?

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Abstract

This paper sets out to investigate the perceived effectiveness of the steering committee mechanism as a means of achieving good project governance. It reviews the literature on project governance and project steering committees and finds that while the concept enjoys wide support, the results are by no means conclusive. The paper identifies a lack of consensus on both the meaning of governance and steering committee roles. Analysis of the academic literature finds the nexus between "good governance" and steering committees is unsupported and the issue of whether these committees are steering or advising was raised very early in the literature, but has subsequently been largely ignored. The paper proposes that advisory committees be labelled 'advisory' rather than 'steering' and that committees with' steering' in their name not be given any mandate that overlaps with existing delegated organisational authority. The paper also proposes a conceptual model for determining committee governance arrangements.

Keywords: Project governance, project steering committee, project advisory committee, project board, committee decision tree.

Introduction

One could argue that good project governance positively influences productivity, and that this shapes the economy in a sustainable way. However, there is a prevailing perception in the corporate and government environment that steering committees and boards in some way constitute good project governance. This perception appears to be based in part upon the presumption that the corporate sector always performs better than government; the corporate sector assures good corporate governance through boards; Ergo everyone else, including government, would perform better if they did the same.

In this paper we review the academic literature dealing with steering committees and project boards along with evaluations of steering committee performance and by this method we investigate the perceived effectiveness of the steering committee mechanism as a means of achieving good project governance. During the review we examine the original function that project governance and steering committees were intended to perform, together with how these functions have changed or evolved over time. We also analyse the connection between project governance and corporate governance and draw conclusions on the nature of project steering committees and their relationship to good governance before proposing a new conceptual model for determining productive committee governance arrangements.

Three themes presented themselves during the review of the literature, namely; Power, Governance, and Steering Committee functional arrangements and these themes are used as the framework for this paper. What becomes apparent from reading the literature is that coming to understand project governance necessarily involves appreciating the historical development of the steering committee and how it is inextricably bound with how power is exercised throughout the organisation. The literature indicates that steering committees were introduced to address a perceived lack of IT organisational power by attempting to influence or disrupt existing power structures[1-3]. However, there is no evidence of any consideration of how these committees would interact with existing power structures that were hierarchical and autocratic. The new committees might have some power if they looked like a board of directors elected by shareholders, which is a democratic artefact. Early papers [1-5] warn of the dangers of steering committees. Nolan [2] even stated they had a bad name, but considered they were the best way to go. So, being the lesser of two evils, it appears that the concept of the steering committee prospered and questions regarding how power is exercised and how the competing structures would interact were ignored.

On Power

In terms of power, organsational governance has been conceptualised as "affecting the way in which (decision making) powers are exercised" [6]. This definition satisfies the need for political control over bureaucratic discretion and power as "politics and administration are interwoven and a struggle may exist over who is actually in control of power" [6].

The process of auditing is also seen as a way of revealing power plays or political activities. As Vannier [7] puts it, an audit culture demonstrates "a transition in government authoritative power from direct control and supervision to indirect power relations premised on new forms of bureaucracy".

The introduction of IT has had some influence on the distribution of power within organisations, and this began in the late 1970s to early 1980s. The IT steering committee was seen as a way to elevate the power of IT after "DP (Data Processing) managers have seen their power erode as cheaper and smaller computers have spread throughout the organisation" [2]. Robey and Markus [3] argue that "IS design is a political process in which various actors stand to gain or lose power as a result of design decisions". They note that "systems which appear to be rationally justified also serve political aims. Behind participants' skilful honouring of the appropriate rituals may lie self-interest and considerable negotiating power". Steering committees are also a way to get senior management involvement in IT planning [8]. This also suggests recognition of a reduction of IT corporate power and the possibility of reclaiming it by means of senior corporate management involvement in the steering committee mechanism.

On Governance

The literature pertaining to project governance and its formal definition of governance is minimal. When it does occur it largely relates to IT governance. Much of this literature was published after a definition of governance as "the system by which entities are directed and controlled" was published in AS8000 by Standards Australia [9], and this definition subsequently appeared in IT standards AS8015 [10] and ISO/IEC38500 [11]. (Note that all three were the same as Cadbury [12].) However these definitions were not referred to and were located from other sources. Only two definitions that were not specifically related to IT were found in the peer reviewed academic literature. The first considers governance to be synonymous with management, viewing it as "administration, coordinating, appraising, planning" [13]. This definition overlaps, omits and confuses many things. Later, van der Waldt [6] defined 'governing' as regulating the proceedings of an entity, and 'governance' as "the process of decision-making and the process by which decisions are implemented and thus refers to the rules, processes and behaviour that affect the way in which powers are exercised."

The definitions of IT governance in the academic literature generally give some aspects of governance then add a qualifying purpose to either justify it or apply it to IT. Definitions of governance itself can therefore be inferred by removing the later qualifiers, so for example, the Weill & Ross [14] definition of governance accepted by Cobanoglu et al. [8] can be taken as "decision rights and accountability framework". Bowen, Cheung & Rohde [15] refer similarly to "decision making structure and methodologies". Further similar definitions appear in De Haes & Van Grembergen [16] and Prasad, Heales & Green [17] with leadership added to "organisational structures and processes". Another group of IT definitions take the lead from the 2003 IT Governance Institute definition of IT governance [18], which is the same as that adopted by the Information Systems Audit and Control Association 2002 [19], namely a "structure of relationships and processes to direct and control the enterprise…". Huang, Zmud & Price [20] also follow this definition, but add rationalizing, directing and coordinating.

The definitions above indicate a variety and a range of subjects (leadership, decision making, rationalising, relationships, coordinating) that various authors have attempted to range under the banner of governance. This raises the question of whether these extensions are legitimate claims of governance or are surreptitious measures to influence the powerful or to increase the power of a particular, possibly currently disadvantaged group. This would accord with one of the original purposes of steering committees as outlined below, that is, to influence (disrupt or democratise) the authoritarian power structure of the organisation. Whatever the motivation, the low number defining governance of any form, together with the variation of the definitions offered, is concerning, particularly when considered with the fact that much of the literature that sets out to test the efficacy of steering committees does so without detailing the role of the subject committees.

On Steering Committees: their purpose and role

The academic literature indicates two intertwined motivations for bringing steering committees into existence. These were:

1. To alter the autocratic, hierarchical organisational power structure by introducing a democratic decision making process for IT and its users, modelled on the company board of directors.
2. To collaborate, gaining the benefit of input from multiple affected sources (stakeholders).

Both motivations are mentioned in the earliest academic publications on the subject by Grindlay [1]. He refers to Nolan's [2] concept of evolutionary development of 'executive' steering committees, noting this "eventually leads to a corporate philosophy of having the users take responsibility for planning and controlling the IS function in much the same way that a Board of Directors takes responsibility for planning and controlling the entire company." This could be seen as a form of organisational democratisation. It appears to have been driven by "the forces of computer decentralisation" [2]. As Grindlay [1] notes "successful, profitable use of the computer requires users to be heavily involved in the systems activity" and concludes with "If users are to become the 'Board of Directors' of the Information Systems function…"

Many later authors mention MIS/ IT steering committees acting as a kind of board of directors [20-22]. Lechler & Cohen [23] mentioned this concept, but in indirect terms and Karimi et al. [24] mentioned only IT boards, drawing on the concept without being explicit about it.

Some detail about the purpose and function of the 'executive steering committee' has been set out in terms of its roles which include direction setting, rationing resources and advising [2]. [2] also says "Though management by committee generally has a bad name, in the case of computers the executive steering committee is the most efficient way to ensure the fit of information systems with corporate strategy". The 'executive' term appears to have been dropped and "Groups concerned with MIS issues, typically composed of management, user and data processing representatives have generically been referred to as steering committees" [4]. Furthermore there is a diversity of opinion on the composition of the 'ideal' steering committee to produce "a cooperative exchange of ideas, understanding of problems and generation of solutions" [4]. An additional purpose of these committees was added much later - to link the temporary (project) and permanent organisations [23, 24].

So the term steering committee was originally used to denote a group that: a) contains important parties or actors and b) works cooperatively. This is distinct from the executive steering committee, which was to: a) understand problems and b) generate solutions. Many of the later papers that cited Drury [4] made the assumption that 'steering' was a generic term that encompassed any committee involved with projects. It would appear that none either justified or questioned this.

In summary, the literature indicates that organisational groups given the name 'steering committee' were intended to:

1. bring together important actors
2. work cooperatively (collaborate) to
    a. understand problems (how to fit information systems with corporate strategy) and
    b. generate solutions and
3. link the temporary project organisation with the parent organisation.

In other words steering committees were intended as collaboration devices for problem solving. However, the operation of steering committees since the early 1980s has evidently been problematic, as steering committees had no standard descriptor for project oversight responsibilities, and the "concept of a steering committee is neither clearly defined nor perceived in industry" [23]. Steering committees were classified by level (executive and business unit) rather than by purpose, function or structure [23], and ignored Drury's [4] caution on their method of operation, regarding whether the committee advises or decides.

On Steering Committees: their method of operation

The fact that one of the two main purposes for establishing steering committees was to bring about power sharing means that their method of operation is important. This is a significant issue that has been virtually ignored in the academic literature since Drury [4] observed whether the committee provides guidance or makes decisions is an important functional difference. Drury [4] referred to 'structural alternatives', which were more functional than structural. These comprised the level of the chair, representation, meeting frequency, source of agenda items and whether decisions were imposed (by either the IT department or the chair) or reached by agreement.

This issue was not raised again in the academic literature for nearly twenty years until Reimers [25] found that majority-based decision-making in the steering committee enables other managers to block decisions, and consensus based decision making was associated with an increased likelihood of service level declines after cut-over. He argued "this form of decision making gives every department a veto-right which they might use egotistically risking severe problems after cut-over." Reimers [25] also mentions that:

- centralised decision making in the steering committee causes delays resulting in schedule and budget overruns,
- seniority based decision making enables senior management to make decisions without being aware of the consequences and
- the extent of delegation of authority to the project team has an influence upon project success.

This is, in effect, a succinct evaluation of the authoritarian versus democratic control debate that highlights the difficulties of alternate means of introducing democracy.

Voting is a significant factor in how the committee functions. If a committee votes, then it presumably has some decision power, implying it is not an advisory committee that simply provides guidance. It is worthwhile to revisit what the other key academic references that analysed steering committee methods of operations had to say on this subject. Drury [4] considered various structural alternatives, one of which was the balance of representation, implying that he also considered the

committee would vote. Lechler and Cohen [23] also explicitly consider that the steering committee would vote. Nolan [2] offered suggestions on method of operation but made no comment on whether the committee would vote.

The voting question leads to a further definitional issue. Calling the committee by the name 'steering', which Drury [4] indicated was widely advocated in the systems literature at the time "for groups concerned with MIS issues", means that steering was supposed to be inclusive of both recommending and deciding. This is logically inconsistent. These two options of harnessing available power are mutually exclusive. Steering a direction means making decisions, not making recommendations or providing guidance. So use of the phrase 'steering committee' as a generic term has been and still is a misnomer and the importance of deciding versus advising, first raised in Drury [4], remains unacknowledged and untested in the subsequent literature. We attempt to redress this by proposing a model that takes this into account.

Proposed Model

A conceptual model for determining committee governance arrangements is shown in Figure 1. The Committee Decision Tree addresses the issue raised by [4] and removes the logical inconsistency of the early usage of the term 'steering' as being inclusive of advising. It does this by explicitly asking the question if there is a desire for the committee to decide. If this desire is present, it calls for two subsequent checks to make sure that the committee is situated within a governance framework whereby it can actually decide i.e. steer.
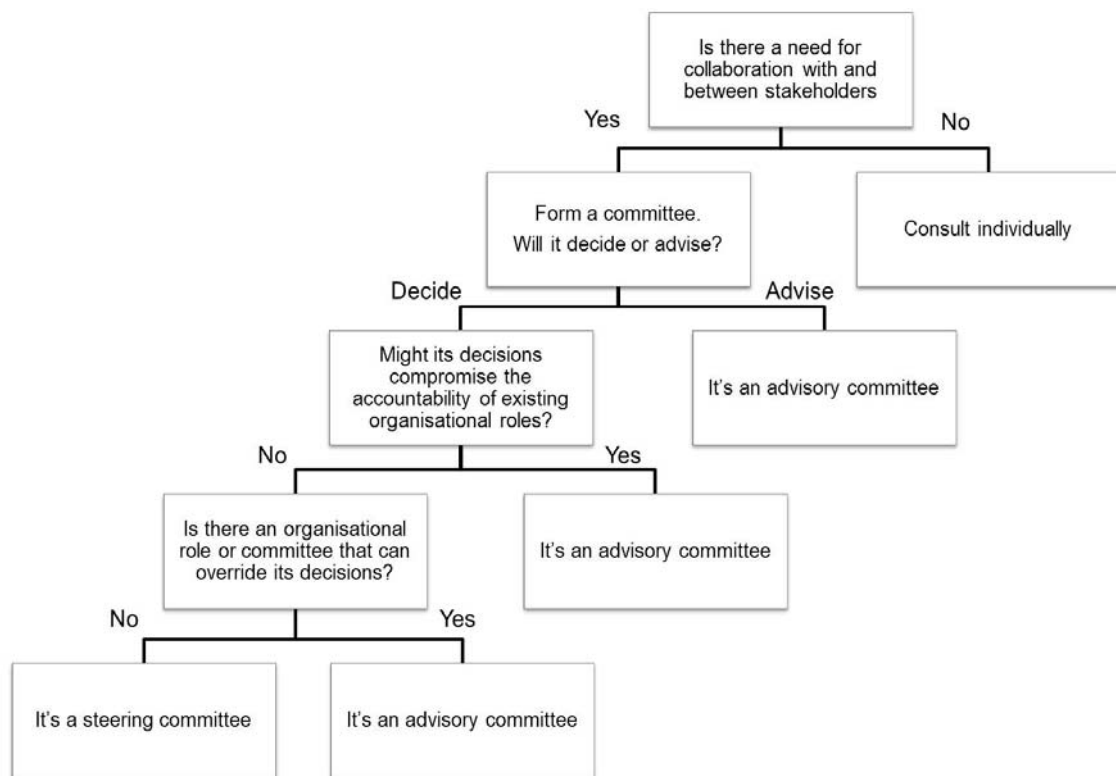
Figure 1: Committee Decision Tree

This model has the potential to reduce the number of steering committees and increase productivity in various ways including:

1. Avoiding both conscious and accidental de-railing of organisational agendas by committee attendees, through removing the voting and veto power of the steering committee and calling it an advisory committee. Labelling a committee 'advisory' fundamentally changes the committee dynamic from one providing the opportunity to prevent or frustrate to one that is at worst neutral and at best, a co-operative collaboration where issues are identified, compromise positions are developed and solutions are generated.
2. Reducing senior executive time attending steering committee meetings. Membership of advisory committees can be delegated.
3. Placing the onus back on to project managers to carry out effective stakeholder consultation.
4. Conversely, removing the hindrance that the existence of a steering committee can provide to a project manager in consulting with affected stakeholders.
5. Mitigating the tendency to set up a steering committee whenever an organisational problem arises.

Concluding remarks

The academic literature indicates that the acquisition of power was a significant factor in the development of the steering committee concept. While the committee itself was intended for collaboration and problem solving, the means of implementation varied and the key power distribution issue of deciding and voting versus advising and recommending was left vague. This has provided fertile ground for power play. It is therefore not surprising that various interests have attempted to garner more power by including extraneous concepts that can embed themselves unobtrusively under the banner of governance. Overlooking this issue has allowed vague, non-specific, discordant power arrangements to proliferate and this would seem to be the antithesis of good governance.

A step towards resolving this has emerged from this paper, along with a Committee Decision Tree to assist in determining committee governance arrangements. The use of the term 'steering' could be used to describe only a committee that either votes or operates on a consensus (veto) basis, and the term 'advisory' could be used to describe all other committees that provide advice. Labelling an advisory committee as such may reduce its perceived power, but may also reduce organisational power conflicts and positively influence productivity. It can still be given a very

important sounding name, just so long as the word 'steering' is not used.

The broad philosophical issue is when, where, how and why interspersing democratic structures within a hierarchical and authoritarian structure can actually work. It may be useful to differentiate between structure and process. An advisory committee enables democratic process without providing an alternative power structure in the way that a committee that decides does.

Finally, perhaps we can more simply summon an answer to the question posed in the title of this paper by employing a rhetorical question: How can a 'deciding' committee constitute good project governance when it is not legally constituted, has no financial delegation or accountability, and has responsibilities overlapping with existing organisational roles?

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Redefining governance: from confusion to certainty and clarity

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Abstract

Purpose – The purpose of this paper is to resolve and remove from the governance arena in general and the project arena in particular, conflict which occurs when parties do not realise they have different meanings for common governance terms.

Design/methodology/approach – Review literature on definitional confusion in general and on governance in particular and develop a method for defining an internally consistent group of terms, then apply this to a group of terms in the governance arena.

Findings – Several important subjects commonly arranged under the governance banner do not actually constitute governance (strategy, behaviour, decision making).

Research limitations/implications – Further work is necessary to remove similar confusion in other closely related areas, including power itself and authority as well as project and general management terms such as responsibility and accountability.

Practical implications – Projects and business alike can potentially achieve significant improvements in efficiency and effectiveness through gaining consistency across current models, frameworks, policies and procedures thus reducing cross-boundary conflict.

Social implications – Creation of a unifying feature within the project and management literature, shifting the understanding of the boundaries and limitations of governance. These definitions will help progress governance from complexity to simplicity, from an art to an understandable practice, from a concept that has been hijacked for partisan and political gain to a lean social tool which can be put to use for the benefit of organisations, whether public, charitable or private.

Originality/value – The value is clarity – resulting in the avoidance of confusion and misunderstanding together with their consequent waste of time, resources and money.

Keywords Corporate governance, Definition, Governance, Define, Govern, Organisational governance

Paper type Conceptual paper

Introduction

That ineffective governance arrangements imposed upon projects by their parent business can have severe consequences for both the project and the business is self-evident. Governance is the confluence point where the competing interests of the temporary project organisation and the more permanent parent organisation must be resolved. The governance requirements that a business imposes upon its projects are subject to the influence, interests and knowledge of its key players. These may have different understandings of the various competing governance models and may even have different understandings of the same terminology (Ahola *et al.*, 2014; Biesenthal and Wilden, 2014; McGrath and Whitty, 2013; Pitsis *et al.*, 2014). Understanding of the term governance has been influenced by many people's views and perspectives or, in the words of Russell (2005, p. 642) "Kantian spectacles".

This can lead to unnecessary confusion, conflict and consequent loss of productivity, adversely affecting project cost, time and outcome. There are differences in perspectives between general management and project management, between board management and organisational management, between civil infrastructure and ICT projects, between

project and programme managers, between engineers and accountants, between programme and portfolio managers and so on. Each will have some common, but some differing objectives, constraints, knowledge, assumptions and boundary conditions and each will have differing ascendency within their organisations, enabling differing views and prejudices to prevail. Furthermore, a multitude of different and sometimes competing project and business management frameworks with differing approaches to governance have been available for many years, some actively marketed and some not – Prince2, Agile, OnQ, Ten Step, OPM3, TQM, Six Sigma, to name but a few. The accidental achievement of a common universal understanding of the meaning of words, used loosely across all of these motivations, frameworks and personal perspectives, without either total market dominance of a particular framework or any independent academic verification, is most unlikely.

The purpose of this paper is therefore to remove definitional confusion from the field of governance. It finds definitional confusion has been a long standing problem, having received the attention of Socrates, Plato, Aristotle, Hobbes, Locke and Wittgenstein. It also finds evidence that confusion does exist around the term governance. To resolve this, a pre-existing method for resolving the definitions of a group of conceptual terms was sought, but none was found and so a method is developed. This is then applied to a group of key governance terms with the objective of developing a mutually consistent set of definitions that are generic and applicable across the whole governance ambit – national and international, covering private and governmental organisations as well as higher level political power structures of whatever nature; democratic, autocratic, monarchical, dictatorial, communist or other form. The paper thus seeks to resolve and remove from the governance arena, apparent or verbal conflict which occurs when parties do not realise they have different meanings for common terms.

Application of this method results in the exclusion of some terms that have been purloined into existing definitions of governance. This has implication for theory with some of these former inclusions either excluded or relegated to organisational governance arrangements, thereby separating process from content and with corporate governance being disentangled from the more generic governance term. To facilitate this, the group of governance terms has been conceptualised into a diagram showing the various governance components.

The potential benefits for both theory and practice are then outlined – moving the theory towards a common understanding of the boundaries and limitations of governance and producing clarity for practitioners, avoiding unnecessary conflict and its associated waste of time, resources and money, benefiting organisations both public and private as well as their taxpayers and shareholders.

We will commence by first exploring the history of definitional confusion.

Definitional confusion

Definition of terms was recognised as an issue by Socrates (467-399 BC), Plato (428-347 BC) and Aristotle (384-322 BC). Smith (2014) notes that "The definition was an important matter for Plato", "Concern with answering the question 'What is so-and-so?' are at the centre of the majority of Plato's dialogues" and "Aristotle himself traces the quest for definitions back to Socrates". Approaching 2,000 years later Hobbes (1588-1679) and Locke (1632-1704) recognised lack of definition as opinion and a source of conflict and confusion.

Hobbes (1996, p. 32) observed "To conclude, the light of humane minds is perspicuous words, but by exact definitions first snuffed, and purged from ambiguity;

reason is the pace; increase of science, the way; and the benefit of mankind, the end. And, on the contrary, metaphors, and senseless and ambiguous words are like ignes fatui; and reasoning upon them is wandering amongst innumerable absurdities; and their end, contention and sedition, or contempt". He goes on to say "When a man's discourse beginneth not at definitions, it beginneth either at some other contemplation of his own, and then it is still called opinion; or it beginneth at some saying of another, of whose ability to know the truth, and of whose honesty in not deceiving, he doubteth not; and then the discourse is not so much concerning the thing than the person; and the resolution is called Belief and Faith" Hobbes (1996, p. 43).

Locke (1690, p. 502) deals with the subject as follows: "And here I desire it may be considered, and carefully examined, whether the greatest part of the disputes in the world are not merely verbal, and about the signification of words; and whether, if the terms they are made in were defined, and reduced in their signification (as they must be where they signify anything) to determined collections of the simple ideas they do or should stand for, those disputes would not end of themselves, and immediately vanish". More recently, Wittgenstein (2007) also warns against mixing terminology, noting that "philosophical puzzlement occurs by using the terms from one language-game as if they belonged to another e.g. judging moral or religious talk as if it were scientific".

Copi and Cohen (1990, p. 128) also point out that "Sometimes, however, a dispute arises when there is no genuine disagreement in either belief or attitude, the parties being in conflict only because they do not realize that they are using an ambiguous word or phrase in a different sense". They refer to these disputes as verbal and point out that "definitions, by exposing and eliminating ambiguities, can effectively resolve disputes that are merely verbal" (Copi and Cohen, 1990, p. 128).

Definitional confusion regarding governance
Examination of the academic literature confirms existence of definitional confusion in governance. McGrath and Whitty (2013) found omission of a definition of the term in much of the academic literature and variation in the academic literature over its meaning, with a multiplicity of items having been arranged under its banner. Biesenthal and Wilden (2014) also found a number of definitions of project governance and Ahola *et al.* (2014) note that "definitions offered for project governance vary from very narrow to very broad" and "that there is considerable potential for bridging project governance literature and general governance literature". Pitsis *et al.* (2014) similarly mention the need for "defining, conceptualizing and operationalizing the core ideas in project and program governance. What it is and what it is not; what are its core elements and its dynamics, and how, if at all, is it different to any other form of governance?" Cepiku (2013) analysed Anglo Saxon, Dutch, German, Scandinavian and Italian governance literature, finding "it is almost impossible to find in this rich literature an agreement on the building parts of this concept or a consensual definition".

Google NGRAM indicates minimal usage of the term "governance" until the 1950s, rising exponentially from the 1980s onwards. Copi and Cohen (1990, p. 146) note that "The primary way of learning to use language is by observation and imitation, not by definition" and "the process of frequently hearing the word when the object it denotes is present". They go on to say "But such a process would not be a definition at all […] it would be the primitive, pre-definitional way of learning to use language". They also refer here to an "object" and governance is an intangible concept, not a tangible object. Demonstrative learning and definition may suffice for objects which are present for all

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to see, but such methods present difficulties when used in defining abstract concepts. The current state of definition of governance can at best be described as "subjective connotative" which Copi and Cohen (1990, p. 147) state is "the set of all attributes the speaker believes possessed by the objects denoted by that word. But this set plainly varies from individual to individual and even from time to time for the same individual – and thus cannot serve the purposes of definition". This set of attributes, as McGrath and Whitty (2013) noted, has included some that have served to diffuse the meaning of the term governance. However, the term appears to be, in the terminology of Gallie (1956, pp. 171, 2, 80), "radically confused" rather than "essentially contested".

To clear up confusion and halt any trend that may exist towards essential contestability, in a way that does not simply provide yet another competing opinion, a method for developing an internally consistent group of definitions of conceptual terms is required.

Search for a pre-existing method of resolving definitional confusion

We searched initially in business and project management databases to see if this had previously been done. EBSCO host MegaFILE Complete was searched on 10/1/15. The search words were: definition, group, terms in "TX All Text". These were selected as any writing on this subject would have to include these words. The "all results" source type was selected so that it was not restricted to peer-reviewed journals. The following databases were selected: Academic Search Complete, Australia and New Zealand Reference Centre, Business Source Complete and MasterFILE Premier. This returned 1,114 results between 1912 and 2015. All were inspected and none related to linguistic definition of a group of terms.

A further search to cover the field of linguistics was then undertaken, again in EBSCO host MegaFILE Complete using the same search words and all results source type. The database selected for this search was the Psychology and Behavioural Sciences Collection. This returned 116 results between 1957 and 2013. All were inspected and none related to linguistic definition of a group of terms and only one related to the definition of a single term.

Searches for the words "group" and "terms" produced large numbers of references to other connotations of these terms and so this searches was abandoned. The same database was then searched for the single word "definition" in the title only, as any such method would have to have this word in its title. This returned 817 results between 1964 and 2015. All were inspected and none related to linguistic definition of a group of terms. This did however uncover 12 references that dealt with linguistic epistemology.

A further approach was adopted, searching all EBSCO databases for the single word "definition" in the title only and linguistics in the subject terms. This returned 435 results between 1927 and 2014. All were inspected and none related to linguistic definition of a group of terms and no additional papers relating to linguistic epistemology were located. Similar searches were done using the terms "define" and "defining", locating 20 and 132 matches, respectively and again, all were inspected and none dealt with the definition of a group of terms.

From this, we concluded that there was no pre-existing methodology for determining consistent meanings among a group of terms within the literature of linguistics, project management, management, psychology or social sciences. To understand why this might be the case and what approach we might take, we examined the linguistic papers located from the above and other searches.

Popper (1979, p. 106) uses what he calls a World 3 view, which is "the world of objective contents of thought". World 1 is the physical world and World 2 is individual knowledge, beliefs and dispositions. Disagreement on a term can be seen as a World 2 view and we might seek to reduce this to the "objective content" to resolve the matter. However this presumes such "objective content" actually exists and there has been debate around the difficulties and even the desirability of having definitions at all. Elder-Vass (2014) argues that "Knowledge and ideas can exist as mental properties, but outside the brain […] there is no way for ideas as such to exist". Condren (2012) similarly notes "[…] confusion over what definitions were of, perhaps of things (like tables and chairs) or figures (like triangles), rather than words". For the concept described by the word governance, we are limited to defining it in terms of other words which are themselves concepts; there is no physical object that can be seen.

Pothos and Hahn (2000) note that "Despite the wealth of evidence to the contrary, much research overtly or covertly continues to promote the case for definitions". They also promote the case that definitions may be either necessary or sufficient, claiming "The presence of necessary or sufficient features is compatible with both graded category boundaries and the inability to find complete definitions". They find fault with essentialism which requires an essence with deep underlying features that are both necessary AND sufficient. They argue necessary or sufficient can specify "critical features" without yielding a complete definition but can nevertheless serve to adequately classify.

Pitt (1999) however supports the case for definition, presenting a line of reasoning that concludes the arguments against definition are in error. He then goes on to demonstrate that the decompositional approach which results from the thesis that some words are semantically structured, is preferable to the primitivist alternative, which posits that "eventually some expression must be reached whose reference is not fixed by the reference of some other expressions that define them". Hacking (2002) observes "The human and social sciences […] differ because there is a dynamical interaction between the classifications developed in the social sciences, and the individuals or behaviour classified". Guduru (2011) notes that "languages exist only in people's minds, not as mental images as it was believed in the past". He says it is impossible to capture the meaning of a word in its true sense, as the context actually contributes more to the meaning than the lexical units themselves: "words do not mean whatever people want them to mean, but are governed by social convention". He reasons that no one person can control language and it is shared interactively, unlike the fixed meanings we find in dictionaries. He also observes that "one cannot know the meaning of any item until one knows the meanings of all other terms" and that although this is circular, it is a hopefully spiral (Nida, 2008).

Chomsky *et al.* (2009, p. 19) describe the difficulty of language and definition as follows: "Within the biolinguistic framework, several tasks immediately arise. The first is to construct generative grammars for particular languages that yield the facts about sound and meaning. It was quickly learned that the task was formidable. Very little was known about languages despite millennia of enquiry. The most extensive grammars and dictionaries were, basically, lists of examples and exceptions, with some weak generalisations. It was assumed that anything beyond that could be determined by unspecified methods or "analogy" or "induction" or "habit" […]". It is apparently one such unspecified method we are seeking. So the epistemological difficulties of definition, evident from the literature survey above, provide plausible reason why no such method could be located. We concluded we would have to develop our own process.

It is not our purpose to resolve long standing debate in linguistics on the concept of definition. We simply need agreement on what it is we are talking about. While language itself may be dynamic, changing with usage and context, this does not facilitate removal of confusion in terminology. We will therefore adopt objectivist epistemology using a positivist theoretical perspective in adopting the approach of Popper (1979). While acknowledging the other views on the difficulties of definition, we will seek to define objective content or Aristotelian essence, which may reduce us to accepting necessary or sufficient characteristics (Pothos and Hahn, 2000).

Methodology

The conventional approach to governance of considering agency theory, stewardship theory, stakeholder theory, transaction cost theory and/or resource dependence theory, as Biesenthal and Wilden (2014); Clarke (2014) and many others have done has not produced clarity of definition. This is perhaps not surprising, as these theories are explanatory rather than definitional and so that approach will not be pursued here.

Resolution of definitional confusion in governance, or in any field for that matter, needs to be advised by the field that specialises in the meaning of words, namely linguistics, as well as the field of logic. A classic text, whose first edition was published in 1953, with many editions published since, is Copi and Cohen (1990). This will be used to identify definition types and provide the linguistic background for developing a method for defining individual terms.

Apart from the above mentioned difficulties of definition, there are two important limitations of a purely linguistic approach. One is that it is concerned with the definition of a single term and we are concerned with developing consistent definitions of a group of terms. The second is that this group is not simply a collection of unique, tangible objects that can be observed and classified; it is a collection of terms dealing with an abstract concept and these terms can easily overlap. A holistic or systems approach therefore needs to be overlayed upon the linguistic approach. This overlay serves the purpose of identifying and removing overlap to ensure consistency, thereby enabling terms to be uniquely identifiable, in the same way as physical objects.

The methodology will therefore be a combination of systems, linguistics and logic. Linguistics will determine some initial group criteria and the initial process of defining the individual terms. This will be done within the context of an over-arching systems approach determining group criteria to ensure consistency. Logical criteria will then be developed for reducing any discovered divergence of meaning. References will, as far as is possible, be academic, peer-reviewed papers, to remove the influence of opinion and marketing.

Method development

Meta-criteria

Our objective is to develop definitions of a group of terms for the selected area that are:

(1) internally consistent;

(2) universally applicable across all fields (by defining essence, stripping it of any limiting field, concept or framework-specific extensions);

(3) consistent with historical use;

(4) free of unresolved conflict between competing conceptual frameworks;

(5) free of any other divergent meaning; and

(6) process rather than content driven.

These criteria will drive development of both the group and the individual portions of the method. The method will include steps to ensure satisfaction of each of the above criteria.
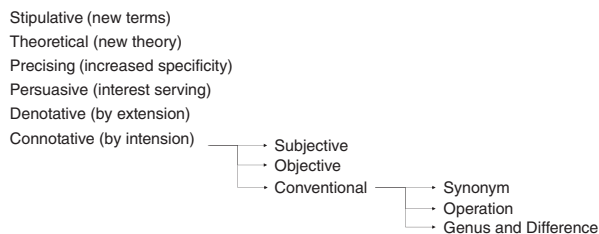
Linguistic approach to individual terms
(a) Lexical usage. Copi and Cohen (1990, pp. 134, 5) state: "literary and academic vocabularies tend to lag behind the growth of living language. Unorthodox usages have a way of becoming catholic, so definitions that report only the meaning countenanced by an academic aristocracy are likely to be very misleading". They go on to say: "the notion of statistical definitions is utopian, but dictionaries approximate it more or less by indicating which meanings are "archaic" or "obsolete" and which are "colloquial" or "slang" […]. Lexical definitions are true or false, in the sense of being true to actual usage or failing to be true to it". This indicates that lexical definitions should be surveyed first unless documented academic discussion of definitions exists.

As the most widely available definitions of terms come from dictionaries, the method of examining lexical usage will be to extract definitions from a range of dictionaries. These have been selected to give a broad representation of common usage as follows:

(1) a range of dictionaries that have been well known for many years that are now available (in 2013/2014) online (Cambridge; Collins; Longman; Macmillan; Macquarie; Merriam-Webster; Oxford);

(2) a range of various online dictionaries (BusinessDictionary.com; Dictionary.com; TheFreeDictionary; Wiktionary); and

(3) the Concise Oxford Dictionary (1964) – as a comparator for how these definitions may have changed over the last 50 years.

Copi and Cohen (1990, p. 135) also advise that "Confusion in argument can arise from *vagueness* as well as from ambiguity. The users of a term may, in a sense, know its meaning, yet remain unsure of the limits of its applicability". This gives two criteria to be applied to the lexical definition, namely the definitions must be un-vague (precise) and un-ambiguous, both of which they include in their five rules for appraising definitions, which are listed below. We will next consider the various types of definition that they list and select the most appropriate for our purpose.

(b) Types of definitions. The various definition types are shown in Figure 1, which our representation of Copi and Cohen (1990, pp. 132-151).

Stipulative (new terms)
Theoretical (new theory)
Precising (increased specificity)
Persuasive (interest serving)
Denotative (by extension)
Connotative (by intension) — Subjective
Objective
Conventional — Synonym
Operation
Genus and Difference

Source: Interpreted from Copi and Cohen (1990)

Figure 1
Definition types

Considering each of these in turn, there are already definitions of governance and the word has roots in Greek and Latin, so a stipulative definition assigning meaning to a new term is not required. Similarly, a new theoretical definition is not required. A precising definition resolves borderline cases beyond normal usage, removing vagueness and remaining true to established usage. As indicated by the literature review above, there is no currently agreed established usage of the governance term to remain true to and become more precise about. Some of the existing definitions could be considered persuasive, attempting to attach emotive meaning to the term, which can only serve to confuse the literal meaning of the term. Denotative definition by extension is definition by example. Governance is applicable to so many fields that this method is not feasible. This leaves connotative definition by intension, as the most appropriate means of definition. Furthermore, as Copi and Cohen (1990, p. 142) note, "the extension of a term is determined by its intension, but the reverse is not true […] intension must determine extension".

There are three different senses of connotation: subjective, objective and conventional (Copi and Cohen, 1990, p. 147). Subjective connotative definition can vary between individuals and over time, is therefore unstable and unsuitable. The objective connotation or intension of a word is "the total set of all characteristics shared by all the objects in the word's extension […]. It would require complete omniscience to know all the attributes shared by the objects denoted by the term, and since no one has that omniscience, the objective connotation cannot be the public meaning in whose explanation we are interested". This leaves the conventional intension as the definitional type we will pursue.

Copi and Cohen (1990, pp. 147-150) indicate there are three methods of doing this: by synonym, by operation and by genus and difference. The simplest is by synonym. This is weak for precising or theoretical definitions, but is acceptable for connotative definition, provided the word has a synonym whose meaning is clear. However the terms defined in this paper do not have suitable synonyms. An operational definition is a "describable set of actions or operations" (Copi and Cohen, 1990, p. 148). This would be satisfactory for our purposes. However, where an operational definition is not available, then a definition by genus and difference is appropriate.

(c) The five rules. Copi and Cohen (1990, pp. 151, 5) note that definition by genus and difference is the most widely applicable and give five rules for evaluating them. They note that these rules do not constitute a recipe but "provide useful criteria for appraising definitions once they are proposed". These five rules are as follows:

(1) states the essential attributes of the species;

(2) avoids circularity;

(3) neither too broad nor too narrow;

(4) avoids ambiguous, obscure or figurative language; and

(5) affirmative rather than negative.

Group considerations/systems approach to a group of terms
(a) Checks before individual-term definition. Adopting a systems approach requires looking at the bigger picture by first examining the group of terms to be defined and then checking after completion. Consistency checks will therefore be included in the method both before and after defining individual terms. The "before" rules will determine the order of definition and the "after" rules will cross-check for consistency.

The words to be defined will generally be verbs, nouns or adjectives. Some rules for the general precedence of definition are therefore required. These will be as follows:

- Where a noun (or verb) and its derivative adjective both require definition, the noun (or verb) will be defined first and then the adjective will refer to that as a consequence, as one has to first understand a concept before developing its adjectival form.

- Where there are two related terms requiring definition that are a noun and a verb, the verb will be defined first, as the terms we are setting out to define are generally conceptual rather than tangible objects and so are the product of human action. The effect of the term generally only emerges after some action has been taken.

We will also take the approach of breaking the words down to their roots or components and defining these before defining the term itself. Where the term to be defined is comprised of such roots or component terms that have already been defined, or terms whose meaning is not contested, these will be simply reported and the lexical analysis omitted.

(b) Checks after individual-term definitions. The group will then receive reviews for both internal and external consistency. Terms will be checked against the others defined in this group and any inconsistency resolved. Then an external check will be made and where two terms have been previously used lexically or academically with reference to each other, this will be discussed and evaluated to ensure mutual consistency.

Iterative approach
The method will be applied to the group of governance terms to ensure it works, that the order of steps is logical and that all the steps that need to be in the method are actually included. As noted in the conclusion, the process of developing the method and applying it to one particular area (governance) actually highlighted the need for an additional Step (7) ensuring that content and process are not mixed. This has been included in the method and included as meta-criteria six above.

The following method condenses the above discussion into a number of steps that will be used to develop definitions for a group of conceptual terms.

Method
The method is as follows.

Group rules pre-definition

(1) select the group of terms to be defined;

(2) determine the order of definition as follows; and

- identify any inconsistencies within the group that may require one term to be defined before another;

- where a compound term is to be defined, define the component terms first;

- where a derivative term is to be defined, define the root term first; and

- where a term has a noun and a verb form, define the verb first.

(3) consider any terms that are likely to be used in definition that may themselves require prior definition.

Steps to determine a connotative (intensional) conventional definition of each term

(1) define derivative or component terms using the root or component definitions that have previously been defined by this process or are clear and accepted in their meaning (this obviates the need to proceed through the remaining definitional steps unless there is other reason to do so, such as confusion in the meaning of the compound or derivative term itself);

(2) survey lexical usage (this and the following two steps may be omitted if there is a known comprehensive academic review of definitions of the term);

(3) analyse this to determine the main contenders for inclusion in the definition;

(4) develop a connotative (intensional) conventional definition (this may be synonymous, operational or by genus and difference);

(5) report and analyse any known academic review of definitions of the term;

(6) remove unwarranted inclusions;

(7) remove divergence of meaning resulting from mixing content and process by removing any reference to content (for generic conceptual terms);

(8) remove any remaining divergence of meaning and for operational definitions, consider the need for additional inclusions, by checking against the following, as appropriate to the particular term:

  • historical usage;

  • field/specialty usage – the definition most generic to as many fields as possible will be selected;

  • practitioner usage (via practitioner literature, considering the influence of opinion and marketing); and

  • competing concepts and frameworks (considering the influence of opinion and marketing).

(9) check any resulting definitions by genus and difference against the Copi and Cohen (1990) five rules and discard any which do not satisfy them; and

(10) report the adopted definition.

Group rules post definition

(1) cross-check terms defined in this group for any inconsistency and resolve; and

(2) cross-check any terms defined in this group known to be used interchangeably with other terms outside the group and resolve any inconsistency.

This method will now be applied to the governance area.

Group rules pre-definition

Group pre-definition Rule 1 – select the group of terms to be defined

Terms commonly used in this area are: governance, govern, government, organisational governance, organisational governance arrangements, corporate governance and project governance. All will be selected for definition.

*Group pre-definition Rule 2(a) – determine the order of definition – identify group
term inconsistencies*
Corporate and organisational governance have been deliberately separated as
corporations are one form of organisation and government departments are another
form, which also require governance but are not corporations. Talk of corporate
governance in government departments is therefore a misnomer, unless it is referring
specifically to the corporate level of the department, but this is narrow, mixes frameworks
and is imprecise and confusing. The term "corporate" is too limiting for universal
application and so organisational governance will be defined before corporate governance.

Group pre-definition Rule 2(b) – determine the order of definition – compound terms
The group contains four compound terms, all of which involve the term governance and so
governance will be defined ahead of all the compound terms involving it. All the qualifier
terms have meanings that are not subject to controversy and so will not be separately defined.

Group pre-definition Rule 2(c) – determine the order of definition – derivative terms
The root of the term "governance" is the verb "govern". It is formed into a noun by adding
the abstract suffix "ance". "Govern will therefore be defined before 'governance'".

*Group pre-definition Rule 2(d) – determine the order of definition – define verb form
of term before the noun form*
Govern will be defined before governance and government.

The order of definition will therefore be as follows: govern, governance, government,
organisational governance, organisational governance arrangements, corporate
governance, project governance.

Group pre-definition Rule 3 – definitional terms requiring prior definition
There are several terms outside this group that have multiple meanings and are
commonly used in defining governance and so require prior definition. These are "power"
terms, the most important of which are direct, control and regulate. These have been
subject to the above method but for space reasons could not be included in this paper,
so the outcome is simply reported below:

> To direct is "to give orders, commands or instructions". It is the act of giving the order, not the
> purpose, direction, reason or strategy behind that action.

> To control is to "ensure that people act and/or activities are conducted in a particular way".

> To regulate is to "control by rule, principle, law, restriction, policy or method". It is a sub-set of
> or one means of control.

Other "power" terms also have multiple meanings, such as power itself and authority,
but again, space limitations preclude their consideration here.

Define "govern"

Step 1:   Define derivative or component terms.

This is not relevant as this is the definition of a root term.

Step 2:   Survey lexical usage.

Lexical usage is surveyed in Table I.

Step 3:   Analyse lexical usage.

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Dictionary	Definition of govern (all sourced on 6 January 2014)
Business	To systematically and judiciously, exercise executive power
Cambridge	To control and direct the public business of a country, city, group of people
Collins	1. (also intransitive) To direct and control the actions, affairs, policies, functions, etc., of (a political unit, organisation, nation, etc.); rule
	2. To exercise restraint over; regulate or direct ⇒ to govern one's temper
	3. To be a predominant influence on (something); decide or determine (something)
	4. To control the speed of (an engine, machine, etc.) using a governor
	5. To control the rate of flow of (a fluid) by using an automatic valve
Concise Oxford	Rule with authority, conduct the policy, actions and affairs of (state, subject) despotically or constitutionally; regulate proceedings of
Dictionary.com	1. To rule over by right of authority: to govern a nation
	2. To exercise a directing or restraining influence over; guide: the motives governing a decision
	3. To hold in check; control: to govern one's temper
	4. To serve as or constitute a law for: the principles governing a case
Longman	1. (intransitive and transitive) To officially and legally control a country and make all the decisions about taxes, laws, public services etc. (= rule)
	2. (transitive) If rules, principles, etc. govern the way a system or situation works, they control how it happens
Macmillan	1. (Intransitive/Transitive) To control and manage an area, city, or country and its people
	2. (Transitive) To control the way that things happen
	a: if something governs people or their behaviour, it controls or strongly influences them
	3. (Transitive) To control the way that an organisation such as a business or society operates
Macquarie	Not accessible
Merriam-Webster	To officially control and lead (a group of people)
	To make decisions about laws, taxes, social programmes, etc., for (a country, state, etc.)
	To control the way that (something) is done
	To control or guide the actions of (someone or something)
	Full Definition of Govern
	transitive verb
	1. a: To exercise continuous sovereign authority over; especially: to control and direct the making and administration of policy in
	b: To rule without sovereign power and usually without having the authority to determine basic policy
	2. a: Archaic : MANIPULATE
	b: To control the speed of (as a machine) especially by automatic means
	3. a: To control, direct or strongly influence the actions and conduct of
	b: To exert a determining or guiding influence in or over
	c: To hold in check : RESTRAIN
Oxford	Conduct the policy, actions and affairs of (a state, organisation or people) with authority
	Control, influence or regulate (a person, action or course of events)
	(govern oneself) Conduct oneself, especially with regard to controlling one's emotions
	Serve to decide (a legal case)
The free dictionary	1. To make and administer the public policy and affairs of; exercise sovereign authority in

Redefining
governance

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Dictionary	Definition of govern (all sourced on 6 January 2014)
	2. To control the speed or magnitude of; regulate: a valve that governs fuel intake
	3. To control the actions or behaviour of
	4. To keep under control; restrain
	5. To exercise a deciding or determining influence on
Wiktionary	1. (transitive) To make and administer the public policy and affairs of; to exercise sovereign authority in
	2. (transitive) To control the actions or behaviour of; to keep under control; to restrain
	3. (transitive) To exercise a deciding or determining influence on
	4. (transitive) To control the speed, flow, etc. of; to regulate a valve that governs fuel intake
	5. (intransitive) To exercise political authority; to run a government
	6. (intransitive) To have or exercise a determining influence

Table I

Review of Table I indicates broad agreement on the general meaning of the verb "to govern", although there is considerable variation in the detail and a process of reduction is needed to determine which elements will remain in our definition. Control and direct feature prominently in the definitions and so are strong contenders for our starting definition. An aspect of control, regulation also receives several mentions in one form or another. Authority and decision are also mentioned.

Power is mentioned only by the Business Dictionary, which is concerned only with executive power and the Merrian-Webster, which only mentions it as a sub-category "without sovereign power".

Rule is mentioned in several and several refer to "sovereign" authority. One mentions both with and without sovereign authority and another mentions both despotically and constitutionally. Rule will not be included in our definition as it overlaps with direct and control. More generic mentions are made of the conduct of policy, actions, affairs and functions, but these are means which, in a despotic regime, could be overruled by the ruler's whim and will not be included in our definition.

Several mention regulating the speed of an engine or machine and several mention self-control and holding in check or restraint.

Some mention influence in terms such as strong, deciding or determining, all of which could also be expressed as control. None mention accountability which has been a feature of some governance definitions and which will be left out of our definitions (and included later in a derivative definition). The elements that have not yet been ruled out warrant more detailed consideration.

Regulation is a subset of control. One can either control directly or regulate and just set the bounds within which people can exercise freedom and discretion. Governments can do both – actually doing things the private sector was unable, unwilling or not allowed to at the time the government decided to take the particular action and simply regulating the remaining activities it wishes to control. Regulation will therefore not be included in the definition.

There are many other types of power apart from that which is an enabler of governing and so power will be regarded as having a different conceptual framework which is related to authority. Usage of the terms "power" and "authority" overlap and as previously mentioned, will be separately defined elsewhere to disentangle them and so neither term will be included in the definition.

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Decision making also overlaps with and is required by both direction and control. It will therefore not be included.

This leaves only control and direct as the key elements of our definition. This raises the question as to whether these terms overlap and whether it is even necessary to include direct in the definition at all. Control has been defined as ensuring that people act and/or activities are conducted in a particular way. This does not specify how that might be decided. Giving a direction specifies how and implies that the person giving it has the authority to do so. This covers all of the many ways of controlling, including both force and influence and so both direction and control are necessary inclusions in the definition.

Step 4: Develop a connotative (intensional) conventional definition.

To govern will therefore be tentatively defined as to direct and control. This is an acceptable operational definition.

Step 5: Report academic review of definitions.

Contemporary usage in the academic literature has bypassed the definition of govern itself and included other items under governance, thereby including them under the term "govern" by default. This is reported in the definition of that term and findings from that have been incorporated in Step 3.

Step 6: Remove unwarranted inclusions.

There are no such remaining inclusions.

Step 7: Remove mixed content/process meanings.

None present. The entity this definition acts upon does not need to be specified and can range from an individual (self-governance or self-control) to a country (sovereign rule).

Step 8: Reduce divergence/consider additional inclusions.

Historical check (a) is the only check appropriate for this term.

Step 8(a): Consider historical usage.

According to the European Commission (2002) and accepting Wikipedia's translation of the French, the word governance derives from the Greek verb κυβερνάω (*kubernáo*) which means to steer and was used for the first time in a metaphorical sense by Plato. It then passed on to Latin and then on to many languages. Latin usages include *gubernaro* which means to pilot, govern, manage and *gubernator* which means helmsman or pilot of a boat, or leader or governor. Various of the above dictionaries have similar or slightly different versions of the Greek – *kybernan* (Miriam-Webster), *kubernn* (Free Dictionary), *kubernao* (Wiktionary). Steering was not mentioned in the lexical definitions. Steering equates to directing and controlling. On vessels where the captain and the helmsman are different people, the captain directs the course and the helmsman controls the movement of the boat. There is therefore nothing in the ancient Greek usage would therefore conflict with a definition in terms of direct and control or that would indicate any term needs to be added or removed.

The pre-requisites enabling one to govern are having the power (or ability) to act (or control) and also having the authority to do so (direct). Again, these are both covered by the proposed definition and so neither power nor authority need to be included in the definition.

Step 9: Check against the five rules.

The definition is operational rather than by genus and difference and so a check against the five rules is not appropriate. Nevertheless, it does actually satisfy them.

Step 10: Report the derived definition.

The derived definition is as follows:

- Govern = direct and control.

Define "governance"

Step 1: Define derivative or component terms.

Governance is derived from the root word "govern" with the suffix "-ance" added. "-ance" is a noun forming abstract suffix. Abstract suffixes may denote "act, state, quality, etc." (Nesfield 1917/1982, p. 181). In this case, state or quality are inapplicable, without the qualification of a preceding adjective such as good or bad. Governance could be defined as the act of governing, however the word governing also means this. An "etc." is therefore required, so it is necessary to proceed with the full analysis.

Step 2: Lexical usage.

Lexical usage is surveyed in Table II.

Dictionary	Definition of governance (all sourced on 15 May 2013)
Business	Establishment of policies and continuous monitoring of their proper implementation, by the members of the governing body of an organisation. It includes the mechanisms required to balance the powers of the members (with the associated accountability) and their primary duty of enhancing the prosperity and viability of the organisation. See also corporate governance
Cambridge	The way that organisations or countries are managed at the highest level and the systems for doing this
Collins	1. Government, control or authority 2. The action, manner or system of governing
Concise Oxford	Act, manner, fact or function of governing, sway, control
Dictionary.com	1. Government; exercise of authority; control 2. A method or system of government or management
Longman	None given
Macmillan	The process of governing a country or organisation
Macquarie	1. Government; exercise of authority; control 2. Method or system of government or management
Merriam-Webster	The way that a city, company, etc., is controlled by the people who run it
Oxford	The action or manner of governing a state, organisation, etc.
The free dictionary	1. The act, process or power of governing; government 2. The state of being governed
Wiktionary	1. The process, or the power, of governing; government or administration 2. The specific system by which a political system is ruled

Table II.
Definitions of
governance

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Step 3:   Analyse lexical usage.

Table II shows the on-line Oxford and 1964 Concise Oxford Dictionaries list the act of governing, as derived above. Table II also lists way, method, process, manner, function and system. These words are synonymous and provide the "etc." we are looking for to distinguish governance from governing.

Step 4:   Develop a connotative (intensional) conventional definition.

Of these synonymous words, system will be selected as it is both the most generic and the most specific. Governance will therefore be tentatively defined as the system used to govern.

Step 5:   Report academic review of definitions.

The academic literature has included a broader range of terms than the above lexical survey produced. Definitions from the literature have been surveyed in McGrath and Whitty (2013). These include:

- "The system by which companies are directed and controlled" by Cadbury (1992, p. 14), who also mentioned accountability. Note that this was actually his definition of corporate governance and he did not separately define governance itself. So, in the manner applied to the definitions of IT governance in McGrath and Whitty (2013), a definition of governance was extracted by removing the qualifying adjective and related words from both the term itself and its definition resulting in substituting "companies" with "entities".

- "The process of decision making and the process by which decisions are implemented and thus refers to the rules, processes and behaviour that affect the way in which powers are exercised" (van der Waldt (2010, p. 252) who also defines governing as regulating the proceedings of an entity).

Further definitions were determined in McGrath and Whitty (2013) by extracting definitions of IT governance from the academic literature and removing the IT qualifiers as follows:

- "decision rights and accountability framework" (the Weill and Ross (2004) definition accepted by Cobanoglu *et al.* (2013, p. 3));

- "decision making structure and methodologies" (Bowen *et al.*, 2007, p. 194);

- "organisational structures and processes" (De Haes and Van Grembergen, 2009, p. 616; Prasad *et al.*, 2010, p. 215); and

- "structure of relationships and processes to direct and control the enterprise […]" as given in Ali and Green (2007, p. 43), which is the same as that given in Ferguson *et al.* (2013, p. 75)).

A further definition adopted by the Australian government in 2003 is "The processes by which organisations are directed, controlled and held to account" (Australian National Audit Office, 2003, p. 6) (ANAO).

There are three main definitional concepts running through these definitions: "direct and control", decision making and system (structure and processes). Other items are also mentioned; accountability, regulation and behaviour, all receiving one or more mentions.

The above definitions contain verbs and nouns, subjects and objects. The verbs (action words) are: direct, control, decide, regulate and "held to account". The nouns are: rules, processes, behaviour, decision, accountability and structure. The subject on which the term itself operates is organisation or entity or enterprise. The term itself is also referred to as a system or process or structure or framework. Note that the words "way" or "means" could equally well have been used. We need to establish whether all these are legitimate inclusions in a definition of governance. The two that are most questionable are behaviour and decision making. These will be dealt with in Steps 6 and 7.

Step 6:   Remove unwarranted inclusions.

The only paper mentioning "behaviour" said "the cases studied revealed significant incidences of corruption, maladministration and nepotism" (van der Waldt, 2010, p. 265). However his reference to behaviour appears to have come from (Newman, 2001, p. 34) , whose mention of it occurs in discussing the rational goal model of governance where she says "Policy is based on the assumption that organisations will behave as rational actors". So the reference to behaviour in van der Waldt (2010) was incidental, indirect and secondary, rather than pivotal to his definition and can therefore be disregarded. Furthermore it could also be argued that rules and processes will drive behaviour and therefore, provided these are accommodated in the final set of definitions, behaviour can be regarded as either an output or an outcome, rather than an input and therefore will not be included in the definition of governance.

McGrath and Whitty (2013) also found the following items have been questionably arranged under the governance banner: leadership, decision making, rationalising, relationships, coordinating. Decision making will be separately analysed in the next step. The remainder of these subjects lack mention in the lexical definitions, do not gain more than isolated mention in the academic literature and are not part of the main definitional themes identified in Step 5, so will be excluded from our definition.

Step 7:   Remove mixed content/process meanings.

Decision making has not been included in the proposed definition of govern as it overlaps with and is implied by direction and control. So it follows logically that it should not feature in the definition of governance either. However the fact that it has emerged as one of the main definitional themes in the academic definitions in Step 5 warrants further consideration.

Three of the literature definitions reported in Step 5 mention decision making and four do not. Those that do not mention it do not preclude it either. The main problem with using decision making in a definition of governance is that it can be applied to setting strategic direction as well as to making procedural decisions based upon rules. While setting some aspects of strategic direction can also be seen to some degree as selecting among options based on some rules, making strategic choices (decisions) that are not constrained by policy or procedural rules can hardly be considered part of governance. While it could be argued that every entity may need some form of governance, what the entity actually does as its main business or activity has to do with many pro-active things, of which governance will play a very minor and most likely constraining part. Furthermore, whatever decisions an entity needs to make for its survival will generally be reactive and possibly unconstrained by governance requirements. Initiative, free market forces and the basic drive to survive cannot logically be considered part of governance. However allocating authority to make

decisions on all matters the entity deals with is part of its governance, as it will bear the consequences for both decisions made and not made (accountability). Therefore including decision making in any definition of governance does not lead in a promising direction, as it requires splitting hairs over whether a particular type of decision making is governance or not. It is much more productive to include reference to the process by which decisions are made, ensuring that authority is delegated, which can generically be considered part of organisational governance arrangements without any such reservation.

Closer examination of all the above literature definitions that mention the word "decision" indicates that they all actually refer to decision rights, processes, structure or methodology. In other words they are not actually including the decisions themselves. They are referring to the authority to make them or the processes that determine how or by whom they are made. So these definitions have not actually confused strategy with governance. Decision making will therefore be included in organisational governance arrangements and so this group of definitions can therefore be ignored. This removes all the IT definitions and also the first van der Waldt (2010) definition from contention.

This leaves the second of the van der Waldt (2010) definitions. It is the only one to mention regulating. Regulation was excluded in Step 3 and also in defining the term "govern" and so this definition can be ignored. This leaves two definitions remaining; Cadbury (1992) and Australian National Audit Office (2003). The principal difference between them is that the latter includes accountability and the former does not.

Step 8: Reduce divergence/consider additional inclusions.

Step 8(a): Consider historical usage.

All of the source definitions reported in Step 5 presume application to a current entity, organisation or enterprise. This overlooks the generic and historical issues of king, country and government. While these could be described as entities (and certainly not as organisations or enterprises), they were clearly not within the purview of the above definitions. However the tentative definition of governance produces no inconsistencies when applied to those other entities.

McNutt (2010, p. 742) claims "The concept of "governance" has been applied in both economics and in law for centuries as understood to mean enforcement of contracts, protecting of property rights and collective action". He refers to the concept of governance rather than to the word itself and offers no substantiation to this assertion. However he goes on to say "The term "corporate governance" has emerged in recent decades but the concept of "corporate governance" has arisen from obscurity to buzzword status in less than four decades. The term "good governance" was first mentioned, casually, in (The) World Bank's 1989 Report on Sub-Sahara Africa […]". It is interesting to note that, although it may not have been in common usage then, the 1964 Concise Oxford did have a definition of governance, which is included in Table II. The on-line Oxford Dictionary also quotes usage of the term "good governance" in 1628 by an E. Coke and a reference to "goode gouernaunce" by Earl Rivers in 1477. However a Google NGRAM indicates minimal usage of the term "governance" until the 1950s, rising exponentially from the 1980s onwards.

The issue of accountability warrants further consideration from a historical perspective. Two classics dealing with the exercise of power, The Prince (Machiavelli and Constantine, 2009) and The Art of War (Sun and Cleary, 1988) confirm that

historically, governing had nothing to do with accountability. These classics were primarily concerned with how a Prince or King might retain or increase his power. They were not at all concerned with how his subjects might exercise any power to hold him to account.

The question of accountability never arose within the concept of the divine right of Kings, a view that was held for many centuries. It came under serious question with John Locke's refutation of Sir Robert Filmer's justification of it in his First Treatise of Government. Filmer's justification was philosophically based upon the father's supposed power of life and death over his own children and relied on Biblical references to this being handed down from Adam. If there was such a thing as a divine right of kings, then there was no man who could hold a king to account. Locke had to first dispose of this before setting out the desirable conditions of government in his second treatise (Locke and Macpherson, 1980). Locke was writing in Britain part way through the 800-year-long experiment since the Magna Carta with getting king and committees (parliaments, local governments, associations) to share power and operate effectively. This gets into the realm of organisations and methods of power sharing, introducing a change in boundary conditions that ushered in accountability over many hundreds of years. So it is necessary to have a change in boundary conditions before accountability becomes relevant.

Step 8(b):   Consider field/specialty usage – mechanical considerations.

A mechanical governor is fitted to an engine to remove speed variation and to prevent acceleration to the point of self-destruction. On a steam engine, the governor takes the form of weights attached to one fixed and one sliding collar on a shaft. If the speed increases too far, the weights are thrown out so far that they bring the sliding collar closer to the fixed collar thereby reducing steam supply. In the everyday car, the throttle controls the speed, also by regulating the fuel supply. The difference is that a governor regulates to a pre-set speed whereas a throttle regulates to a variable speed, whose maximum is set so as not to exceed the self-destruction speed.

Parallels to organisational governance in harnessing and controlling power can be made. We are seeking as universal a definition as possible to accommodate all usages – historical, organisational, mechanical and common. Examining both remaining definitions from this perspective indicates that the reduced Cadbury (1992) definition can be generically applied whereas the Australian National Audit Office (2003) cannot. The Cadbury (1992) definition of governance does not include accountability, even though the report mentions it explicitly. This is advantageous as the concept of holding a machine to account is meaningless.

Step 8(c):   Consider practitioner usage.

This will be the subject of further investigation, but unless this indicates a much more focused and agreed meaning than the academic usage, its consideration will not result in further reduction of the derived meaning.

Step 8(d):   Consider competing concepts and frameworks.

Sohal and Fitzpatrick (2002, p. 98) state "Governance answers the question of what must be done". This indicates strategy has also been arranged under the governance banner. This overlaps with the concept of strategy and with the field of strategic management and so strategy will be excluded from our definition, as discussed also in Step 7.

Step 8:   Conclusion.

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The result of Step 8 is that the ANAO definition will be rejected as it includes accountability. The derived Cadbury definition is consistent with the definition derived in Step 4 and will be adopted, albeit slightly modified, to be more specific, referring to a single entity rather than multiple entities.

Step 9: Check against the five rules.

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10: Report the derived definition.

The derived definition is as follows:

- Governance = the system by which an entity is directed and controlled.

Note that the following are not included in this definition: behaviour, decision making, strategy (and the influence of ethics upon it), rationalising, coordinating and leadership. It is defined in terms of how we do whatever it is that we choose to do and not in terms of what we do or intend to do. What we intend to do is strategy.

Define "government"

Step 1: Define derivative or component terms.

Government is derived from the root word "govern" with the suffix "-ment" added. "-ment" is a noun forming abstract suffix. Abstract suffixes may denote "act, state, quality, etc." (Nesfield 1917/1982, p. 181). This term refers to an entity rather than an act. State or quality are inapplicable, without the qualification of a preceding adjective such as good or bad. An "etc." is therefore required, so it is necessary to proceed with the full analysis.

Step 2: Survey lexical usage.

Lexical usage is surveyed in Table III.

Step 3: Analyse lexical usage.

Most definitions in Table III refer to a group of people who control, govern and/or enforce. In colloquial usage, this is the sense of the word that would be understood when referring to "the government". Given the approval processes within government departments, it is most unlikely that any government employee would confuse their role as a part of government with that of the controlling political group, whether they are within a totalitarian regime or a democracy where this separation of powers between the political and administrative arms of government is a fundamental principle. A suitable definition of "a government" or "the government" (i.e. as an entity (in its totality)) would therefore be the group of people with authority to govern, in line with the consensus in Table III, recognising the responsibility of that group of people to determine strategy and steer its course by controlling the machinery of government.

Many of the definitions in Table III also refer to the system and the Merriam-Webster definition refers to organisation, machinery or agency. Wiktionary also mentions administration. A possible definition of "government" would therefore be the system (organisation, administration, machinery or agency) through which a political unit governs. This combines "system" from many of the Table III definitions with the detail of part of the Merriam-Webster definition. The term "form" has not been included

Redefining
governance

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Dictionary	Definition of government (all sourced on 26 February 2014)
Business	A group of people that governs a community or unit. It sets and administers public policy and exercises executive, political and sovereign power through customs, institutions and laws within a state
Cambridge	The group of people who officially control a country
Collins	1. The exercise of political authority over the actions, affairs, etc., of a political unit, people, etc., as well as the performance of certain functions for this unit or body; the action of governing; political rule and administration
	2. The system or form by which a community, etc., is ruled
	3. a: The executive policy-making body of a political unit, community, etc.; ministry or administration
	b: capital when of a specific country
	4. The state and its administration
	5. Regulation; direction
Concise Oxford	More modern word for governance; portion of a country ruled by a governor, province
	System of governing, form of polity
	Body or successive bodies of persons governing a state, the state as an agent, an administration or ministry
Dictionary.com	1. The political direction and control exercised over the actions of the members, citizens, or inhabitants of communities, societies and states; direction of the affairs of a state, community, etc.; political administration
	2. The form or system of rule by which a state, community, etc., is governed: monarchical government; episcopal government
	3. The governing body of persons in a state, community, etc.; administration
	4. A branch or service of the supreme authority of a state or nation, taken as representing the whole
	5. a: The particular group of persons forming the cabinet at any given time
	b: The parliament along with the cabinet
Longman	The group of people who govern a country or state
Macmillan	The people who control a country, region or town and make decisions about its laws and taxes
Macquarie	Not accessible
Merriam-Webster	The group of people who control and make decisions for a country, state, etc.
	A particular system used for controlling a country, state, etc.
	The process or manner of controlling a country, state, etc.
	Full definition
	1. The act or process of governing; specifically: authoritative direction or control
	2. Obsolete: moral conduct or behaviour: DISCRETION
	3. a: The office, authority or function of governing
	b: Obsolete : the term during which a governing official holds office
	4. The continuous exercise of authority over and the performance of functions for a political unit : RULE
	5. a: The organisation, machinery or agency through which a political unit exercises authority and performs functions and which is usually classified according to the distribution of power within it
	b: The complex of political institutions, laws and customs through which the function of governing is carried out
	6. The body of persons that constitutes the governing authority of a political unit or organisation
Oxford	The group of people with the authority to govern a country or state; a particular ministry in office

(*continued*)

Table III.
Definitions of
government

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Dictionary	Definition of government (all sourced on 26 February 2014)
The free dictionary	The system by which a state or community is governed
	The action or manner of controlling or regulating a state, organisation or people
	1. The act or process of governing, especially the control and administration of public policy in a political unit
	2. The office, function or authority of a governing individual or body
	3. Exercise of authority in a political unit; rule
	4. The agency or apparatus through which a governing individual or body functions and exercises authority
	5. A governing body or organisation, as
	a: The ruling political party or coalition of political parties in a parliamentary system
	b: The cabinet in a parliamentary system
	c: The persons who make up a governing body
	6. A system or policy by which a political unit is governed
	7. Administration or management of an organisation, business or institution
	8. Political science
Wiktionary	1. The body with the power to make and/or enforce laws to control a country, land area, people or organisation
	2. A group of people who hold a monopoly on the legitimate use of force in a given territory
	3. The state and its administration viewed as the ruling political power
	4. (uncountable) The management or control of a system
	5. The tenure of a chief of state

Table III.

as this is a sub-classification, as demonstrated by the monarchical and episcopal examples given by Dictionary.com. While the term "system" could be taken to include "form", it is a term with a much wider meaning and does not itself imply any particular form or type or brand.

However this arrives at virtually the same definition as governance and we are seeking to remove confusion. To resolve this, the term governance rather than government will be used for the system of governing. This has the by-product of removing confusion with the private sector. The term "government" will only be used to refer to an entity in its totality, which governs a geographic area. This covers dictatorships through to parliamentary democracies and also distinguishes from publicly listed companies, religions and other organisations established for any other purpose.

Step 4: Develop a connotative (intensional) conventional definition.

The definition of government that will therefore be proposed is an entity that governs a geographic area.

Step 5: Report academic review of definitions.

This has been addressed under governance.

Step 6: Remove unwarranted inclusions.

There are no unwarranted inclusions.

Step 7: Remove mixed content/process meanings.

None present.

Step 8:   Reduce divergence/consider additional inclusions.

None present or required.

Step 9:   Check against the five rules.

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10:   Report the derived definition.

The derived definition is as follows:

- Government = an entity that controls a geographic area.

Define "organisational governance"

Step 1:   Define derivative or Compound terms.

The term "governance" has been previously defined and the term "organisational" does not need a separate definitional exercise, removing the need for Steps 2 and 3.

Step 4:   Develop a definition that is connotative (intensional) conventional.

Organisational governance can therefore be simply defined as governance applied to an organisation, or governance of an organisation, or the direction and control of an organisation. We could then regard the task as complete. However the question of accountability raised in the governance definition is not so easily dismissed once the organisational dimension is added and this needs further consideration.

Step 5:   Report academic review of definitions.

This has been addressed under governance.

Step 6:   Remove unwarranted inclusions.

Accountability is meaningless for a machine or a despot or a King whose subjects accept he has power of life and death over them. So could accountability be just another artifice purloined by a pressure group to manipulate an outcome through obligating the powerful to become constrained by ethics or social conscience? This would be supported by an argument that accountability may be either included within the rules or not and is therefore an optional aspect of organisational governance arrangements, not an inherent aspect of governance itself. However there is one critical aspect that mitigates this argument: that is that none of the terms thus far defined have had to deal with the sharing of authority. This means that the boundary conditions of the system for human organisations, where people participate in determining how authority will be exercised, have to be accommodated in the definition of organisational governance.

Any human organisation where people share power will require some form of accountability mechanism to inform or satisfy the interests of participants. One purpose of democracy is prevention of excesses by individuals holding office (Hume and Mossner, 1969; Locke and Macpherson, 1980; Mill and Rapaport, 1978; Rousseau, 1998). Therefore, although governance can exist without accountability, accountability is present to some degree whenever a group of people come together, even if this is only inter-personal accountability. Holding a more formal group meeting with a decision maker or a representative present is also a form of accountability mechanism, whether the group is constituted to decide or not, as it allows attendees to

express opinion and influence matters. It may also impose some feeling of obligation on the decision maker or representative to explain or justify their actions or proposals.

The system of government in Britain, following sealing of the Magna Carta in 1215 at Runnymead, evolved over centuries by way of constant tension between King, Nobles, the middle class and the Church (Macfarlane, 2000). There was a constant struggle for power within an institutional system where no one group could ever completely dominate the others, as happened with monarchies in Europe until the French revolution. So accountability was embedded within the British system via a means of everyone protecting their interests, rather than via any moral obligation on a king to "be good".

The concept of accountability is highly relevant to organisations whose shareholders (or taxpayers or members) need to be able to hold their agents to account and with whom there is some form of obligation or contractual or legal relationship or responsibility. Introducing the concept of accountability at this point is a suitable means to accommodate the change in boundary conditions that adding the prefix "organisational" to the word "governance" introduces.

We can then revert to selecting from the same two definitions we selected from in the definition of governance, but qualified to include accountability. To restrict such a definition to a process, which includes the lower level of procedure would not seem to do justice to the definition. So a combination of the derived Cadbury (1992) and Australian National Audit Office (2003) definitions will be proposed to define organisational governance as "the system by which an organisation is directed, controlled and held to account".

Step 7: Remove mixed content/process meanings.

None present.

Step 8: Remove remaining divergence.

None remaining.

Step 9: Check against the five rules.

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10: Report the derived definition.

The derived definition is as follows:

- Organisational governance = the system by which an organisation is directed, controlled and held to account.

Define "organisational governance arrangements"

Step 1: Define derivative or component terms.

Although this is a compound term, it is not appropriate to define this term by its components, as arrangements have not been previously defined and their meaning is not precise.

Steps 2 and 3.

Not appropriate for a compound term of this nature.

Step 4:   Develop a connotative (intensional) conventional definition.

This term will be defined by operation with the generic intension being "how" and not "what". Organisational governance arrangements will be defined as the structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision-making processes (including financial and other delegations, as well as approval processes) and reporting arrangements (annual, financial, progress, assurance, regulatory, stakeholder). These are proposed as the key elements of the governance system, which are the means of controlling and distributing power and represent how an entity is programmed to act and how the entity does what it does.

Step 5:   Report academic review of definitions.

This has been addressed under governance.

Step 6:   Remove unwarranted inclusions.

There are no unwarranted inclusions.

Step 7:   Remove mixed content/process meanings.

None present.

Step 8:   Reduce divergence/consider additional inclusions.

There are no known additional inclusions required.

Step 9:   Check against the five rules.

Not applicable to an operational definition.

Step 10:   Report the derived definition.

The derived definition is as follows:

•   Organisational governance arrangements = an entity's structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision-making processes (including financial and other delegations, as well as approval processes) and reporting arrangements (annual, financial, progress, assurance, regulatory, stakeholder).

Define "corporate governance"

Step 1:   Define derivative or component terms.

The term "governance" has been previously defined and the term "corporate" does not need a separate definitional exercise, removing the need for Steps 2 and 3.

Step 4:   Develop a connotative (intensional) conventional definition.

As mentioned in determining the group order of definition, this term will be defined in terms of its components as the governance of a corporation. This is a subset of organisational governance. Organisational governance however also applies to

government departments as well. Its definitional intension is the same for corporations as for government departments, although its extensions differ. As discussed earlier, the point of departure between governance and corporate governance is the sharing of power among people of equal constituted authority.

Step 5: Report academic review of definitions.

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This has been addressed under governance.

Step 6: Remove unwarranted inclusions.

None remain.

Step 7: Remove mixed content/process meanings.

None present.

Step 8: Reduce divergence/consider additional inclusions.

No divergence remans.

Step 9: Check against the five rules.

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10: Report the derived definition.

The derived definition is as follows:

- Corporate governance = the organisational governance of a corporation = the system by which a corporation is directed, controlled and held to account.

Define "project governance"

Step 1: Define derivative or component terms.

The term "governance" has been previously defined and the term "project" is adequately defined in the Project Management Institute (2013) definition of a project as "a temporary endeavour undertaken to create a unique product, service or result". This definition is very well known and will be accepted. It does not require lexical survey, removing the need for Steps 2 and 3.

Step 4: Develop a connotative (intensional) conventional definition.

Governance has been defined as the system by which an entity is governed (directed and controlled). Combining these produces the following definition: the system by which a project is governed (directed and controlled).

Step 5: Report academic review of definitions.

Addressed under governance.

Step 6: Remove unwarranted inclusions.

None remain.

Step 7:Remove mixed content/process meanings.

None present.

Step 8: Reduce divergence/consider additional inclusions.

No divergence remains.

Step 9: Check against the five rules.

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10: Report the derived definition.

The derived definition is as follows:

- Project governance = the governance of a project = the system by which a project is directed and controlled.

Group rules post-definition
Cross-check 1: consistency within group
The definitional method has not resulted in any inconsistency between terms in this group.

Cross-check 2: consistency with terms outside the group
There is no known overlap of meaning of any of the above group of terms with any other term outside the group that would prevent the definitions being accepted.

Summary of definitions
The following definitions resulted from application of the derived method:

- Govern = direct and control.

- Governance = the system by which an entity is directed and controlled.

- Government = an entity that controls a geographic area.

- Organisational governance = the system by which an organisation is directed, controlled and held to account.

- Organisational governance arrangements = an entity's structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision-making processes (including financial and other delegations, as well as approval processes) and reporting arrangements (annual, financial, progress, assurance, regulatory, stakeholder).

- Corporate governance = the organisational governance of a corporation = the system by which a corporation is directed and controlled and held to account.

- Project governance = the organisational governance of a project = the system by which a project is directed and controlled and held to account.

Figure 2 gives a diagrammatic framework for governing an organisational entity and provides a conceptual representation of the above definitions.

Analysis
Ignoring the conventional approach to governance of considering agency theory, stewardship theory, stakeholder theory, transaction cost theory and/or resource dependence theory, as stated at the outset of the methodology section, did not inhibit our ability to
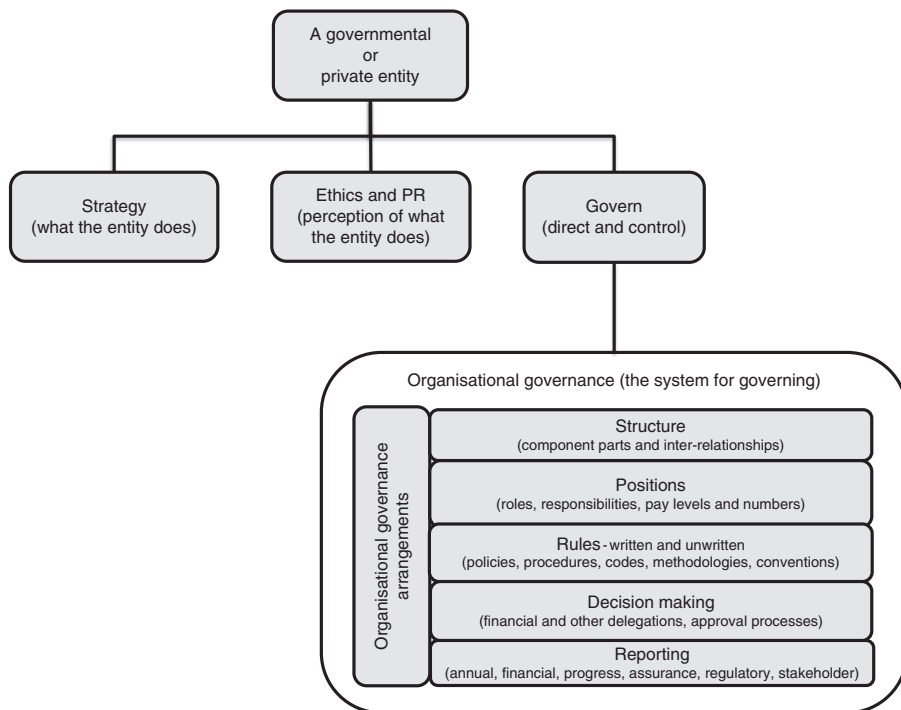
Figure 2.
Framework for
governing an
organisational entity

derive robust definitions. These theories also would not have assisted in any meaningful way. We investigated why this might be the case and searched for clues in Tricker's (1984) book on the subject that became a seminal text in the corporate governance field.

Tricker did not formally define governance, although he approached it in saying "All human societies need governing, wherever power is exercised to direct, control and regulate activities that affect people's interests. Governance involves the derivation, use and limitation of such powers. It identifies rights and responsibilities, legitimises actions and determines accountability" Tricker (1984, p. 8). The similarity between this and elements of Cadbury's (1992) definition is obvious. However, in implying that governance is necessary wherever power is exercised, Tricker acknowledged a generic characteristic of governance that he did not pursue. He proceeded in a combined accounting and legal direction in addressing the difficulties that the mid-nineteenth century conceptual invention of the joint-stock company inadvertently created when it did not envisage the circumstance of one company owning another. He did not distinguish between governance and corporate governance.

This appears to have had the effect of arrogating the term governance to accounting and legal purposes. Whether this was intentional or not, this association was certainly well received by one potential beneficiary, as evidenced by the breathless, effusive ebullience of Vinten (2002, pp. 29, 30) in declaring "Turnbull has been greeted as the internal auditor charter, lifting internal audit into the heady clouds of corporate governance. It has been completely transformed from ugly duckling to swan" (Note that Vinten (2002, p. 27) refers to "the sons of Cadbury: Rutteman, Greenbury, Hampel and finally Turnbull". These followed publication of the Cadbury report in the UK).

It is perhaps not surprising that confusion has followed for those not working in the joint-stock company environment from an accounting and or legal perspective. For example Cepiku (2013, pp. 4, 5) notes that "[…] an "industry" of the governance term […] has gained ground both in the academic debate and in the political and managerial rhetoric, often at the expense of the "government" term". The joint-stock company model spawns transaction, stakeholder and resource considerations and these are relevant to corporate governance but not to governance generally, where the joint-stock model is not the starting point. The division of responsibility in a joint-stock company with multiple owners, designed to ensure no one person has powers of decision, is inimical to government organisations where one person must have the power of decision, namely the minister of the particular department. Applying the joint-stock company model to government lends the appearance of democracy in an unhelpful way. It is a pseudo-democratic artefact that attempts to garner moral support from that association, but actually serves to confuse determination of organisational governance arrangements for government agencies. It should also be noted that the term public governance has deliberately not been included in the terms defined above as it is an unnecessary product of the confusion resulting from failing to distinguish between the terms governance and corporate governance.

The term corporate governance has exceeded its bounds in another way as well. A Google search of Tricker's governance model images on 1/03/2015 indicates a diagrammatic recognition of a distinction between conformance and performance activities. This arrogates business strategy to a subservient role under the corporate governance umbrella. While the term governance sounds far more important than business strategy and can therefore garner increased ability to influence, application of the method in this paper indicates that strategy is actually the higher order activity. The power to govern the "machine" of a public or private enterprise is a necessary part of achieving an outcome, but not the end in itself. Power is not harnessed without some purpose. Whether that purpose is fickle or noble is immaterial to the definitional argument. Governance is the means, not the purpose. This has significant implications for governance theory.

Observations and conclusion
Definitional confusion has been recognised as problematic for the last 2,500 years and the paper demonstrates that confusion currently exists around the term governance. To resolve this, a pre-existing method for resolving the definitions of a group of conceptual terms was sought, but none was found and so a method was developed. This drew from the field of linguistics, developing a number of "hygiene" rules set within the context of a systems approach to the group of terms before applying a process of logical reduction to the individual terms. This method was then applied to a group of key governance terms with the objective of developing a mutually consistent set of definitions. The resulting definitions were then conceptualised into a diagram showing the various governance components.

Application of this method to the governance arena results in:

- exclusion of some items that have been purloined into existing definitions of governance, notably strategy and ethics;

- relegation to organisational governance arrangements of some items that have been seen by some as part of governance, thereby separating process from content; and

- exclusion of accountability from the definition of governance and inclusion of accountability in the definition of organisational governance.

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The terms developed are generic and are applicable across the whole governance ambit – national and international, private and governmental as well as political power structures of whatever nature – democratic, autocratic, monarchical, dictatorial, communist or other form.

In developing these definitions, the mixing of concepts and frameworks was anticipated to be a major source of confusion and the method of analysis was specifically designed to remove this by including Step 8d. However in applying the method, another source of confusion became apparent, namely failure to separate content from process, leading to the addition of Step 7 to the method. It was applied to governance by excising what is being done from how it is being done, listing the key elements of "how" under "organisational governance arrangements".

Adoption and use of the definitions developed in this paper will contribute to producing organisational governance arrangements that:

(1) separate the how (governance and process) from the what (content and strategy);

(2) remove the incompatible influence of competing frameworks (resulting in outcomes that serve the community rather than sectional interests); and

(3) do not confuse or mix (subversive) democratic and authoritarian artifacts (competitive and co-operative structures).

The implications of this work for governance theory is that rationalised definition of governance and its associated terms derived above can facilitate a move towards a common understanding of the boundaries and limitations of governance that progresses from complexity to simplicity, from an imprecise concept to an understandable practice, from a very important sounding idea that has been hijacked by various interests to gain advantage and influence, to a lean social tool which can be put to use for the benefit of organisations, whether public, charitable or private.

The benefit of this work for practice is clarity – resulting in the avoidance of confusion and misunderstanding, together with their consequent waste of time, resources and money, benefiting organisations both public and private as well as their taxpayers and shareholders. There are also potential implications for both theory and practice in fields not necessarily related to governance. Any area with terminology that is either producing dysfunction or moving towards essential contestability could potentially address this using the generic methodology developed in this paper.

There are many other terms that have a relationship with the governance arena that are the subject of similar definitional confusion, such as power, ethics and strategy, together with other terms that overlap with general management, such as stakeholders, responsibility and accountability. These also warrant detailed consideration that are well beyond the space limitations of this paper and will be the subject of further consideration.

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Stakeholder defined

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Abstract

Purpose – The purpose of this paper is to create a "refined" (with unnecessary elements removed) definition of the term stakeholder, thereby removing confusion surrounding the use of this term from the general and project management arenas.

Design/methodology/approach – A method of deriving refined definitions for a group of terms by ensuring there are no unnecessary elements causing internal conflict or overlap is adopted and applied to resolve the confusion.

Findings – The refined definitions of stake and stakeholder are in terms of an interest and activity. This avoids all extensions of meaning introduced by defining particular types of stakeholders and/ or their degrees of impact. It also resolves the multiplicity of conflicting meanings possible when silent or assumed qualifiers of a word are ignored, restricting definition to, for example, project stakeholders or stakeholders of a firm. These definitions are carried forward into a mapping of the stakeholder locus of interest on an activity rather than a company base, enabling generic categorisation of stakeholders to be proposed for use in both private and public sectors. A governance difficulty with the term customer also emerged and a resolution to this is proposed.

Research limitations/implications – Resolution of the academic contention around the definition of stakeholders will facilitate future research endeavours by removing confusion surrounding the term. It can also provide clarity in governance arrangements in public and private sectors. Verification of the method used through its success in deriving this "refined" definition suggests its suitability for application to other contested terms.

Practical implications – Projects and businesses alike can benefit from removal of confusion around the definition of stakeholder in the academic research they fund and attempt to apply.

Social implications – A refined definition of the stakeholder concept will facilitate building social and physical systems and infrastructure, benefitting organisations, whether public, charitable or private.

Originality/value – Clarity results in the avoidance of confusion and misunderstanding together with their consequent waste of time, resources and money.

Keywords Stakeholder, Customer, Define, Refined definition, Stake

Paper type Conceptual paper

Introduction

Stakeholder management has provided a linkage between ethics and management since Freeman (1984) broadened its remit beyond its previous confines of company shareholders. There has been increasing usage of the concept of stakeholders since that time with Fassin (2009) noting its popularity. There has also been considerable contention over what the term actually means (Eskerod and Huemann, 2013; Littau *et al.*, 2010; Mainardes *et al.*, 2011; Miles, 2012) and this contention remains unresolved. Resolving this contention would remove the need for future academic definitional effort and potentially result in clarity of use benefitting practitioners as well

This paper therefore sets out to propose a resolution using an approach that has not previously been applied to the stakeholder concept. It explores the concept from a purely definitional viewpoint. This is informed by previous definitions as well as by current trends in thinking around the concept and by accommodating the definitional aspects only of these different viewpoints without entering into any other debate concerning them. A method for defining conceptual terms is adopted to produce definitions that are refined, i.e. with unnecessary elements removed. The derived and previous definitions are then taken forward into a mapping of the stakeholder locus of interest, starting with a project management reference point and progressing to genericity.

This process highlights the previous dependency of stakeholder theory upon the joint-stock company model. Category and role definitions are proposed to resolve this.

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Adoption of the definitions proposed can remove confusion surrounding the term and potentially result in clearer project governance arrangements, remove confusion and potentially achieve improved project, organisational, individual and research outcomes. The findings have implications for stakeholder theory and for project management as well as for government and private sector organisations that initiate projects.

Definitional confusion regarding stakeholders

The importance of definition of terms was recognised by Socrates, Plato and Aristotle, as noted by Smith (2014, p. 316) who wrote "The definition was an important matter for Plato", "Concern with answering the question 'What is so-and-so?' are at the centre of the majority of Plato's dialogues" and "Aristotle himself traces the quest for definitions back to Socrates" (Smith, 2014). Nearly 2,000 years later, Hobbes (1996) wrote "To conclude, the light of humane minds is perspicuous words, but by exact definitions first snuffed, and purged from ambiguity; reason is the pace; increase of science, the way; and the benefit of mankind, the end" (p. 32). Accepting this view, we seek to provide some benefit to mankind and science in general and both project and general management in particular by removing ambiguity from the meaning of the term stakeholder. The need to do this was pointed out by McGrath and Whitty (2015).

Eskerod *et al.* (2015) documented development of stakeholder management, noting definitions going back to the 1960s. Fassin (2009) noted that "Stakeholder management has become an important tool to transfer ethics to management practice and strategy" and Huemann *et al.* (2016, pp. 24-27) point out the need to consider management "for" rather than "of" stakeholders. The stakeholder area has also been elevated in importance in the *Guide to the Project Management Body of Knowledge (PMBOK Guide)* (Project Management Institute, 2013), having been added as a new knowledge area, whereas it had previously been covered under communications.

Miles (2012) concluded that stakeholder is an essentially contested concept as defined by Gallie (1956), noting:

> The concept of the "stakeholder" has become central to business, yet there is no common consensus as to what the concept of a stakeholder means, with hundreds of different published definitions suggested. Whilst every concept is liable to be contested, for stakeholder research, this is problematic for both theoretical and empirical analysis (Miles, 2012, p. 285).

Miles (2012, p. 285) also noted "Miles (2011) analysis of 435 different definitions from 493 articles: a new definition every 1.13 articles published". Others have made similar observations:

> Despite this widespread usage, many who adopt the term neither define the concept nor provide any particularly clear understanding of what they mean as regards what a stakeholder actually is. Even in academic circles, countless definitions of "stakeholder" have been put forward without any of those suggested ever gaining consensus, and hence there is no single, definitive and generally accepted definition (Mainardes *et al.*, 2011, p. 228).

Mainardes *et al.* (2011) also counted a total of total of 66 different concepts for the term "stakeholder" within several references. We note that these were all within the organisational ambit, which did not consider usage as applied to individual behaviour, such as parents having a stake in the actions of their children or fans having a stake in the actions of celebrities. They concluded:

> [...] one question requiring resolution is that of the stakeholder term itself. The profusion of definitions hinders understanding as to what the term actually represents. Establishing boundaries to the concept would go a long way towards resolving a series of issues posed by researchers in this field (Mainardes *et al.*, 2011, p. 242).

Eskerod and Huemann (2013, p. 45) also noted there are many definitions of stakeholders and considered "it is important to consider in the future the pros and cons of a project

stakeholder definition that is inclusive, i.e. includes many stakeholders regardless of their power to influence the project process or project results". This paper addresses that issue by developing an inclusive stakeholder definition.

The theoretical frame of stakeholder theory

The motivation for development of the stakeholder concept is set out in Mainardes *et al.* (2011) as follows:

> The origin of the stakeholder concept lies in the business science literature (Freeman, 1984), and may be traced back even as far as Adam Smith and his *The Theory of Moral Sentiments*. Its modern utilization in management literature was brought about by the Stanford Research Institute, which introduced the term in 1963 to generalize and expand the notion of the shareholders as the only group that management needed to be sensitive towards (Jongbloed *et al.*, 2008). Within this perspective, Freeman (1984) argued that business organizations should be concerned about the interests of other stakeholders when taking strategic decisions (Mainardes *et al.*, 2011, p. 227).

In broadening the stakeholder concept from its previous meaning that was restricted to shareholders, Freeman (1984) argued that there are other parties involved including customers, employees, suppliers, governments, competitors, consumer advocates, environmentalists, special interest groups and the media.

Littau *et al.* (2010, p. 17) focussed on stakeholders in relation to project management and noted "Cleland (1986) introduced stakeholders and stakeholder management processes to the project management canon by highlighting the importance of stakeholder identification, classification, analysis, and management approach formulation". Littau *et al.* (2010, p. 18) also:

> […] concluded that the understanding of the term stakeholder is moving toward a more comprehensive and multilateral view. Stakeholders are considered as more important in the context of project management. And finally we found that the drivers of stakeholder theory development are from articles related to the context of project evaluation and project strategy.

Littau *et al.* (2010, p. 21) further stated:

> […] we searched for definitions in all 116 articles. Among 116 articles, 28 articles mentioned a definition for *stakeholder* in their articles, which represents 24% of the total stakeholder articles. Among 28 definitions, 22 were unique definitions, either defined by the author himself or by some other author.

These definitions were characterised into three groups, an interest-in or stake-in group, an affect or is affected by group and hybrids of both. Littau *et al.* (2010) also found that usage within project management has fluctuated over time with the interest-in definitions having significance over their surveyed range of 25 years till 2009.

Cleland also offered several project management definitions; "Other clientele who have a vested interest in the outcome of the project" in Cleland (1985), "[…] individuals and institutions who share a stake or an interest in the project" in Cleland (1986, p. 36) and "Stakeholders are those persons or organisations that have, or claim to have an interest or share in the project undertaking" in Cleland (1989, p. 31). So these project management definitions progressed from "vested interest" to "stake or an interest" to "interest or share", with interest remaining through all three.

So there is therefore confusion over the meaning of the term stakeholder generally and also some confusion within the field of project management. Furthermore the attention the concept has received has been within an organisational context.

Research questions

We seek to clarify and resolve this confusion by developing definitions that are applicable generally and not restricted to any single field or to the organisational ambit. We approach this by proposing the following research questions:

RQ1. What is the essence of the term stakeholder that can define its meaning across all fields of study and without restriction to an organisational ambit?

RQ2. How does this definition affect categorisations of stakeholders?

Our approach and method for addressing the first research question will be explained in the following sections. We will then address the second research question by depicting the stakeholder locus of interest, then considering the implications for project stakeholders, government and business.

Approach

McGrath and Whitty (2015) demonstrated the pitfalls of defining single intellectual conceptual terms within the bounds of one single field and in isolation from other terms. Their approach had objectivist epistemology with a positivist theoretical perspective that seeks to define objective content without claiming that the derived definitions describe anything existential. McGrath and Whitty (2015) simply defined concepts non-normatively, producing definitions which, if agreed and adopted, have the potential to remove unnecessary debate and confusion. They took the view that while there may be no absolute truth, to be productive as a society, a discourse that is inclusive and removes confusion is necessary, one that all can participate in, with shared understanding of meaning, removing accidental and undetected differences. This position is therefore midway between (or partly both) realist and post-modernist, as this apparatus (ensuring consistency and universality of terminology), can replace chaos with order. We will therefore use their method to address *RQ1* and determine the essence of the stakeholder term.

Method

The McGrath and Whitty (2015) definitional refining method is set out as follows.
Group rules pre-definition:

(1) Select the group of terms to be defined.

(2) Determine the order of definition as follows:

- identify any inconsistencies within the group that may require one term to be defined before another;
- where a compound term is to be defined, define the component terms first;
- where a derivative term is to be defined, define the root term first; and
- where a term has a noun and a verb form, define the verb first.

(3) Consider any terms that are likely to be used in definition that may themselves require prior definition.

Steps to determine a connotative (intensional) conventional definition of each term:

(1) Define derivative or component terms using the root or component definitions that have previously been defined by this process or are clear and accepted in their meaning (This obviates the need to proceed through the remaining definitional steps unless there is other reason to do so, such as confusion in the meaning of the compound or derivative term itself).

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(2) Survey lexical usage (This and the following two steps may be omitted if there is a known comprehensive academic review of definitions of the term).

(3) Analyse this to determine the main contenders for inclusion in the definition (and show these in pale grey highlight).

(4) Develop a connotative (intensional) conventional definition (This may be synonymous, operational or by genus and difference).

(5) Report and analyse any known academic review of definitions of the term.

(6) Remove unwarranted inclusions.

(7) Remove divergence of meaning resulting from mixing content and process by removing any reference to content (for generic conceptual terms).

(8) Remove any remaining divergence of meaning and for operational definitions, consider the need for additional inclusions, by checking against the following, as appropriate to the particular term:

- historical usage;

- field/specialty usage – the definition most generic to as many fields as possible will be selected;

- practitioner usage (via practitioner literature, considering the influence of opinion and marketing); and

- Competing concepts and frameworks (considering the influence of opinion and marketing).

(9) Check any resulting definitions by genus and difference against the Copi and Cohen's (1990) five rules and discard any which do not satisfy them.

(10) Report the derived definition (Note: this change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word "derived").

Group rules post definition:

(1) Cross-check terms defined in this group for any inconsistency and resolve.

(2) Cross-check any terms defined in this group known to be used interchangeably with other terms outside the group and resolve any inconsistency.

The five rules for checking a definition by genus and difference, sourced from Copi and Cohen (1990, pp. 151-5), are as follows:

(1) states the essential attributes of the species;

(2) avoids circularity;

(3) neither too broad nor too narrow;

(4) avoids ambiguous, obscure or figurative language; and

(5) affirmative rather than negative.

Lexical usage will be sourced from the following dictionary sources:

(1) A range of dictionaries that have been well known for many years that were available (in 2013/2014) online (Cambridge, 2017; *Collins English Dictionary*, 2017;

Longman Dictionary of Contemporary English, 2017; Macmillan Dictionary, 2017; Macquarie Dictionary, 2017; Merriam-Webster, 2017; Oxford Dictionaries, 2017).

(2) A range of various online dictionaries (BusinessDictionary, 2017; Dictionary.com, 2017; TheFreeDictionary, 2017; Wiktionary, 2017).

(3) The *Concise Oxford Dictionary* (Fowler and Fowler 1964) – as a comparator for how these definitions may have changed over the last 50 years.

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Group rules pre-definition
Group pre-definition rule 1 – select the group of terms to be defined
Although stakeholder management provides a linkage between ethics and management, its definition is independent of these other terms, and so the term stakeholder can be defined without reference to any other terms.

Group pre-definition rule 2 – determine the order of definition
Rule 2(a): identify group term inconsistencies
None present.

Rule 2(b): compound terms
There are no compound terms in the group.

Rule 2(c): derivative terms
The term stakeholder has the word stake as its root and stem. Stake will therefore be defined first.

Rule 2(d): define verb form of term before the noun form
There are no verbs in the group.

General:
The order of definition will therefore be as follows: stake, stakeholder.

Define "stake" and "stakeholder"
Step 1: define derivative or component terms
Stakeholder is a compound term and so the word stake will first be defined.

Step 2: survey lexical usage
Lexical usage is surveyed in Tables AI and AII.

Step 3: analyse lexical usage
While the term stake is still used to mean a pointed stick or post or peg driven into the ground, it is the conceptual term we are defining here, not the physical term.

Words used to define the concept denoted by the word stake in Table AI are interest, wager, risk, share, concern, connection and claim, in decreasing order of occurrence. Except for risk, all the words following interest are particular types of interest. Risk has a management connotation and is not really an appropriate word for describing a fan's stake in a celebrity's behaviour or a parent's stake in their child's behaviour. Interest is the most generic word and will be selected.

The word interest is also used in the majority of the definitions of stakeholder in Table AII, which also refers to a person, group or organisation. To keep the definition as generic and succinct as possible, the word entity will be used to cover all of these.

Step 4: develop a connotative (intensional) conventional definition
Stake will be tentatively defined as an interest and stakeholder will be consequently defined as an entity with a stake (interest) in the subject activity.

The ease of determining these definitions from the lexical usage belies the academic difficulty that prompted the need to define these terms in the first place.

Step 5: report academic review of definitions
Clarkson (1994) undertook a similar exercise to define stake and stakeholder and concluded that definition should be based on risk. We have rejected that on the grounds that risk is not as generic as interest. So our definition is not the same but does not conflict, as if one has risked something, one will have an interest. This definition led him into categorising stakeholders as voluntary or involuntary. We note that this approach did not achieve the subsequent general agreement that it potentially could have in the years since, as evidenced by the subsequent documentation of ongoing confusion mentioned earlier (Littau *et al.*, 2010; Miles, 2012).

Fassin (2009, p. 116) also reviewed definitions of stakeholders and their categorisations, concluding that "A stakeholder refers to any individual or group that maintains a stake in an organisation in the way that a shareholder possesses shares". While this definition does acknowledge the root term "stake", it restricts the definition to companies and so is not suitable for generic use. It also poses problems for usage of the terms "stakewatcher" and "stakekeeper". Within the project management field, these are both referred to as stakeholders, and labelling those with formal roles or direct responsibility as the "real stakeholders" would simply double up on governance roles and cause confusion. Interestingly, using companies as the starting point also parallels the difficulty that resulted from a section of governance theory also presuming the joint-stock company model, as noted in McGrath and Whitty (2015, p. 783). This led to the concept of "public governance" developing to accommodate government organisations. This highlights the confusion that can arise when definitions are determined without regard to other fields or disciplines.

In assessing definitions of the term, Bourne (2005) settles on the definition of "stake" as "an interest, a right or ownership". This definition of "stake" is inclusive of Freeman's definition given in Miles (2012), as whoever or whatever "affects or is affected by" the activity in question will have an interest when that affect becomes apparent. While "interest" here was intended to mean something less than a right or ownership, both of these latter terms can also be described as an interest and so do not need to be included in a generic definition.

Fassin (2009) noted "claimant", "influencer" definitions and also the combinatory definition:

[…] any group or individual that "can affect or is affected by the achievement of an organisation's objectives" (Freeman, 1984, p. 46). This, now classical, definition "has become the most accepted of the definitions of a stakeholder, and has greater precision than the shorter version 'those who can affect or can be affected by the firm'" (p. 116).

However, as noted above, while this is restricted to a company situation and is not sufficiently generic to be used here, it does not conflict with the proposed definition. If one seeks to influence or make a claim, one has an interest.

Fassin (2009) also noted many other attempts at classification such as "primary versus secondary, direct or indirect, generic versus specific, legitimate versus derivative, strategic and moral, core, strategic and environmental" and classifying "based on the attributes of power, legitimacy and urgency", as well as distinguishing between normative stakeholders, who have a moral obligation to the organisation, and derivative stakeholders including competitors, activists, terrorists, the media, and also other "dangerous" or "dormant" stakeholders such as blackmailers or thieves (Fassin, 2009, p. 116). While these classifications cannot form any part of our definition, which is by

intension rather than by extension, they all nevertheless fall within the ambit of the proposed definition.

Bourne (2005) says "Stakeholders are individuals or groups who have an interest or some aspect of rights or ownership in the project, can contribute in the form of knowledge or support, or can impact or be impacted by, the project". The stakeholder concept is wider than just projects. So de-selecting the extensions from the Bourne definition and qualifying it with the way it arises produces the following definition of a stakeholder as "an individual or group with a stake (interest) in the subject activity". This avoids the sub-classification issue and accords exactly with the proposed definition. It is suitable for application to both projects and organisations (both private and government) and to activities that are not projects, such as changing regulations (although the activity of making such changes can, of course be managed as a project). It accommodates the clusters of definitions mentioned in Miles (2012) which include Freeman (1984) "affects and affected by"; Clarkson (1995) "primary", "secondary" and "at risk"; Mitchell *et al.* (1997) "power – legitimacy – urgency"; and the Stanford Research Institute (1963) "without whose support" definitions. Two further categories of definitions are mentioned in Fassin (2009), namely, Kaler (2002) "claimant and influencer" and Phillips *et al.* (2003) "normative and derivative", which are also accommodated in the proposed definition.

Eskerod and Huemann (2013) examined three project management standards and found that two of them, PMBOK and PRINCE2, have definitions of the type "affect or are affected by", with the International Competence Baseline having an "interested in or constrained by" definition (Eskerod and Huemann, 2013, p. 42).

An emerging trend in stakeholder management can be identified from Eskerod and Huemann (2013, p. 36) who considered "putting stakeholder management in the context of sustainable development would ask for a paradigm shift in the underpinning values". There is nothing in the proposed definition that would preclude this. Huemann *et al.* (2013) also considered:

- Integrating economic, ecologic, and social interests of project stakeholders, etc.
- Broadening the time perspective to consider not only current stakeholders but also future stakeholders of the investment initialised by the project.
- Broadening the spatial perspective to consider local, regional as well as global impacts of the project for stakeholders.

They also considered stakeholders such as the project personnel, suppliers, partners, communities, as well as economic, social and ecological perspectives. All of these are accommodated by the proposed definition which also does not preclude greater emphasis of management for rather than of stakeholders or the inclusion of sustainable development within stakeholder management.

While we make no comment in this paper on any stakeholder management techniques, it is perhaps worthwhile noting that, in practical project management terms, competitors, terrorists, blackmailers, fraudsters and thieves, all of whom could be said to have an interest and are therefore included in the tentative definition, would typically be introduced to consideration via risk management (as per Office of Government Commerce, 2009) rather than being elevated to stakeholder status under stakeholder management, or communications (as per Project Management Institute, 2008). So the differing categorisation of stakeholders in both these standards identified in Eskerod and Huemann (2013) do not conflict with the tentative definition; they simply add specification by extension. The tentative definition therefore seems robust and neither precludes nor proscribes any method of classifying or dealing with stakeholders.

The academic definitional difficulty seems to have arisen from the variety of types and/ or categories of stakeholders producing conflicting definitions by extension rather than defining by intension, which focusses on the essential meaning of an English language word. The fact that different types or categories can be defined differently is unsurprising as they are effectively definitions of a phrase containing the word stakeholder rather than definitions of a single word. The different qualifying words are needed to convey a different meaning, otherwise the qualification would be unnecessary. The mistake is in either not recognising, or inadvertently omitting, the qualifying word(s) in the phrase and seeking supremacy for the accepted usage of the word in one particular field or section of it over all others.

Practically all of the academic definitions have the word interest or some equivalent, and so, amongst the apparent disagreement, the agreement on the meaning of the single word actually seems quite strong and is also in accordance with the lexical usage.

This discussion therefore finds no reason to alter the definitions derived from lexical usage.

Step 6: remove unwarranted inclusions
There are no such inclusions remaining.

Step 7: remove mixed content/ process meanings
None present.

Step 8: reduce divergence/consider additional inclusions
Checks (a) and (b) are appropriate for this term.

Step 8(a): consider historical usage. While it is the conceptual noun form we are concerned with here, it provides useful context to include the etymology of both the noun and the verb forms of the word stake in both physical and conceptual versions of the terms.

The etymology of physical noun stake (n. 1) is as follows:

[…] "pointed stick or post," Old English staca "pin, stake," from Proto-Germanic *stakon (source also of Old Norse stiaki, Danish stage, Old Frisian stake, Middle Dutch stake, Dutch staak, German stake), from PIE root *steg- (1) "pole, stick." The Germanic word has been borrowed in Spanish (estaca), Old French (estaque), and Italian stacca) and was borrowed back as attach. Meaning "post upon which persons were bound for death by burning" is recorded from c. 1200. Meaning "vertical bar affixed to the edge of a platform of a truck, rail car, etc., to hold boards to keep the load from falling off" is from 1875; hence stake-body as a type of truck (1907). In pull up stakes, "The allusion is to pulling up the stakes of a tent" [Bartlett] (Harper, 2017, p. P77).

The etymology of physical verb stake (v. 1) is as follows:

[…] early 14c., "to mark (land) with stakes," from stake (n. 1). Hence, to stake a claim (1857). Meaning "to maintain surveillance" (usually stake out) is first recorded 1942, American English colloquial, probably form earlier sense of "mark off territory." Related: Staked; staking. Old English had stacung "piercing of an effigy by a pin or stake" (in witchcraft); staccan "pierce with a stake, spit" (Harper, 2017, p. P77).

The etymology of conceptual noun stake (n.2), which is the term we are concerned with here, is as follows:

[…] "that which is placed at hazard," 1530s, from stake (v.). Perhaps literally "that which is put up," from notion of "post on which a gambling wager was placed," though OED points out there is "no evidence of the existence of such a custom." Weekley suggests "there is a tinge of the burning or baiting metaphor" in this usage. Hence, "an interest, something to gain or lose" (1784). Plural stakes,

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"sum of money to be won in a (horse) race," first recorded 1690s (compare sweepstakes). To have a stake in is recorded from 1784 (Harper, 2017, p. P77).

The etymology of conceptual verb stake (v. 2) is as follows:

[…] "to risk, wager," 1520s, perhaps from notion of "post on which a gambling wager was placed" (see stake (n. 2)), though Weekley suggests "there is a tinge of the burning or baiting metaphor" in this usage. Meaning "to maintain surveillance" (usually stake out) is first recorded 1942, American English colloquial, probably form earlier sense of "mark off territory." Related: Staked; staking (Harper, 2017, p. P77).

It is therefore evident that reference to the physical object has developed into a conceptual term representing various applications of the physical term.

The etymology of the noun stakeholder is as follows: 1708, from stake (n. 2) + agent noun from hold (v.). Originally one with whom bets are deposited when a wager is made (Harper, 2017, p. P77).

In summary, a stake has been understood to be an interest since 1784, an amount of money risked or gambled, which accords with the derived definition above. Similarly since 1708 a stakeholder has been understood to hold an interest, while previously it had referred to an uninvolved person who simply held the money on someone else's behalf. So this consideration of etymology provides no reason to alter the proposed definitions.

Step 8(b): consider field/speciality usage. Use of the word "entity" in the stakeholder definition includes the natural living environment (flora and fauna) without relying on governments or pressure groups providing a mouthpiece. It could also be construed to include the more esoteric concept of the "spirit" of inanimate objects.

Step 9: check against the five rules
The definition of "stake" is synonymous and that of stakeholder is by genus and difference and satisfies Rules 1 to 5.

Step 10: report the derived definition
The derived refined definitions are as follows:

- Stake = an interest
- Stakeholder = an entity with a stake (interest) in the subject activity.

Group rules post definition
Cross-check 1: consistency within group
The definitional method has not resulted in any inconsistency between terms in this group.

Cross-check 2: consistency with terms outside the group
There is no known overlap of meaning of any of the above group of terms with any other term outside the group that would prevent the definitions being accepted.

Summary of definitions
The derived refined definitions are as follows:

- Stake: an interest
- Stakeholder: an entity with a stake (interest) in the subject activity

The stakeholder locus of interest and its categorisation

Having addressed *RQ1*, defining stakeholder in terms of interest in an activity, we can now approach *RQ2* by mapping the stakeholder space.

We also note that by doing so we are partly accommodating the following statement in the literature; "However, very few scholars go onto link their analysis to the graphical scheme, and thus avoid analysing the inconsistencies that may exist between their definitions and the graphical model" (Fassin, 2009, p. 118). While we will not use the graphical representations of Freeman referred to by Fassin, all of those elements find a place within our representation, albeit under different names.

In developing our representation, we have used and/or accommodated terminology from the previously considered competing definitions and distinguished only between categories of stakeholders and not categories of stakeholder management techniques. We seek to clarify the former and exclude the latter, as we do not here wish to comment on any particular stakeholder management technique.

These previously considered competing definitions and categorisations can all be seen as dealing with some particular interest – relating to a particular type of activity or content area, or to a particular type of relationship to the activity, as noted by Miles (2012, p. 295) in saying "Different stakeholder definitions highlight core themes and give weighting to components that are relevant to the context and situation in which they are developing or using the construct".

Stakeholders become important as soon as we undertake some form of activity and so, taking the lead from the derived definition, we depict categories of stakeholder interest relative to a single generic activity. This also seemed to be an obvious starting place when considering that all projects are temporary and activity based; that any activity can potentially affect someone and in ways we may not initially expect. We then simply depicted the space in a logical way, arranging terms associated with the word and iterating to remove inconsistencies until there was no contradiction in the words used and the depiction accommodated individual, government and commercial activities. The result is shown in Figure 1.

Note that the particular activity may be a task, a project, a programme, an undertaking of a corporation or government entity or even a particular instance of a person's behaviour.
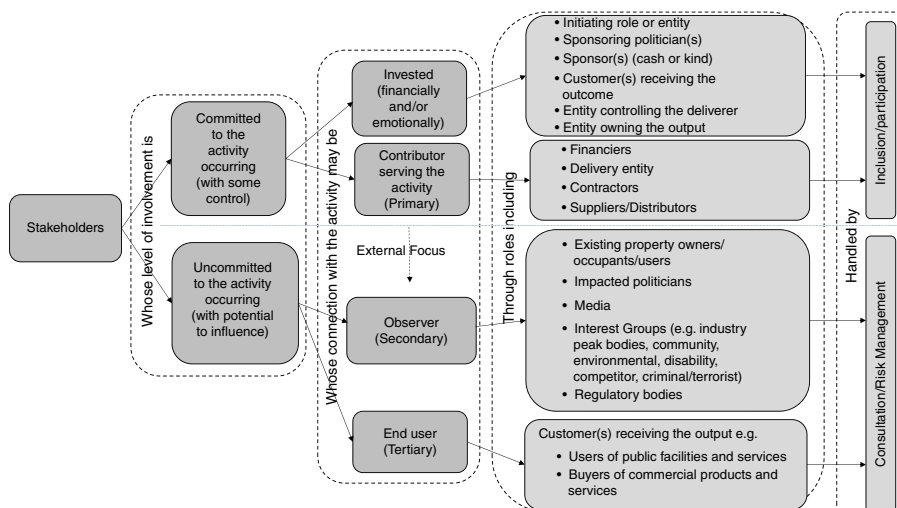
Figure 1
Stakeholder locus
of interest

In the latter case, not all of the roles come into play, but the diagram has been drawn to accommodate stakeholder circumstances for the most complex activities, for otherwise, the diagram would be incomplete.

The key to the diagram is the identification and separation of both the level of involvement and the type of connection that various stakeholders may have. It shows two levels of involvement (committed and uncommitted to the activity occurring) and then two types of connection with the activity for each of these. Note that the terms primary and secondary come from the literature while the depiction itself suggests the tertiary category, which we have sub-labelled as such. The timescale is different for each level of connection; the contributor or primary roles are affected immediately, observer or secondary roles may be affected immediately or once the activity is completed and tertiary end users are impacted by the completed activity (aside from any adverse impacts during activity implementation, which are covered under existing users in the secondary category). Also a particular person may find themselves in more than one role and others may transition between roles over time, from top to bottom, e.g. from affected landholder or occupant or contributor to user. So the diagram depicts roles rather than persons; it also covers an extended timescale and relates only to a single activity or a single aggregation of activities.

We now propose definitions of the four categories of stakeholders shown in Figure 1, based upon their connection to the subject activity. In doing so, we will also demonstrate that these categories and their definitions accommodate the most common definitions given by Miles (2012, p. 293), and those reported in Huemann *et al.* (2016, p. 25). Our proposed category definitions are as follows:

- An invested stakeholder is one who has some control of the activity. This accommodates Clarkson (1994, p. 5) "bear some form of risk as a result of having invested some sort of capital, human or financial, something of value, in a firm".

- A contributing (primary) stakeholder is one whose participation is required to sustain the activity. This is based upon Clarkson (1995, p. 106) "A primary stakeholder group is one without whose continuing participation the corporation cannot survive as a going concern". It also aligns with Stanford Research Institute (1963) "those groups without whose support the organization would cease to exist".

- An observer (secondary) stakeholder is one whose acceptance or compliance is required to sustain the activity. This is based upon Clarkson (1995, p. 107) "secondary stakeholder groups are defined as those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival. […] however such groups can cause significant damage to a corporation". "Acceptance or compliance" has the connotation of both influence and being affected by, does not mean agreement and avoids the need to include reference to damage.

- A tertiary stakeholder is one who uses the output of the activity.

In basing these definitions on previous literature, we have covered all the definitions listed as popular by Miles (2012, p. 293) with the exception of one, whose definition was:

> […] classes of stakeholders can be identified by their possession or attributed possession of one, two, or all three of the following attributes: the stakeholder's power to influence the firm, the legitimacy of the stakeholder's relationship with the firm, and the urgency of the stakeholder's claim on the firm Mitchell *et al.* (1997, p. 854).

This was more a classification than a definition, as the quotation actually states. Our depiction is for definitional purposes and accommodates the power to influence as well as legitimacy but does not accommodate urgency. Urgency may be important in

determining the necessary speed of resolution of a stakeholder issue, but this is activity dependant and has no bearing on which of the above four categories a particular stakeholder happens to be in. The classification actually depicted in Mitchell *et al.* (1997, p. 874) shows eight classifications, but these incorporate aspects of stakeholder management, beyond simply defining and are not just restricted to the connection with the activity as outlined in Figure 1. They were concerned with classifying both who and what really counts, as stated in their publication title. Urgency does not relate to who; it relates to what might need to be done and how quickly. We are concerned only with defining who. Their classifications of dangerous, definitive, dependent and demanding stakeholders all fit within our secondary stakeholder category and many of the roles shown in Figure 1 can at times require urgent attention. They also acknowledged "The theory of stakeholder identification and salience developed in this article in no way discredits this search for a legitimate normative core for stakeholder theory" (Mitchell *et al.*, 1997, p. 882). So there is no conflict here, although we seek a non-normative core.

A similar issue arose in Clarkson (1995) who said:

> I propose that corporate social performance can be analyzed and evaluated more effectively by using a framework based on the management of a corporation's relationships with its stakeholders than by using models and methodologies based on concepts concerning corporate social responsibilities and responsiveness (Clarkson, 1995, p. 92).

He develops a classification of management strategies that he refers to as a RDAP Scale, meaning reactive, defensive, accommodative or proactive (Clarkson, 1995, p. 109). All of these are ways of managing various categories of stakeholder and we have categorised on a completely different basis, which is silent on and therefore accommodates any method of management, none of which relates to definition of categories of stakeholders.

Some of the definitions in Miles (2012) were based upon Freeman's (1984) definition:

> Freeman's (1984) "affects and is affected by" stakeholder definition is the most widely adopted of all definitions within high quality management journals (Miles, 2011) with almost 20% of articles (105/563 definitions identified) providing a definition of a stakeholder adopting one of the 1984 variants from Freeman's seminal book (Miles, 2012, p. 295).

The full definition given by Freeman (1984) is "any group or individual who can affect or is affected by the achievement of the organization's objectives" (p. 46). The stated restriction to an organisation, and the unstated further restriction to one with a joint-stock company structure (as detailed in the next section), both unnecessarily limit the ambit of the base term and invite conclusions to be drawn that may not be generic to other circumstances. However the key "affects and is affected by" element is generic and can be applied to all four categories defined above; it is just not as succinct as the definition derived above. If one has an interest in an activity then one may be affected by it or seek to have an effect upon it.

This deals with all of the "most popular" definitions listed in Miles (2012, p. 293) who also mentions a further issue:

> Sternberg (1997, p. 4) states: "The widely used Freeman characterization of stakeholder […] transforms everyone into a stakeholder. It not only includes those who have a stake in the organization as well as those in whom the organization has a stake, but it excludes all criteria of materiality, immediacy and legitimacy". This is echoed by Phillips (1997, p. 63) "one example that has troubled some is the problem of whether terrorists are a stakeholder group. Although many of our considered judgments lead us to say 'no', earlier versions of the theory would have to say 'yes' due to the fact that they can certainly affect the firm" (Miles, 2012, pp. 293-294).

The definitions of stakeholder categories proposed above accommodates these views without precluding the handling of supportive and antagonistic observer stakeholders in completely different ways. The activity used for the depiction in Figure 1 is generic and so

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can apply to law enforcement, which does not have a joint-stock company organisational structure. Law enforcement activities are directly affected by criminals and terrorists who fall into the observer (secondary) category, and not into the invested category; it is the community that receives the beneficial outcome of offenders being locked up, and it is the victims of their activities that are the (unwilling) end users or output customers. However if we consider one individual criminal act by a person, that person is invested and will receive an outcome from it, the police and courts are observer stakeholders and the victim is again the (unwilling) output customer, receiving the detrimental output in whatever nefarious form it may take.

Finally, Miles also refers to a claimant definition for business ethics:

> According to Kaler, three types of stakeholder definitions are prevalent within business ethics: influencer definitions "requiring only a capacity to influence the workings of the business", claimant definitions "requiring some sort of claim on the services of a business" and combinatory definitions "allowing for either or both of these requirements" (Miles, 2012, p. 291).

Kaler (2002) further states:

> It is argued that for the purposes of business ethics, stakeholding has to be about improving the moral conduct of businesses by directing them at serving more than just the interests of owners. On that basis, influencer definitions are eliminated on the grounds that they only concern morally neutral strategic considerations and combinatory definitions on the grounds that the combining of ethical and strategic considerations they promise can be less confusingly achieved through an exclusively claimant definition. It is concluded that for the purposes of business ethics, stakeholders are claimants towards whom businesses owe perfect or imperfect moral duties beyond those generally owed to people at large (p. 91).

We adopt a strictly non-normative approach and have categorised in terms of connection rather than influence, thereby avoiding the issues associated with power imbalance and moral consequences. The moral duties owed by a business to claimants are covered under primary, secondary and tertiary categories, which cover various aspects of liability. We strive to avoid normativity in addressing any definitional question because of its potential to distort, confuse and polarize.

To conclude this section of analysis, Miles (2011, p. 29) listed all the terms that had been used in all 563 definitions and found there were 36. These included interest and 12 others that we have considered above and excluded. The remaining 23 terms were reviewed and none were suitable candidates for expressing the generic essence of the term. They related to particular types of interest or to normative matters.

Huemann *et al.* (2016, p. 25) lists examples of stakeholder definitions in the literature. Some of these have been mentioned above and there is a group of six definitions mentioned, all of which are accommodated under the invested or contributing (primary) categories. These are "claimants who have contracts" attributed to Cornell and Shapiro (1987, p. 5), "Have a stake in or claim on the firm" (Evan and Freeman, 1988, pp. 75-76), "Groups in a relationship with an organisation" (Thompson *et al.* 1991, p. 209), "Those who have or claim ownership, rights or interests in a corporation and its activities" (Clarkson, 1995, p. 106), "Persons or groups with legitimate interests in procedural and/ or substantive aspects of corporate activity" (Donaldson and Preston, 1995, p. 67) and "Persons or groups of persons [who] voluntarily accept the benefits of a mutually beneficial scheme of cooperation requiring sacrifice or contribution on the part of the participants" attributed to Phillips *et al.* (2003, p. 92). The one remaining definition is "Individuals or groups who are directly and/or indirectly involved in the selected scales and beyond, and whose lives, environment, or business are affected by the three spatial scales and beyond the adopted constructs". The scales referred to here are categories of sustainable urban development ranging from global down to a building element.

The individuals or groups referred to are accommodated in the observer (secondary) and end user (tertiary) stakeholder categories.

This analysis therefore indicates that the proposed definition and categorisation accommodates all the definitions drawn from Huemann *et al.* (2016, p. 25) as well as those mentioned by Miles.

We will now address some further aspects of Figure 1. If it were not for previous usage of Clarkson (1995), we could have considered just labelling primary stakeholders as contributing stakeholders and the remaining two categories of observer and end user as primary and secondary rather than secondary and tertiary. This could have been justified in project management terms where stakeholder management is mainly concerned with what we have here labelled as observer stakeholders and there are formal organisational processes and prescribed roles for contributing or primary stakeholders.

However it could equally be argued that those financially and emotionally invested are the primary stakeholders and should be labelled as such. However this would leave those that project management is principally concerned with managing through stakeholder management as tertiary stakeholders, with end users being quaternary stakeholders. This would take us one step further away from the whole purpose of determining who the observer stakeholders are. In any activity, it is usually relatively easy do identify who is actually carrying out the activity whereas it may be quite difficult to determine who may affect, or be affected by the activity, which is the whole purpose of the theory and so we reject both these options and accept that the primary/secondary/tertiary classification as the most practical. It reflects power to influence the initiators of the activity. It also addresses the circumstance of managements not considering their staff and suppliers as stakeholders.

The alternative would be to drop any such attempted numbering referring only to two categories within each of committed and uncommitted stakeholders and this is what we propose, although we have shown both in the definitions and in the depiction in Figure 1 because of the labelling simplicity of the numbered alternative. This enables the proposed nomenclature to not contradict or attempt to alter any existing usage or definition (of primary and secondary) with the exception of the position of the customer and government/regulatory bodies, which receives special consideration in the following section.

We also considered whether the observer or secondary category should be split but made the deliberate decision not to as it requires normative considerations before being able to categorise them, such as having to determine whether a particular stakeholder is for or against, "dangerous" (Mitchell *et al.*, 1997, p. 873), or a "grumbler" (Jepsen and Eskerod, 2009, p. 337). This is impractical as some impacted stakeholders may be either for or against, depending upon their circumstances and their view of the potential financial accommodation that may be made. This is confirmed by comments of the project managers of the four sample projects in Jepsen and Eskerod (2009) who:

> […] pointed out that it is not possible to make a detailed front end stakeholder analysis. They did not have the cognitive capacity to consider all stakeholders in detail, nor did they find such a detailed analysis worthwhile. Firstly, it is impossible to foresee interactions with stakeholders in the distant future. Secondly, the contributions needed from each stakeholder may vary in different stages in the course of the project and due to unforeseeable events in the project.

> Further, the project managers spent quite a long time conducting the stakeholder analysis mainly because they had difficulty in getting access to important stakeholders. In some cases, the result was that they had to decide on and implement a stakeholder management strategy without having the proper information to do so because the project needed to get in motion (p. 340).

There is one further issue that needs to be addressed regarding the definition of contributor or primary stakeholder given above. While it has been based on Clarkson (1995), following his definition he went on to say "Primary stakeholder groups typically are comprised of

shareholders and investors, employees, customers, and suppliers, together with what is defined as the public stakeholder group" (p. 106). However, Figure 1 excludes customers from the contributor or primary category. This is a difference to previous practice that requires special consideration which is given in the two following sections.

Stakeholder theory – a company or an activity base?

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The issue of the base for stakeholder theory arises because the base of the theory to date has been the company whereas Figure 1 uses an activity base. Stakeholder theory has concentrated upon the joint-stock company model. This is evidenced by Freeman's original depictions (Freeman, 1984, pp. 59, 121-122) which show the company at the centre of the diagram. Fassin (2009) also includes similar depictions and even explicitly presents a "Stake model of the firm" which has company management at the centre (pp. 115-24), and also shows customers as internal rather than external stakeholders. While Freeman (1984) was aware of its wider application, he said "I shall concentrate on the applications of the stakeholder concept to corporations, and in particular, for profit corporations" (p. 28). He also said 33 year later "In stakeholder theory, we need more cases of real companies and real stakeholders interacting with each other" (Freeman, 2017).

However stakeholder theory is now being applied widely to are other entities, organisational forms and fields, such as individuals, projects and government departments, as well as in politics (Miles, 2011, p. 3). So while Freeman's initial break from shareholder theory allowed other interests to be accommodated, its development within the joint-stock company environment carried the risk of using terminology generic to that field which may not be applicable outside it, such as in projects and in government. To be truly generic, it must be possible to represent stakeholder theory in a way that accommodates other forms of entity and organisation. Using an activity basis achieves this.

There are a number of factors supporting use of an activity base:

(1) If a company's activities change, some of its stakeholders will change. This means the activity is more fundamental than the company.

(2) Representing stakeholder theory in terms of a company-centric view of the world invites an absolute answer for the question of who stakeholders might be, which is unattainable and bound to fail as activities change.

(3) The whole imprecision of ignoring minor definitional issues and the niggling little question regarding how this applies exactly to government or projects and whether the translation is fully valid or not is avoided.

(4) It can be applied to activities that produce some result or output from the effort expended but the output or result is not a product or service. Examples include a parents' stake in their children's behaviour or exercise or training, for example which produces an output of a better functioning and or more skilled body which may or may not have end users interested in the competitive result.

(5) There are niggling inconsistencies in the application to companies anyway because of the inclusion of customers within both Clarkson's primary and Fassin's internal stakeholder groups.

The following section addresses the last factor given above and highlights duality of terminology in relation to use of the term customer.

What type of stakeholders are customers?

In Figure 1, the term customer is used in two different places; one where the person is committed to the activity occurring, and one where the person is not. The former has a stake

in the activity of producing a product or service and the latter has a stake simply in using or consuming the product or service that the activity produces. Both are customers and from a producing company perspective, both are of primary commercial importance and so could be legitimately labelled as primary. However drawing Figure 1 from an activity perspective facilitates recognising that there are two different roles here, requiring one at the top and one at the bottom of the activity-based diagram; one sort of customer is an invested stakeholder and the other is an end user or tertiary stakeholder. There are different roles played by these two different types of customer and these have been shown in Figure 1 as output and outcome customers. Depicting Figure 1 using an activity base highlighted this issue and also highlighted potential confusion in terminology among invested stakeholders regarding which one to label as the customer.

Support for identifying these various interests comes from Winch (2007, p. 323) in noting: "the interests of financiers, clients, and sponsors may be divergent". We will further illustrate the need for identifying these through giving examples of complex activities the authors have had experience with as follows:

(1) Government reform programmes or programmes to improve social welfare or some aspect of indigenous life: these may be initiated from outside government or by politicians or a government entity. Funding will come from government. The entity receiving the outcome (outcome customer) is the person or group within government who will have to administer or deal with the developed system and live with the consequences if the measures introduced do not achieve the outcome desired. This may be a different entity to that controlling the deliverer. The output customers are those using the facility or service provided.

(2) Providing channel markers to a particular remote destination: this may be done for a local initiating agitator, developer or politician, and the local community receives the outcome of increased safety and marine traffic but it may be funded and most likely owned (and therefore maintained) by the maritime authority with jurisdiction of the area. So while the facility provided is actually used by local residents and their suppliers who are the output customers, the entity providing the money is not necessarily the customer of the (non-financial) outcome.

(3) Design and construction of the above channel markers: this is going down to a more detailed activity level. In this case requirements will be set by the maritime authority on the basis of end users or output customers being vessels of varying sizes rather than people. The authority will either directly let the construction contracts or will have functional requirements it can impose upon the local authority or developer that may arrange the construction for it. Whoever lets the contracts, the marine authority with jurisdiction over the area will be an outcome customer irrespective of who pays.

(4) Parents buying a drum-set or violin on request from their child: the child plays the initiating role and will be the end user (output customer). The parents will be the sponsors in both cash and kind (practice space). They will also be the recipients of the outcome; the initially dreadful noise and the satisfaction of seeing the personal development of their child. The neighbours affected by the practice noise are observer stakeholders who may exert an influence.

(5) Purchase or use of a product or service that generates dependence: uncommitted (output) customers may become dependent and subsequently committed to the ongoing (and different) activity of continued production of the product, but this will still only mean they will then fit into two categories; observer as well as end user, for that later activity.

Again, it is important to remember that the right-hand side of Figure 1 details roles and not individuals. Individuals may play multiple roles. In some of the above examples, the person or entity funding the activity is not the outcome customer. Similarly, a well-intentioned group with influence can impose impractical arrangements on other areas of government through government not realising the need for this internal governance distinction between who pays and who is lumbered with the outcome. The conclusion from this is that a truly generic stakeholder governance model cannot be based on financial arrangements, even though it must, of course, accommodate them.

We will now give our reasoning for choosing the customer labelling shown in Figure 1.

Customer labelling

First we have used the term customer rather than client as a client generally pays (Winch, 2007, pp. 321-2) whereas a customer may or may not. The latter can occur in government.

The resolution for labelling customers that did not lead to contradiction was to separate the output from the outcome. Two other options were considered and rejected. Distinguishing between contracted and un-contracted does not accommodate the circumstance where the person receiving the outcome has no money or authority to undertake the activity and so there is no contract, except possibly for some vague "social contract". It also does not accommodate the circumstance where organisational authority or rank prevails and the activity gets its authority from some accepted organisational practice for which there is either no contract or some general clause in an employment contract. This approach would lead in some vague direction to further hair-splitting, getting further from the genericity were are seeking. The other option considered was to distinguish between internal and external (relative to producing the activity). This avoids these contractual difficulties but still does not accommodate the circumstance that can occur within government where the person or group receiving the outcome has no money or authority to undertake the activity and may be external to it. So both these options lead to other unnecessary debates and were rejected in favour of demarcation in terms of output and outcome.

Reliance on the joint-stock company model also presumes there will be a monetary price for the product or service. This leads to the conclusion that a customer is always one who pays. As mentioned above, this is not necessarily the case for government. Government has many people using its services, both willingly and unwillingly and many of these do not make a monetary payment for the service and some, in fact, receive money. These are all (output) customers of government; There is some sort of service provided to the public, so what else can the people who use those services be called that might be non-normative? Consequently any definition of a customer that requires there to be a monetary payment is inappropriate for government. Government services provide some sort of value to somebody and so there is some sort of value exchange; one that is more complex than the simple exchange of a product for monetary consideration. So it would be preferable to make the concept generic by defining a customer in terms of the value exchange rather than restricting it to a user of a product or service who happens to pay for it. This can be done quite simply by describing a conventional (output) customer as one who receives the product or service.

Customer terminology

The above discussion leads us to develop customer terminology that accommodates both government and the joint-stock company model as follows:

- a customer is one who receives some value from an activity;

- an output customer is one who receives the output of an activity; and

- an outcome customer is one who receives the outcome of an activity.

The joint-stock company customer who pays for the product or service that the activity produces is simply a sub-set of the term which we have qualified as an output customer, namely one who pays, or a paying customer. These definitions also accommodate government usage, in which it is possible that either category of customer may not pay. It allows government to effectively use the theory that developed within the private sector environment without becoming confused by the different organisational structure or appearing disingenuous when labelling those hostages to it as customers.

We will consider the application of the definitions and model to two further and quite different complex activities with which the authors are familiar to check its veracity:

(1) Operating a driver licencing system: potential young drivers desiring a licence are the output customers of the activity, but they are also captive to the system for which the government has a monopoly. The rest of us are the outcome customers, invested in driving on the roads, who may receive whatever safety and insurance premium outcomes that may result. So the value that learner drivers get from being captive to such a system is their own safety. In this case, the output customer also pays for the piece of paper or card they receive. Of course the circumstance can occur where a private company effectively has a similar monopoly over a particular product or service, in which case its customers are effectively captive. So whether the customer is captive or not makes no difference to the fact that they are a customer.

(2) A fraudster appearing to offer a service to customers and those customers being taken in: there is still a value exchange here; the value to the customer becomes negative as the flow of money goes in a direction opposite to their intentions. It makes little sense to refer to a positive or negative customer. However it does make sense to refer to the value they receive as positive, zero or negative. The fact that they received negative value does not mean they are not a customer. They just happened to end up with an additional descriptor of victim. There has still been a value exchange.

Given that the examples above have not invalidated Figure 1, and that it accommodates circumstances that current stakeholder theory does not, we propose this figure as an alternative representation of stakeholder theory. As John Stuart Mill said:

It would, however, be a complete misunderstanding […] to think that because a name has not at present an ascertained connotation, it is competent to anyone to give it such a connotation at his own choice. The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought […]. To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name. When this can be done without rendering any received assertions inadmissible, the name can be defined in accordance with its received use (Mill, 1874, pp. 469,70).

Findings

Considering output customers as primary stakeholders has mixed the (joint-stock company model) content with the definitional process resulting in potential confusion in application to other entities and organisational forms. Previous stakeholder theory had introduced assumptions and terminology generic within the confines of the joint-stock company model but not outside it. This highlights the importance of separating process from content.

This analysis has produced further role definitions that clarify relationships and assist in freeing stakeholder theory from its capture by the joint-stock company model and these are presented in summary with the category definitions below.

We therefore propose Figure 1 and the associated four category and two customer role definitions as our response to *RQ2*.

Summary of consequent category and role definitions

- An invested stakeholder is one who has some control of the activity.

- A contributing (= primary) stakeholder is one whose participation is required to sustain the activity.

- An observer (= secondary) stakeholder is one whose acceptance or compliance is required to sustain the activity.

- An end user (= tertiary stakeholder) is one who uses the output of the activity.

- A customer is one who receives some value from an activity.

- An output customer is one who receives the output of an activity.

- An outcome customer is one who receives the outcome of an activity.

Observations on the refining method and its application

On the method

Analysis of the method indicated that in Step 10 the word "adopted" should be "derived". This change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word derived.

Definitional Step 2 of the method indicates lexical usage can be omitted if there is a known, comprehensive academic review of definitions of the term. Such reviews existed for stakeholders. Lexical usage was nevertheless analysed with the surprising result that the debate within the academic community about types of stakeholders produced no reason to alter the definitions derived from lexical usage. It was therefore necessary to do the lexical analysis anyway. The academic definitions had focussed on a particular extension, resulting in unwarranted exclusions. The omission allowed in Step 2 of the adopted method should therefore have an additional qualification "that has produced a definition by intension, not specific to any extension".

On the application of the method

Following the chosen method has enabled clear non-normative, refined definition of the English language word stakeholder.

The definition derived from lexical analysis was unchanged by the academic analysis.

Implications

The definition of stakeholder and the categories and roles contained in Figure 1 remove confusion and inconsistency without invalidating any prior usage of the term stakeholder. The process simply highlighted that no previous usage was sufficient for generic use and that sufficiency in future usage can be achieved by:

(1) adding the missing qualifying words, namely the category (one of the above four – invested, contributor, observer or end user);

(2) specifying the field or area to which the particular labels or findings apply (such as project management, corporate management, accounting, psychology, law enforcement, etc.); and

(3) specifying whether the customer is for the output or the outcome of the activity.

So, for example, within project management, we may state that when we abbreviate and use the term stakeholder, we really mean observer or secondary stakeholder. We may also then refer to tertiary stakeholders not as stakeholders but as end users and accommodate

invested and primary stakeholders in our normal organisational and governance roles. This excludes them from the external focus that project stakeholder management generally assumes and focusses stakeholder management in the area within project management where its power lies and its impact is greatest. Asset and strategic management considerations normally address the needs of the end user and the focus during a project is to locate and deal with the observer stakeholders. General acceptance of this could potentially remove confusion in usage of the term within the project management field, requiring minimal change of existing usage.

Figure 1 will however have some implications for project governance arrangements, methodologies and models that do not separate the various invested stakeholder roles for the particular activities being undertaken. For many projects, the (outcome) customer, sponsor, owner and entity controlling the deliverer are the same person or organisation. However where different people or organisations hold these roles, their differentiation in governance arrangements can enable the differing interests of these roles to be actively accommodated.

A further implication is that analysing stakeholders as an essentially contested concept (Miles, 2012) lead to a dead end that did not produce clarity in the same way that the definitional refining and mapping process used above has. If the above definitions and depiction are accepted, then there is actually no competition between different meanings of the base stakeholder term and its supposed essential contestability is removed. The definitional competition has simply arisen from various categorisations. Usage of the depiction in Figure 1 can facilitate researchers and practitioners in locating where their particular field of interest lies and qualifying their usage of the term accordingly, rather than competing for exclusive usage of the generic term.

It is also worth noting that the refined definitions and consequent category and role definitions easily accommodate current trends in stakeholder management thinking; they contain no comment on techniques of stakeholder management and are simply restricted to definition.

Conclusions

Application of the McGrath and Whitty (2015) definitional refining method has produced refined definition of the terms stake and stakeholder as an interest in relation to an activity. Use of this method provided a means of avoiding all extensions of meaning resulting from defining particular types of stakeholders and/or their degrees of impact; direct or indirect, primary or secondary, legitimate or derivative and so on. This highlighted the veracity of defining by intension rather than by extension and enabled RQ1 to be addressed with the key essential definitional elements being interest and activity.

Mapping the stakeholder conceptual space and categorising it in Figure 1 based upon these definitions provided a response to RQ2. It uncovered several issues in current usage and enabled resolutions to be proposed. It first uncovered the dependency of stakeholder theory on the joint-stock company model and provided a means to break from that restriction. It then also identified dual usage of the term customer, which its categorisation was again able to resolve.

The stakeholder categories developed were labelled as invested, contributor, observer and end user stakeholders. The dual customer roles were labelled as output and outcome, relating them to value exchange and releasing them from dependence upon there being a financial consideration for the product or service. This facilitates usage by projects and government organisations which are not structured as joint-stock companies. It also highlights the need for articulating any silent or assumed qualifiers, to avoid difficulties when applying terms in areas where they did not originate.

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Figure 1 can provide clear visual assistance to researchers and practitioners in locating their endeavours within the stakeholder locus of interest. The specification of area and category ensures that the many fields stakeholder theory is now being applied to can continue with their field-specific usage of the term, provided its location within the stakeholder locus of interest is identified. This avoids compromising other usages or further competing for exclusive use of the term. Through having an activity rather than a company base, Figure 1 provides a means of accommodating the governance complexities of government organisations and projects into stakeholder theory, rather than being an incidental and sometimes inappropriate add-on.

Another feature of the definitional method used in this paper is its differentiation between the definitional process and the content that the definitions are applied to, facilitated through its non-normative approach to determining the core essence of its meaning. This enabled the intrusion of joint-stock company model content into the stakeholder definitional process to be identified and corrected. It further highlighted the need to avoid allowing non-generic content to intrude on generic process.

Adoption and use of the definitions developed in this paper can provide clarity of meaning, avert development of field specific and differing "private language" and contribute to avoiding confusion and misunderstanding. This can benefit the community in general and practitioners and researchers in particular, saving time, resources and money.

Successful application of the definitional refining method here removes stakeholder from the list of essentially contested concepts and indicates its potential suitability for application to other contested terms.

This application of the McGrath and Whitty (2015) method also found three minor changes required as follows:

(1) Step 2 should have an additional qualification at the end stating "that has produced a definition by intension, not specific to any extension".

(2) Step 3 to have an additional qualification at the end stating "(and show these and subsequent refined and other contributing definitions in pale grey highlight)".

(3) Step 10 of the method should read "Report the derived definition".

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Appendix

Stakeholder
defined

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Dictionary	Definition of stake (all sourced on 28 May 2017)
BusinessDictionary	The amount of a security either owned (a long position) or owed (a short position) by an investor or dealer. Also called position
Cambridge	A share or financial involvement in something such as a business The amount of money you risk on the result of something such as a game or competition
Collins English Dictionary	If you have a stake in something such as a business, it matters to you, for example because you own part of it or because its success or failure will affect you
Concise Oxford Dictionary	Money, etc., wagered on an event, esp. deposited with a third party (stakeholder) by each of those who make a wager Money to be contended for Be materially concerned in its welfare
Dictionary.com	1. A stick or post pointed at one end for driving into the ground as a boundary mark, part of a fence, support for a plant, etc. 2. A post to which a person is bound for execution, usually by burning 3. The stake, the punishment of death by burning 4. One of a number of vertical posts fitting into sockets or staples on the edge of the platform of a truck or other vehicle, as to retain the load
Longman Dictionary of Contemporary English	If you have a stake in a business, you have invested money in it Money that you risk as the result of a horse race, card game, etc.
Macmillan Dictionary	1. The part of a business that you own because you have invested money in it 2. The degree to which you are involved in something and want it to succeed 3. An amount of money that you risk losing when you try to guess the result of a race or competition 4. The things you can gain or lose by taking a risk, for example in business or politics
Macquarie Dictionary	1. A stick or post pointed at one end for driving into the ground as a boundary mark, a part of a fence, a support for a plant, etc. 2. A post, especially one to which a person is bound for execution, usually by burning 3. One of a number of vertical posts fitting into sockets or staples on the edge of the platform of a vehicle, as to retain the load 4. Mormonism an administrative unit equivalent to a diocese – verb (t) (staked, staking) 5. Also, stake off, stake out – to mark with stakes 6. Also, stake out – to possess, lay claim to or reserve a share of (land, profit, etc.): to stake a claim 7. To protect, separate or close off by a barrier of stakes 8. To support with a stake or stakes, as a plant 9. To tether or secure to a stake, as an animal 10. To fasten with a stake or stakes – phrase 11. Pull up stakes, Colloquial to leave one's job, home, etc., and move away 12. Stake out, to surround (a building, etc.) for the purposes of a raid, a siege, or keeping watch 13. The stake, the punishment of death by burning.

(continued)

Table AI.
Definitions of "stake"
(apart from a (pointed)
stick or post

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Dictionary	Definition of stake (all sourced on 28 May 2017)
Merriam-Webster	1. A pointed piece of wood or other material driven or to be driven into the ground as a marker or support 2a. A post to which a person is bound for execution by burning b. Execution by burning at a stake 3a. Something that is staked for gain or loss b. The prize in a contest c. an interest or share in an undertaking or enterprise 4. A Mormon territorial jurisdiction comprising a group of wards
Oxford Dictionaries	1. A strong wooden or metal post with a point at one end, driven into the ground to support a plant, form part of a fence, mark a boundary, etc. 1.1. The stake historical – a wooden post to which a person was tied before being burned alive as a punishment 1.2. A long vertical rod used in basket-making 2. A metalworker's small anvil, typically with a projection for fitting into a socket on a bench 3. A territorial division of the Mormon Church under the jurisdiction of a president
TheFreeDictionary	1. A piece of wood or metal pointed at one end for driving into the ground as a marker, fence pole, or tent peg 2a. A vertical post to which an offender is bound for execution by burning b. Execution by burning. Used with the: condemned to the stake 3. A vertical post secured in a socket at the edge of a platform, as on a truck bed, to help retain the load 4. Mormon Church – a territorial division consisting of a group of wards under the jurisdiction of a president 5. Sports and Games a. Often stakes money or property risked in a wager or gambling game b. The prize awarded the winner of a contest or race c. A race offering a prize to the winner, especially a horse race in which the prize consists of money contributed equally by the horse owners 6a. A share or an interest in an enterprise, especially a financial share b. Personal interest or involvement: a stake in her children's future 7. Something, such as a crucial change or grave consequence that may result from a situation: the stakes are high in the mayoral election 8. A grubstake
Wiktionary	A share or interest in a business or a given situation That which is laid down as a wager; that which is staked or hazarded; a pledge

Table AI.

Stakeholder
defined

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Dictionary	Definition of stakeholder (all sourced on 28 May 2017)
BusinessDictionary	Any party that has an interest ("stake") in a firm
Cambridge	A person or group of people who own a share in a business
	A person such as an employee, customer, or citizen who is involved with an organisation, society, etc. and therefore has responsibilities towards it and an interest in its success
Collins English Dictionary	1. A person or group owning a significant percentage of a company's shares
	2. A person or group not owning shares in an enterprise but affected by or having an interest in its operations, such as the employees, customers, local community, etc.
Concise Oxford Dictionary	Not listed separately but mentioned in the definition of stake as the third party with whom money wagered on an event is staked
Dictionary.com	1. The holder of the stakes of a wager
	2. A person or group that has an investment, share, or interest in something, as a business or industry
	3. Law – a person holding money or property to which two or more persons make rival claims
Longman Dictionary of Contemporary English	1. Someone who has invested money into something, or who has some important connection with it, and therefore is affected by its success or failure
	2. Law someone, usually a lawyer, who takes charge of a property during a quarrel or a sale
	3 Someone chosen to hold the money that is risked by people on a race, competition, etc. and to give all of it to the winner
Macmillan Dictionary	A person or company that has invested in a business and owns part of it
	a. Someone who has an interest in the success of a plan, system, or organisation, for example a worker in a company or the parent of a child at a school
Macquarie Dictionary	1. The holder of the stakes of a wager, etc.
	2. Someone who has a pecuniary interest in an enterprise, having contributed funds to it
	3. Someone who is affected by, is concerned with, etc., an issue or enterprise
Merriam-Webster	1. A person entrusted with the stakes of bettors
	2. One that has a stake in an enterprise
	3. One who is involved in or affected by a course of action
Oxford Dictionaries	1. (In gambling) an independent party with whom each of those who make a wager deposits the money or counters wagered
	2. A person with an interest or concern in something, especially a business
TheFreeDictionary	1. One who has a share or an interest, as in an enterprise
	2. One who holds the bets in a game or contest
Wiktionary	1. A person holding the stakes of bettors, with the responsibility of delivering the pot to the winner of the bet
	2. An escrow agent or custodian
	3. (law) A person filing an interpleader action, such as a garnishee or trustee, who acknowledges possession of property that is owed to one or more of several other claimants
	4. A person or organisation with a legitimate interest in a given situation, action or enterprise

Table AII.
Definitions of
"stakeholder

About the authors
Stephen Keith McGrath is undertaking a PhD at the University of Southern Queensland. His research interest is in the cross-discipline impacts of "generic" project, programme and portfolio management methodology and terminology, particularly between the civil infrastructure and ICT areas, with a focus on governance. He is a Civil Engineer, Fellow of the Institution of Engineers, Australia and an AIPM Certified Practicing Project Director, with 40 years of experience in developing, planning and delivering civil infrastructure projects as well as strategy and business development projects in the roads, busways, rail, marine and aviation areas. He also led the team that developed the Queensland Department of Transport and Main Roads "OnQ" project management system that has now been used

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in delivering more than $20B of civil infrastructure and business development/ICT projects. Stephen Keith McGrath is the corresponding author and can be contacted at: kasmac99@yahoo.com.au

Dr Stephen Jonathan Whitty is an Associate Professor of Project Management at the University of Southern Queensland, Australia. His role includes leading project management research, and directing postgraduate project management teaching programmes for which he has been recognised nationally for his contributions to developing postgraduate learning outcomes. His unique evolutionary approach to project management research considers all matters pertaining to projects and project management and examines them against the framework of evolution by natural, social, cultural and memetic section. He also contributes to the literature on complexity in project management. Jon regularly reviews research articles for academic journals. He has been invited to participate in international academic visiting programmes, and to present papers and workshops at international project management conferences.

Accountability and responsibility defined

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Abstract

Purpose – The purpose of this paper is to remove confusion surrounding the terms responsibility and accountability from the general and project management arenas by creating "refined" (with unnecessary elements removed) definitions of these terms.

Design/methodology/approach – A method of deriving refined definitions for a group of terms by ensuring that there is no internal conflict or overlap is adopted and applied to resolve the confusion.

Findings – The confusion between responsibility and accountability can be characterised as a failure to separate the obligation to satisfactorily perform a task (responsibility) from the liability to ensure that it is satisfactorily done (accountability). Furthermore, clarity of application can be achieved if legislative and organisational accountabilities are differentiated and it is recognised that accountability and responsibility transition across organisational levels. A difficulty in applying accountability in RACI tables is also resolved.

Research limitations/implications – Clear definition of responsibility and accountability will facilitate future research endeavours by removing confusion surrounding the terms. Verification of the method used through its success in deriving these "refined" definitions suggests its suitability for application to other contested terms.

Practical implications – Projects and businesses alike can benefit from removal of confusion around the definitions of responsibility and accountability in the academic research they fund and attempt to apply. They can also achieve improvements in both efficiency and effectiveness in undertaking organisation-wide exercises to determine organisational responsibilities and accountabilities as well as in the application of governance models.

Social implications – Refined definitions of responsibility and accountability will facilitate building social and physical systems and infrastructure, benefitting organisations, whether public, charitable or private.

Originality/value – Clarity resulting in the avoidance of confusion and misunderstanding together with their consequent waste of time, resources and money.

Keywords Accountability, Responsibility, Define, Refined definition, Accountable, Responsible

Paper type Research paper

Introduction
The concepts of accountability and responsibility are often confused and many dictionaries define one in terms of the other. This appears to have been a problem that has attracted little academic interest. These concepts impact both project and general management. Confusion of definition can produce great difficulty for practitioners in allocating "universal" accountability and can cause confusion in the application of governance models. This paper explores the concepts of accountability and responsibility in detail using a rigorous definitional refining method that removes unnecessary (non-essential) elements producing non-overlapping definitions. Their implications for project work are explored with a view to removing confusion and potentially achieving improved organisational, individual and research outcomes.

Definitional confusion regarding accountability and responsibility
The importance of definition of terms was recognised by Socrates, Plato and Aristotle, as noted by Smith (2014) who wrote "The definition was an important matter for Plato",

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"Concern with answering the question 'What is so-and-so?' are at the centre of the majority of Plato's dialogues" and "Aristotle himself traces the quest for definitions back to Socrates". Nearly 2,000 years later, Hobbes (1996) wrote "To conclude, the light of humane minds is perspicuous words, but by exact definitions first snuffed, and purged from ambiguity; reason is the pace; increase of science, the way; and the benefit of mankind, the end" (p. 32). Accepting this view, we seek to provide some benefits to management in general and project management in particular by removing ambiguity from the meanings of the terms accountability and responsibility. The need for removing ambiguity has been discussed by McGrath and Whitty (2015) in their examination of the term governance. In their analysis of dictionary definitions, they confirmed that terms such as accountability and responsibility are commonly defined in terms of each other. This indicates confusion in common usage, which impacts upon the general and project management communities. It is also evident from the analysis of the etymology of accountability and responsibility (reported in Step 8(a) of the analysis of each word below) that the two words have overlapped in meaning for centuries.

Clarity of definition of accountability and responsibility is important in defining roles and responsibilities across organisations generally and within projects that organisations deliver. To demonstrate this, we refer to a 2006/2007 attempt to determine accountabilities and responsibilities using an RACI matrix across all management levels of one large government department, which the authors are not at liberty to name. At the time, the latest (3rd) edition of the *Project Management Body of Knowledge Guide* (*PMBoK Guide*) gave an example of a responsibility assignment matrix (RAM) using the RACI coding – R = responsible, A = accountable, C = consult and I = inform (Project Management Institute, 2004, p. 206). The previous (2nd) version had used the codes P = participant, A = accountable, R = review required, I = input required and S = sign-off required (PARIS) (Project Management Institute, 2000, p. 11). The RACI code was used in the government department's attempt and started unsurprisingly from the perspective of the controlling legislation. However, once legislative accountability was determined, the question of organisational managerial and business unit accountability immediately arose. If a director-general or CEO or project/programme/portfolio manager is legislatively accountable for everything, whom do they hold to account? Once the A for accountability using the RACI model is allocated, how are formal delegations of authority denoted? And how is organisational accountability shown – to accommodate managers at each level holding their staff accountable? For every task of any nature, one can look for who is actually doing the work and who is responsible for ensuring it is done properly. Sometimes this may be the same person and sometimes not. These difficulties resulted in a hiatus in the project that was dependent upon this mapping, with senior executives being confounded and unable to complete the accountability tables assigned to them. The issue was only resolved by one person retrieving the task, substituting "Accountable" with the word "Approve" and completing the table on their behalf. This difficulty was never documented or published. This attempt to allocate "universal" accountability produced significant difficulty and confusion, which was only resolved through clarity of definitions and understanding of their implications. This delayed the organisational change project for several months, which demonstrate the importance definitions can play in achieving timely delivery. Having definitions that enable a clear distinction between accountability and responsibility then provides an understanding of how these can cascade down through an organisation. One person's accountabilities are converted into their staff members' responsibilities for which they can then be held accountable. Of course, establishing clear roles and responsibilities are vital for the effective functioning of any organisation and of any project, not just for those dealing with organisational change.

The difficulties experienced with the application of one particular code, A for accountable and the existence of so many other coding conventions as noted in Step 8(c) of

the definition of accountability, further indicate that definitional confusion surrounding these terms and their application, both generally and within the field of project management.

While the definition problem is universal, we also seek here to determine its relevance to the field of project management beyond the anecdotal evidence presented above. We again adopt a deductive approach and investigate the need for definitional clarity by examining a sample document selected from that field. If we find one that has difficulty with the definitions of these two terms, then the relevance of considering this issue in relation to the project management field is demonstrated. We arbitrarily select PRINCE2 and analyse its use of the term accountability.

AXELOS (2017, p. 338) says "The project Board is accountable to corporate, programme management or the customer for the success of the project, and has the authority to direct the project within the remit set by corporate, programme management or the customer as documented in the project mandate". Having asserted this accountability, it goes on to say "The Project Board is not a democracy controlled by votes. The Executive is the ultimate decision maker and is supported by the Senior User and Senior Supplier" (AXELOS, 2017, p. 340). This is contradictory; two different entities cannot have accountability for the same thing and a project board cannot have accountability for something it has no control over. There is clearly a difficulty in PRINCE2 with the difference in definition between accountability and responsibility and this definitional confusion can potentially impact the world-wide application of its governance model.

Having found this definitional confusion in usage in one such widely used document, which has influenced many others, it serves no further purpose for our endeavour to search for any further instances where confusion exists, and such would be a pursuit in its own right. We will rather examine the academic literature to see what attempts there have been previously to resolve the confusion between these two terms.

Literature search
The EBSCO database was searched for responsibility and accountability in any field on 18 May 2013. This identified 48,006 items, indicating that the terms are very widely used. Adding "definition" to the search substantially reduced this number to 856 items. Selecting only peer reviewed journals further reduced the count to 514 occurrences of which 426 were non-duplicates. All were examined and only two were relevant to generic definitions of the terms. Most of the remaining 424 articles analysed corporate social responsibility, or social, legal, environmental, educational, nursing, medical, electoral or other specific areas of accountability. A further search for the same terms in titles only was conducted on 10 June 2017 and no other relevant reference was located.

We deductively reason that any serious effort to resolve the meanings of these terms could not be done as a "by the by" with something else; as evidenced by the length of this paper, it would take longer than that – to the point where it would have to be explicitly dealt with, and so would be labelled as such. Anything less would just be repeating someone else's interpretation of the word.

This highlights a lack of academic work dealing specifically with resolving confusion between the definitions of these terms, resulting in a short reference list. This identifies a gap in the literature which this paper seeks to fill. It is not the purpose of this paper to survey all the different ways in which accountability (and responsibility) may be implemented; it is simply to determine what it is in the first place.

The two that did directly address the issue were Ieraci (2007) and Cornock (2011). Both make the point that Ieraci (2007) expressed most succinctly in noting that "Responsibility involves doing; accountability involves reporting". Ieraci (2007) gave an editorial perspective in a peer reviewed journal, and while it did not actually define the terms, it lists key concepts relating to responsibility as trust, capability, judgement and choice,

none of which conflict with the definition derived in this paper. It similarly lists key concepts relating to accountability as answerability, blame, burden and obligation, which also do not conflict with the proposed definitions. Cornock (2011) also says "responsibility means to be responsible for an act one undertakes, while accountability simply means to be called to account". This definition of responsibility is not fully adequate, leaving that the definition of responsible unstated but is not in conflict with the definition derived in this paper. The definition of accountability does not include the positive sense of, i.e., why one would be called to account, but is nevertheless compatible with the tentative definition.

Both offer further insights on the subject. Ieraci (2007) observed that a society that increasingly seeks to minimise risk, and to avoid blame, swings the pendulum away from trust towards reporting, and:

> An overemphasis on reporting discourages action and encourages avoidance. The result can be harm caused by inaction, in seeking to minimise the risk resulting from action. The extremes of an accountability culture in our risk-averse society sees workers removed from the "doing" to the "reporting". Careers are built on the design, collection, analysis and reporting of data and incidents. The response to risk is to avoid it, and not to manage it. As a result, opportunities are missed and flexibility is lost. We risk removing judgement and minimising gains, by striving to standardise so as to reduce error.

Cornock (2011) enumerated that taking responsibility does not necessarily mean one will be asked to give an account, as undertaking the action fulfils the responsibility one has. He also pointed out that for accountability, the account that is required may take different forms, although for it to be true legal accountability; there has to be some formal obligation to give account. He pointed out that accountability moves beyond responsibility as there is an element of planning, and there is a link between accountability and autonomy. "To be accountable one needs to have authority over the task or role being undertaken […]. Without this authority any talk of accountability is lip service" (Cornock, 2011). He noted that accountability denotes professionalism and is a higher standard than responsibility. He also stated: "It is only responsibility that can be delegated to appropriate others – accountability cannot be delegated" (Cornock, 2011).

The shortage of academic publications evaluating and reconciling the definitions of these terms and the lack of a definitive analysis establishes a gap that we seek to fill with this paper.

Research question

We seek to clarify and resolve this confusion by developing definitions that are applicable generally and not restricted to any single field or to the organisational ambit. We approach this by proposing the following research question:

> *RQ1.* What is the essence of the terms accountability and responsibility that can define their meaning across all fields of study and without restriction to an organisational ambit?

Our approach and method for addressing this question is explained in the following sections.

Approach

We seek to resolve definitional confusion through scientific analysis using deduction rather than induction, as Popper (1979, p. 86) noted "Hume had shown induction invalid". We therefore do not survey multitudes of current usages of the term that may not have grasped the essence of the difference between them. We seek instead to determine the essential characteristics of the terms and base this on the words of Hobbes (1996):

> For the errors of definitions multiply themselves, according as the reckoning proceeds, and lead men into absurdities, which at last they see, but cannot avoid, without reckoning anew from the beginning; in which lies the foundation of their errors.

We therefore seek a method that is based on determining essential characteristics.

We note that in their discussion of governance, McGrath and Whitty (2015) also demonstrated the pitfalls of defining single intellectual conceptual terms within the bounds of one single field and in isolation from other terms. They developed a definitional refining method for one particular group of contested terms concerning governance of both organisations and projects, noting that they only did so because of the absence of a pre-existing method. Their method is based upon determining the essential characteristics of the particular concept.

This presents us with a suitable and non-normative way of approaching and resolving the confusion surrounding the meaning of the terms accountability and responsibility. Consequently, the McGrath and Whitty's (2015) definitional refining method will be applied in this paper to address the research question.

The definitional refining method
The McGrath and Whitty's (2015) definitional refining method is set out below.

Group rules pre-definition:

(1) select the group of terms to be defined;

(2) determine the order of definition as follows:

- identify any inconsistencies within the group that may require one term to be defined before another;

- where a compound term is to be defined, define the component terms first;

- where a derivative term is to be defined, define the root term first; and

- where a term has a noun and a verb form, define the verb first.

(3) consider any terms that are likely to be used in definition that may themselves require prior definition.

Steps to determine a connotative (intensional) conventional definition of each term:

(1) Define derivative or component terms using the root or component definitions that have previously been defined by this process or are clear and accepted in their meaning. (This obviates the need to proceed through the remaining definitional steps unless that there is other reason to do so, such as confusion in the meaning of the compound or derivative term itself).

(2) Survey lexical usage (this and the following two steps may be omitted if there is a known comprehensive academic review of definitions of the term).

(3) Analyse this to determine the main contenders for inclusion in the definition (and show these in pale grey highlight).

(4) Develop a connotative (intensional) conventional definition. (This may be synonymous, operational or by genus and difference).

(5) Report and analyse any known academic review of definitions of the term.

(6) Remove unwarranted inclusions.

(7) Remove divergence of meaning resulting from mixing content and process by removing any reference to content (for generic conceptual terms).

(8) Remove any remaining divergence of meaning and for operational definitions, consider the need for additional inclusions, by checking against the following, as appropriate to the particular term:

- historical usage;

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- field/specialty usage – the definition most generic to as many fields as possible will be selected;

- practitioner usage (via practitioner literature, considering the influence of opinion and marketing); and

- competing concepts and frameworks (considering the influence of opinion and marketing).

(9) Check any resulting definitions by genus and difference against the Copi and Cohen's (1990) five rules and discard any which do not satisfy them.

(10) Report the derived definition. (Note: this change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word "derived").

Group rules post-definition:

(1) cross-check terms defined in this group for any inconsistency and resolve; and

(2) cross-check any terms defined in this group known to be used interchangeably with other terms outside the group and resolve any inconsistency.

The five rules for checking a definition by genus and difference, sourced from Copi and Cohen (1990, pp. 151-155), are as follows:

(1) states the essential attributes of the species;

(2) avoids circularity;

(3) neither too broad nor too narrow;

(4) avoids ambiguous, obscure or figurative language; and

(5) affirmative rather than negative.

Lexical usage is sourced from the following dictionaries:

(1) a range of dictionaries that have been well-known for many years that were available (in 2013/2014) online (Cambridge; Collins; Longman; Macmillan; Macquarie; Merriam-Webster; Oxford);

(2) a range of various online dictionaries (BusinessDictionary.com; Dictionary.com; TheFreeDictionary; Wiktionary); and

(3) the Concise Oxford Dictionary (1964) – as a comparator for how these definitions may have changed over the last 50 years.

Application of the method
The group pre-definitional steps will first be applied before proceeding to define each term separately. The group post-definitional step will then be applied and refined definitions finalised before making observations on the application of the method and considering the implications of the proposed refined definitions.

Group rules pre-definition
Group pre-definition rule 1 – select the group of terms to be defined
McGrath and Whitty (2015) found terms that are commonly confused include accountability and responsibility, together with their adjectival forms, accountable and responsible. Analysis of the dictionary definitions below confirms this. So the group of terms to be selected for definition will be accountability, responsibility, responsible and accountable.

Group pre-definition rule 2 – determine the order of definition
Rule 2(a) – identify group term inconsistencies. To account for the difficulty in distinguishing between responsibility and accountability, the more straightforward responsibility terms will be defined first.

   Rule 2(b) – compound terms. There are no compound terms in the group.

   Rule 2(c) – derivative terms. There are two pairs of words in the group, each with the same root; one a noun and the other an adjective.

   Responsible and responsibility have the same stem "responsib" derived from respond, with the suffixes "-le" forming the adjective and "-ility" forming the noun and so either could be defined first. It could then be argued that responsibility is really derived from the adjective responsible with a minor respelling to accommodate addition of the suffix "–ity", denoting a quality or condition (Oxford) (of being responsible) and so responsible should be defined first. However, this would lead to a recursive argument – defining the condition of being in that condition, or the quality of having that quality, so again, either could be defined first. But if responsibility is a quality and responsible is a state or condition, or if these were the other way around, then we could chase ourselves around endlessly, piling contention upon contention in linguistic puzzles of dubious relevance to the objective of this particular exercise. So, an alternative perspective is required. Responsibility is a thing, whereas responsible is about a person or organisation. So, the thing should be described first before ascribing whatever it is to a person or organisation, so that we know what it is we are ascribing. So, the noun responsibility will be defined before the adjective responsible.

   Accountable and accountability have the same stem "accountab" derived from account, with the suffixes "-le" forming the adjective and "-ility" forming the noun and so either could be defined first. It could then be argued that accountability is derived from accountable and consequently, accountable should be defined first. However, this would lead to a recursive argument – defining the condition of being in that condition, or the quality of having that quality, so again, either could be defined first. But if accountability is a quality and accountable is a state or condition, or if these were the other way around, then we could again chase ourselves around endlessly, piling contention upon contention in linguistic puzzles of dubious relevance to the objective of this particular exercise. So, an alternative perspective is again required. Accountability is a thing, whereas accountable is about a person or organisation. So, the thing should be described first before ascribing whatever it is to a person or organisation, so that we know what it is we are ascribing. So, the noun accountability will be defined before the adjective accountable.

   Rule 2(d) – define verb form of term before the noun form. There are no verbs in the group.

   General. The order of definition will therefore be as follows: responsibility, responsible, accountability and accountable.

Group pre-definition rule 3 – definitional terms requiring prior definition
There are no other terms outside this group that have multiple meanings and are commonly used in defining these terms.

Define responsibility
Step 1: define derivative or component terms
The root of responsibility is "respons" and the stem is "responsib" which are derived from response, whose meaning is not contested and so does not require separate definition.

Step 2: survey lexical usage
Lexical usage is surveyed in Table I.

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Dictionary	Definition of responsibility (all sourced on 5 June 2017)
Business	A duty or obligation to satisfactorily perform or complete a task (assigned by someone, or created by one's own promise or circumstances) that one must fulfil, and which has a consequent penalty for failure
Cambridge	Something that it is your job or duty to deal with
Collins	1. The state or position of being responsible 2. A person or thing for which one is responsible 3. The ability or authority to act or decide on one's own, without supervision
Concise Oxford	Being responsible
Dictionary.com	The state or fact of being responsible, answerable or accountable for something within one's power, control or management
Longman	1. A duty to be in charge of someone or something, so that you make decisions and can be blamed if something bad happens 2. Blame for something bad that has happened 3. Something that you must do as part of your job or duty 4. Something that you ought to do because it is morally or socially right (= duty) 5. Responsibility to somebody 6. Do something on your own responsibility
Macmillan	1. The state or job of being in charge of someone or something and of making sure that what they do or what happens to them is right or satisfactory 2. A duty that you have to do because it is part of your job or position
Macquarie	1. The state or fact of being responsible 2. An instance of being responsible 3. A particular burden of obligation upon someone who is responsible: to feel the responsibilities of one's position 4. Something for which one is responsible: a child is a responsibility to its parents 5. Ability to meet debts or payments 6. On one's own responsibility, on one's own initiative or authority
Merriam-Webster	1. The quality or state of being responsible 2. Something for which one is responsible
Oxford	1. The state or fact of having a duty to deal with something or of having control over someone 2. The state or fact of being accountable or to blame for something […] 3. The opportunity or ability to act independently and take decisions without authorisation […] a thing which one is required to do as part of a job, role, or legal obligation
The free dictionary	1. The state or position of being responsible 2. A person or thing for which one is responsible 3. The ability or authority to act or decide on one's own, without supervision
Wiktionary	The state of being accountable; liability to be called on to render an account; accountableness; responsible for; answerable for

Step 3: analyse lexical usage

Duty is the most common word in Table I. Duty has a sense of formality. Obligation is also used and has the sense of informality. While duty can also have a moral sense that can be said to be informal, it can be argued that duty is a formalised obligation and does not need to be included. References to blame or penalty do not cover the informal sense in which the word can be used and will be excluded from this definition and addressed under accountability. Including reference to a task would remove any value judgement about that task or what ranges of activities might be covered, which may be formal or informal. Reference to satisfactorily performing that task would cover the sense of completion, as accepting responsibility may require performance of tasks with no foreseeable end. Use of the word satisfactory would tempt the question "in whose view?", but would provide a means of avoiding value judgement and of capturing intension, avoiding the need to list all possible extensions. An ability to act or decide independently on one's own (initiative) is implied by a person being able to undertake and perform a task satisfactorily.

Step 4: develop a connotative (intensional) conventional definition
Responsibility will therefore be tentatively defined as an obligation to satisfactorily perform a task.

Step 5: report academic review of definitions
These have been reviewed in the literature search above and provide no reason to change the definition above.

Step 6: remove unwarranted inclusions
There are no such inclusions remaining.

Step 7: remove mixed content/process meanings
None present.

Step 8: reduce divergence/consider additional inclusions
Checks (a) and (c) are appropriate for this term.
   Step 8(a): consider historical usage. The etymology of the word responsibility is as follows:

   "[…] condition of being responsible," 1787, from *responsible* + −*ity*. Meaning "that for which one is responsible" is from 1796. Related: *Responsibilities*. (Harper, 2017, p. R29).

We have determined in Group rule 2(c) not to define in this way as it leads to a circular argument – defining the condition of being in a condition, or the quality of having a quality. However, the historical usage does not contradict the tentative definition.
   Step 8(c): consider practitioner usage. This is addressed under "accountability". It provides no reason to alter the definition.

Step 9: check against the five rules
This is a definition by genus and difference and satisfies Rules 1-5.

Step 10: report the derived definition
The derived definition is as follows:

•   Responsibility = an obligation to satisfactorily perform a task.

Define responsible
Step 1: define derivative or component terms
The root of responsible is "respons" and the stem is "responsib" are derived from response, whose meaning is not contested and so does not require separate definition.

Step 2: survey lexical usage
Lexical usage is surveyed in Table II.

Step 3: analyse lexical usage
Many of the definitions in Table II mix responsibility and accountability and so are unsatisfactory. Others emphasise control, legality or blame, leaving no suitable definition. A person may take on responsibility in circumstances where they have no control over another, as in one person rescuing another from a dangerous situation. Any attempt at an independent definition risks overlap with the definition of responsibility above, which mentions obligation. There are mentions of sensible, reliable and trustworthy in Table II,

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Dictionary	Definition of responsible (all sourced on 5 June 2017)
Business	None given
Cambridge	To have control and authority over something or someone and the duty of taking care of it, him or her
Collins	1. Having control or authority (over)
	2. To be accountable for one's actions and decisions (to)
	3. (Of a position, duty, etc.) involving decision and accountability
	4. (Often foll by for) being the agent or cause (of some action)
	5. Able to take rational decisions without supervision; accountable for one's own actions
	6. Able to meet financial obligations; of sound credit
Concise Oxford	Liable to be called to account, answerable to
Dictionary.com	1. Answerable or accountable, as for something within one's power, control, or management
	2. Involving accountability or responsibility
Longman	1. if someone is responsible for an accident, mistake, crime, etc., it is their fault or they can be blamed
	2. Having a duty to be in charge of or to look after someone or something
	3. If something is responsible for a change, problem, event, etc., it causes it
	4. Sensible and able to make good judgments, so that you can be trusted
Macmillan	1. Deserving to be blamed for something that has happened
	2. Hold someone who is responsible for someone or something is in charge of them and must make sure that what they do or what happens to them is right or satisfactory
	3. Sensible, reliable and able to be trusted to do the right thing
Macquarie	1. Involving accountability or responsibility: a responsible position
	2. Having a capacity for moral decisions and therefore accountable; capable of rational thought or action
	3. Able to discharge obligations or pay debts
	4. Reliable in business or other dealings; showing reliability
Merriam-Webster	1. Liable to be called on to answer
	2. Able to answer for one's conduct and obligations
Oxford	1. Having an obligation to do something, or having control over or care for someone, as part of a job or role
	2. Being the primary cause of something and so able to be blamed or credited for it
	3. (Of a job or position) involving important duties, independent decision making, or control over others […] capable of being trusted
The free dictionary	1. Liable to be required to give account, as of one's actions or of the discharge of a duty or trust
	2. Involving important duties, the supervision of others or the ability to make decisions with little supervision
	3. Being a source or cause
	4a. Able to make moral or rational decisions on one's own and therefore answerable for one's behaviour
	4b. Able to be trusted or depended upon; trustworthy or reliable
	5. Based on or characterised by good judgement or sound thinking
Wiktionary	1. Answerable for an act performed or for its consequences; accountable; amenable, especially legally or politically
	2. Capable of responding to any reasonable claim; able to answer reasonably for one's conduct and obligations; capable of rational conduct
	3. Involving responsibility; involving a degree of personal accountability on the part of the person concerned
	4. Being a primary cause or agent of some event or action; capable of being credited for something, or of being held liable for something
	5. Able to be trusted; reliable; trustworthy

Table II.
Definitions of
"responsible"

but these involve the normative question of whose sense of values will predominate.
A person may also have these characteristics yet do nothing in a particular situation, so
there needs to be some elements of acceptance in the definition.

Step 4: develop a connotative (intensional) conventional definition
This word will be defined in terms of its noun form as accepting responsibility.

Step 5: report academic review of definitions
These have been reviewed in the literature search above and provide no reason to change the definition above.

Step 6: remove unwarranted inclusions
There are no such inclusions remaining.

Step 7: remove mixed content/process meanings
None present.

Step 8: reduce divergence/consider additional inclusions
Checks (a) and (c) are appropriate for this term.
   Step 8(a): consider historical usage. The etymology of the word responsible is as follows:

1590 s, "answerable" (to another, for something), from obsolete French responsible (13c. Modern French responsable, as if from Latin *responsabilis), from Latin respons-, past participle stem of respondere "to respond" (see respond). Meaning "accountable for one's actions" is attested from 1640s; that of "reliable, trustworthy" is from 1690s. Retains the sense of "obligation" in the Latin root word. Related: Responsibly (Harper, 2017, p. R29).

This indicates overlap with being accountable. As mentioned already under responsibility, it indicates a divergence of meaning in the mid-1600s towards reliable and trustworthy with some sense of obligation. This current exercise can be viewed as a progression of that and provides no reason to change the tentative definition.
   Step 8(c): consider practitioner usage. This is addressed under "accountability". It provides no reason to alter the definition.

Step 9: check against the five rules
This is an operational definition rather than one by genus and difference and so a check against the five rules is not appropriate.

Step 10: report the derived definition
The derived definition is as follows:

• Responsible = accepting responsibility = accepting an obligation to satisfactorily perform a task.

Define accountability
Step 1: define derivative or component terms
Accountability is a derivative of the word account, whose meaning is not contested and so definition by our selected method is not required for this root term. The Oxford Dictionary definition of account is "a report or description of an event or experience" and will suffice. The suffix "-ity" denotes the quality of being accountable.

Step 2: survey lexical usage
Lexical usage is surveyed in Table III.

Step 3: analyse lexical usage
Called to account is the most common phrase in Table III. Several dictionaries give no definition. Several mix accountability and responsibility and so are unsatisfactory. Liability and obligation are also mentioned. Liability will be preferred as it implies

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Dictionary	Definition of accountability (all sourced on 5 June 2017)
Business	The obligation of an individual or organisation to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner. It also includes the responsibility for money or other entrusted property
Cambridge	A situation in which someone is responsible for things that can happen and can give a satisfactory reason for them
Collins	None given
Concise Oxford	None given
Dictionary.com	The state of being accountable, liable, or answerable
Longman	None given
Macmillan	A situation in which people know who are responsible for something and can ask them to explain its state or quality
Macquarie	The state of being liable to be called to account
Merriam-Webster	The quality or state of being accountable
Oxford	The fact or condition of being accountable; responsibility
The free dictionary	The state of being accountable, liable or answerable
Wiktionary	The state of being accountable; liability to be called on to render an account; accountableness; responsible for; answerable for

Table III.
Definitions of
"accountability"

obligation anyway and is stronger than obligation. It also covers circumstance where just taking the action is sufficient and the call does not need to be exercised, resulting in the accountable person not actually being called to account. Answerable is also used as frequently in the lexical definitions. It is referred to as meaning liability to be called to account but does not have as strong a connotation of legality as liability does. Liability is stronger than responsibility, carrying some legal force or implication of possible penalty for not doing so, which being called to account comprises and so it clearly distinguishes accountability from responsibility. It also includes the meaning of being made "answerable". Liability implies being held to account anyway and so even though accountability is derived from the word account, its definition, provided it is compatible with its root term, does not actually need to explicitly include these words and in this case, it would be tautological if it did.

Step 4: develop a connotative (intensional) conventional definition
Accountability will therefore be defined in terms of liability. This raises the question of "for what?" and so requires a qualification specifying this, in the same way that responsibility was defined above in terms of a particular task. Accountability will therefore be tentatively defined as liability for ensuring a task is satisfactorily done.

Step 5: report academic review of definitions
These have been reviewed in the literature search above and provide no reason to change the definition above.

Step 6: remove unwarranted inclusions
There are no such inclusions remaining.

Step 7: remove mixed content/process meanings
None present.

Step 8: reduce divergence/consider additional inclusions
Checks (a) and (c) are appropriate for this term.

Step 8(a): consider historical usage. The etymology of the noun accountability is the "'state of being answerable', 1770, from accountable + -ity. Earlier was accountableness (1660s)" (Harper, 2017, p. A7).

This is compatible with the proposed definition and provides no reason to modify it. The etymology of the adjective account is:

c. 1300, "counting," especially "reckoning of money received and paid, detailed statement of funds owed or spent or property held," From the first often in plural form; sometimes in late Middle English accompt (see account (v.)). Meaning "course of business dealings requiring records" is from 1640s; hence "arrangement to keep money in a business, bank, etc." (1833), also "customer or client having an account" (1937). Money of account (1690s), that used in reckoning but not circulating as coin or paper, preserves the "counting" sense of the word.

From the notion of "rendering an account" comes the sense "statement answering for conduct" (mid-14c.) and the general sense "narration, recital of facts," attested by 1610s. Phrase by all accounts is attested from 1798. From the notion of "statement of reasons" comes on no account "under no circumstances" (1704). Also from c. 1300 in reference to answering for one's conduct, especially at the Last Judgment. Meaning "estimation, consideration," especially in the eyes of others, is from late 14c […] (Harper, 2017, p. A7).

This provides no reason to modify the Oxford Dictionary definition of account accepted above.

Step 8(c): consider practitioner usage. To common means of ensuring accountability are RAMs and position descriptions (PDs).

There are many coding conventions currently in practitioner use for RAMs with acronyms such as ARCI, CAIRO, DACI, PACSI, PARIS, RACI, RAPID and RATSI (Wikipedia, 2017). Some use accountability while others use agree, authority or approve. Several are variations of the RACI code such as RASCI which includes support. One has a driver at a higher level, separate from an approver (DACI). One RACI alternative dispenses with any form of accountability synonym, denoting A as assists, having been specifically designed to "avoid potential confusion of the terms accountable and responsible" (Wikipedia, 2017). This indicates a need for the exercise carried out in this paper and sheds no light on the definitional question itself.

A small selection of PDs was also reviewed. Five were selected for senior roles in four different public sector organisations listed on the Queensland Government Smartjobs and South-East Queensland local government websites, the applications for which closed between October 2016 and April 2017. Some listed responsibilities and included accountabilities. Others listed accountabilities and included responsibilities. This again indicates practitioner confusion regarding definition. Accountabilities were generally referred to by words such as lead and/or manage with broad outputs or outcomes being nominated. One listed generic "outcomes" (which were accountabilities) separately to headings covering other responsibilities, with all listed under the heading "Key Responsibilities". This was the only one that attempted to separate these two concepts.

This consideration of practitioner usage provides no reason to alter the proposed definitions.

Step 9: check against the five rules
The definition is operational rather than by genus and difference and so a check against the five rules is not appropriate. Nevertheless, it does actually satisfy them.

Step 10: report the derived definition
The derived definition is as follows:

- Accountability = liability for ensuring a task is satisfactorily done.

Define accountable

Step 1: define derivative or component terms
Accountable is a derivative of the word account, whose meaning is not contested and so definition by our selected method is not required for this root term. The Oxford Dictionary definition of "a report or description of an event or experience" will suffice.

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Step 2: survey lexical usage
Lexical usage is surveyed in Table IV.

Step 3: analyse lexical usage
Many of the definitions in Table IV mix accountability and responsibility and so are unsatisfactory. Any attempt at an independent definition of the word risks overlap with the definition of accountability above. This word will be defined operationally in terms of its parent noun as "having accountability". The word having is more appropriate than accepting; accountability is legal or organisational with a connotation of compulsion and penalty, whereas responsibility is personal and can be optional, without compulsion or penalty. Another acceptable meaning that occurs in many definitions in Table IV is answerable. This will not be adopted here for the same reason that "called to account" is not used, namely that it is implied by liability. Many of the lexical sources explain "giving an account" as "capable of being explained". This will not be used in our definition as it captures only the after the event quality control aspect of the term and not its proactive sense of ensuring that the particular activity occurs.

Dictionary	Definition of accountable (all sourced on 5 June 2017)
Business	In general, answerable for one's conduct, discharge of assigned responsibilities or performance. In specific, being under a duty to render an account of money or other property received
Cambridge	Someone who is accountable is completely responsible for what they do and must be able to give a satisfactory reason for it
Collins	1. Responsible to someone or for some action; answerable 2. Able to be explained
Concise Oxford	Bound to give account, responsible
Dictionary.com	1. Subject to the obligation to report, explain or justify something; responsible; answerable 2. Capable of being explained
Longman	Responsible for the effects of your actions and willing to explain or be criticised for them
Macmillan	In a position where people have the right to criticise you or ask you why something happened
Macquarie	1. Liable to be called to account; responsible 2. Capable of being explained
Merriam-Webster	1. Subject to giving an account: answerable 2. Capable of being explained
Oxford	1. Required or expected to justify actions or decisions; responsible 2. Able to be explained or understood
The free dictionary	1. Expected or required to account for one's actions, answerable 2. Capable of being explained
Wiktionary	1. Having accountability (individuals have accountability): answerable 2. Requiring accountability (property or funds require accountability) 3. Liable to be called on to render an account 4. Being answerable for 5. Being liable for 6. (rare) Capable of being accounted for; explicable; explainable

Table IV.
Definitions of
"accountable"

Step 4: develop a connotative (intensional) conventional definition
Accountable will therefore be tentatively defined as having accountability = having liability for ensuring a task is satisfactorily done.

Step 5: report academic review of definitions
These have been reviewed in the literature search above and provide no reason to change the definition above.

Step 6: remove unwarranted inclusions
There are no such inclusions remaining.

Step 7: remove mixed content/process meanings
None present.

Step 8: reduce divergence/consider additional inclusions
Checks (a) and (c) are appropriate for this term.
 Step 8(a): consider historical usage. The etymology of the adjective accountable is "'answerable', literally 'liable to be called to account', c. 1400 (mid-14c. in Anglo-French), from Old French *acontable*; see account (v.) + -able. Related: Accountably" (Harper, 2017, p. A7).
 Step 8(c): consider practitioner usage. This is addressed under "accountability". It provides no reason to alter the definition.

Step 9: check against the five rules
The definitions are operational and synonymous rather than by genus and difference and so a check against the five rules is not appropriate. Nevertheless, they do actually satisfy them.

Step 10: report the derived definition
The derived definition is as follows:

- Accountable = having accountability = having liability for ensuring a task is satisfactorily done.

Group rules post-definition
Cross-check 1: consistency within group
The definitional method has not resulted in any inconsistency between terms in this group.

Cross-check 2: consistency with terms outside the group
There is no known overlap of meaning of any of the above group of terms with any other term outside the group that would prevent the definitions being accepted.

Summary of definitions
The accepted definitions are as follows:

- Account: a report or description of an event or experience.

The refined definitions are as follows:

- responsibility: an obligation to satisfactorily perform a task;
- responsible: accepting responsibility = accepting an obligation to satisfactorily perform a task;

- accountability: liability for ensuring a task is satisfactorily done; and

- accountable: having accountability = having liability for ensuring a task is satisfactorily done.

These definitions address the research question by identifying and including only the essential elements of meaning for each of the terms defined.

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Observations on the method and its application

On the method

Analysis of the method indicated that in Step 10 the word "adopted" should be "derived". This change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word derived.

On the application of the method

Following the chosen method has enabled resolution of the confused usage of the terms accountability and responsibility.

It was found that the dictionary definitions of accountability and responsibility were somewhat confused, with these terms having been defined in terms of each other. The practitioner usage was similarly confused. The academic definitions were clearer but still inadequate.

Implications for the refined definitions of responsibility and accountability

The confusion between responsibility and accountability can be characterised as a failure to separate the obligation to satisfactorily perform a task (responsibility) from the liability to ensure that it is satisfactorily done (accountability).

Sources of liability. The refined definition of accountability begs the question "Where does the liability come from?" The discussion of the undocumented example in the section on definitional confusion above indicated that accountability may come from legislative or organisational sources. While accountability arising from any of these sources cannot be delegated whereas responsibility can be, managers at any level will make their staff accountable under some organisational or contractual arrangement for the tasks those staff are allocated responsibility for. So in going down one organisational level, responsibilities are converted into organisational and/or contractual accountabilities, and so one transitions into the other between levels. It then follows that any attempt to allocate "universal" accountabilities across multiple levels of an organisation in a single table will be fraught with difficulty. Accountability may be a universal concept but determining any particular accountability can only be done relative to a particular task. The transition between legislative and organisational accountabilities is the highest level transition point within a government organisation and there are other management level transitions below that. Furthermore, it is also possible for the source of accountability to be neither legal nor contractual. There can be consequences in social groups, both inside and outside the law, for breaking unwritten codes of conduct to which members will be held accountable by being corrected, ostracised or worse.

So recognition of the existence of multiple sources of accountability (legislative, organisational, employment contract or unwritten code), as well as recognising that responsibility and accountability transition between organisational levels, provides some clues for usage of the derived definitions, which are independent of all of these various sources and characteristics, yet suitable for application to all of them.

Responsibility assignment matrices (RAMs) and PDs. These refined definitions find application in the form of project and organisational RAMs and PDs. As well as specifying

responsibilities, these tools provide a basis for ensuring accountability exists and can be enforced. Both include similar information but it is presented in different levels of detail and in formats appropriate for different circumstances. The duties they contain should correspond, but the time-scales applying to both are different, which can lead to differences developing between them requiring periodic alignment. The PD format is used for recruitment and consequently the update frequency for PDs is sporadic. This latter format becomes important when somebody leaves or the organisation undertakes a review or undergoes some structural change, requiring existing positions to be evaluated. The RAM format is more detailed and suitable for use as an ongoing management tool that can be applied by senior organisational managers, project managers and team leaders to determine who will do what on various tasks. It provides a means of ensuring all resources and all aspects of tasks are addressed and lend itself to updating as circumstances change and new tasks arise. A well-maintained RAM is therefore a useful tool to have in updating PDs.

A RAM is a responsibility, not an accountability assignment matrix (AAM). These considerations have particular implications for how RAMs are applied. As previously noted, difficulties have occurred with usage of RAM coding conventions because of the confusion around the meaning of the two terms responsibility and accountability. This was easily overlooked and the difficulty was irreconcilable when the meanings of these terms were so commonly confused and dictionaries commonly defined them in terms of each other. However, with clear definitions of both derived above, this looseness now becomes unacceptable and resolution is now both possible and required.

Given that accountability and responsibility can transition between organisational levels, mixing these concepts together in any one table is problematic and so best avoided. A RAM without some codes for responsibility is not a RAM – it is something else, some matrix of some other sort, even if its format is the same. We could similarly have an AAM, an AAM, but that would again be a different thing to a RAM, albeit having the same format. It would be a small matrix, as once accountability is allocated, that is it; it cannot be delegated. Combining these two types of matrices into one is definitionally incorrect and invites confusion, whatever codes are used. So, the problem appears to have been two-fold, one around the definition of the terms in the first place followed by categorising of any matrix that happens to have the RAM format as a RAM and assigning it the same purpose.

RAM coding conventions and task specification. The main logical problem is therefore the allocation of A for accountability in a RAM. This can be resolved quite simply by the A denoting something else. The obvious candidate is approval, the means used to resolve the problem on the undocumented example mentioned in the above section on definitional confusion above. If a person is accountable for something, they will have the say on how it is done and the authority to approve all the necessary arrangements, as noted in Cornock (2011), within the scope of organisational policy constraints. Accountability means ensuring all necessary tasks are determined and allocated (which proper use of a RAM can accomplish) and then ensuring satisfactory completion (which approval by the accountable person can accomplish). So completing a RAM having a code A for approval satisfies both accountability requirements – it identifies an aspect of a task that needs to be done and provides the means for ensuring accountability without mixing the two concepts up together. This implies that any RAM should include A and R. Without an R it is not a RAM. And without an A (or some equivalent code) for approval, it does not serve the purposes of accountability.

In the limited circumstance, where a RAM has an "A" denoting accountability and does not cross organisational levels and multiple sources of accountability do not come into play, then the looseness of definition will not become evident or pose a serious problem. However, making a universal generalisation from these quite limited circumstances is

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simply a mistake, producing unnecessary and avoidable difficulty. It appears this mistake occurred between the second and third PMBOK editions – Project Management Institute (2000) and Project Management Institute (2004). The resulting confusion could only be resolved by first having rigorous non-overlapping definitions and then going back to first principles retracing the steps and working through the implications. In summary, use of A for approval rather than accountability in the RACI set of RAM codes would clear up definitional confusion around both the terminology and the purpose of a RAM.

An important aspect of doing this is that the nature of the task needs to be carefully and appropriately specified as, e.g., a project manager or director on a large project in the public service may have the authority to approve all the delivery arrangements for that project, but will still have an expenditure delegation limit and not have authority to submit directly to Cabinet for higher expenditure or changed budgetary allocation. If the senior person does not have the authority to approve the task then they are not the accountable person and the task needs to be expressed in terms over which that person does have control. So in the circumstance just mentioned, the project manager or director would have the authority to have the cabinet submission prepared and to approve its technical content for submission, but not to actually submit it as it may have implications for areas that the project manager or director does not control. That requires a separate activity by another person who does have the authority to do it. This highlights the dangers in seeking "universal" application of various interpretations of the term accountability (or any term for that matter) compared to simply seeking a universal definition of its essence. The former is seeking universality of labelling rather than of meaning. Universal definition of terms can produce clarity whereas universal application of different understandings of a term cannot.

So if the A in the RACI code is taken to mean approve, as occurred in the undocumented example mentioned above, the concept of accountability is converted into a responsibility, suitable for allocation within a RAM, which is, after all, a RAM – a functional tool for allocating responsibility, not a tool for philosophically debating the concept of accountability or for using it just because it sounds so much more impressive than responsibility. Some tasks cannot be regarded as complete until whoever is responsible for doing it has completed it and the person with the necessary authority has approved it. This satisfies one of the important uses of a RAM – to ensure that nothing is overlooked. If it risks confusion over various aspects or sources of accountability, then it is not achieving one of its purposes. This also acknowledges that approval requires time and needs to be allowed for in any time schedule. The remaining codes C = consult and I = inform are not contentious and are useful for tasks impacting others, require time which can affect completion date and so similarly contribute to the outcome of ensuring nothing is overlooked.

This work has also found no reason why these four codes could not be supplemented on an as-needs basis with codes such as S where others may need to support or assist, Q where product quality is measureable and needs to be certified, or V for verifier on particularly large contracts.

Blurring of boundaries. The concept of blurring was raised by Etzkowitz and Leydesdorff (1998, p. 196) in developing their Triple Helix model of innovation. While this concept could be regarded as referring to definition, it actually does not. It is related to blurring boundaries between industry, government and academia in innovation, or between industry groupings where one group supplies another. Blurring of these boundaries is a means of overcoming organisational silos, generating inclusion and progressing innovative ideas. It is a deliberate networking technique, not a means of definition. Nevertheless, it illustrates a more general difficulty with definition.

Concepts that are clearly and uniquely defined can actually overlap in application, creating an illusion of what could be called blurriness. Consider the terms global and international, as mentioned by Archibugi and Iammarino (2002). Anything global is also international but not everything international is global. According to the Oxford Dictionary, global means "relating to the whole world; worldwide", whereas international means "existing, occurring, or carried on between nations". A term such as global warming refers to the whole of the earth and so the usage of the term global in that phrase is clearly valid. But if we look at a company whose products appear in many countries, does this mean that if we can find one country where its products are not sold that the company is not global? To avoid this difficulty we might, for example, agree that a company could be classified as global if its products are sold on every continent. However, in doing so, we would be defining a phrase such as "commercially global", rather than the single word global. This would be legitimately qualifying the usage of a term within a particular environment. However, if we subsequently take it outside that environment, forget that we have qualified it and attempt to equate the meaning of a single word (global) with that of a phrase (commercially global), its usage can easily be considered blurred. There is no confusion about what global means, whereas there can be contention regarding what commercially global might mean. Omitting the assumed or silent qualifiers of a word can result in confusion that could be called blurriness. But this is not the same sort of blurriness as mentioned in Etzkowitz and Leydesdorff (1998); it is blurriness born of omission rather than desire for inclusion.

General. Through providing greater clarity of both definition and application, the findings of this definitional refining exercise have the potential to benefit recruitment, selection and induction process, providing a clearer basis for motivating and rewarding employees and even assisting with staff termination processes. Clarity around both the definition and the way RAMs can be used will hopefully assist in increasing usage of the RAM, facilitating the updating of PDs. This can also result in greater clarity in contracts, potentially reducing disputes during and after project delivery, leading to improved project and organisational delivery performance.

Conclusions

Colloquial and management uncertainty over meaning of the terms responsibility and accountability has been demonstrated. The McGrath and Whitty's (2015) definitional refining method was applied to address the research question and did provide essential and non-overlapping definitions for all four terms, suitable for use across multiple fields. The confusion between responsibility and accountability was characterised as a failure to separate the obligation to satisfactorily perform a task (responsibility) from the liability to ensure that it is satisfactorily done (accountability). This paper dealt solely with the question of definition and made no comment on any other normative aspects of responsibility or accountability as applied to any field.

Following determination of non-overlapping definitions, the following observations were made:

(1) Responsibilities at one organisational level translate into accountabilities for the next hierarchical organisational level down; managers at any level transfer their accountabilities and responsibilities into tasks for which they hold their staff accountable for satisfactory performance.

(2) Sources of accountability can be legislative, organisational, contractual or informal.

(3) The commonly used statement that accountability cannot be delegated while responsibility can be was confirmed with the proviso that this specifically refers to only one managerial level or one piece of legislation or single employment contract.

(4) Designation of the A in a RAM RACI coding system for approval rather than accountability avoids definitional confusion and provides a means of ensuring accountability.

(5) If accountability is to be allocated in a table that has the RAM format, it would be better labelled as an AAM to avoid definitional confusion.

(6) The above modified RAM RACI convention contains generic codes that would all need to be allocated to at least some task in any one RAM and these codes can be supplemented with additional codes on an as-needs basis.

(7) A well-maintained RAM can provide a valuable source for updating PDs when recruitment becomes necessary.

(8) Universal definition of a term can produce clarity when universal attachment of the term as a label for different understandings of it does not.

Adoption and use of the refined definitions developed in this paper, together with alteration of the "A" in the RAM RACI code from accountability to approve, can provide clarity of meaning, avoiding uncertainty, confusion and misunderstanding. This can benefit the community in general and project management practitioners and researchers in particular, saving time, resources and money.

Through providing greater clarity, these findings also have the potential to improve project delivery through benefiting organisational recruitment, selection and induction process, providing a basis for motivating and rewarding employees and assisting with staff termination processes. They can also potentially result in greater clarity in contracts, potentially minimising disputes during and after project delivery.

Successful application of the definitional refining method also indicates its potential suitability for application to other contested terms.

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Abstract

This paper attempts to reduce confusion in project management practice by applying academic rigor to an evaluation of governance terminology in project and general management practitioner reference documents. It compares definitions in these documents against each other as well as against a set of previously published definitions of governance terms developed using a rigorous definitional refining method. It finds many inconsistencies in governance terminology between the reference documents analysed. These include the relationship with accountability, presumption of the joint-stock company model, inclusion of items considered unwarranted by the reference definitions and the means of handling legitimate inclusions. The existence of these inconsistencies indicates there is a need for general acceptance of a set of internally consistent governance terms and for these to be brought into the various practitioner reference documents. A set of terms is proposed.

This paper contributes to the literature reviewing terminology in management and project management as well as the literature reviewing the veracity and interoperability of commercially available project management products. Projects, business and academic research can all benefit from removal of confusion from the definition of governance and related terms. This can potentially avoid waste of time, resources and money, facilitating building social and physical systems and infrastructure, benefitting organisations generally, whether public, charitable or private.

Keywords - governance; govern; definition; define; project management; review

1.   Introduction

It is stating the obvious to say that the academic project management community needs to keep in touch with the practitioner project management community and serve its needs. This paper proposes to do that by filling a need that is not immediately apparent. Various project management practitioner reference documents have been developed over the years, originating from completely different sources, claiming to be generic to the whole project management field. However, some of these documents have incompatible assumptions and even completely different definitions of terms. If academics are not involved in evaluating project management practitioner reference documents which become de-facto standards, then it will be difficult for practitioners in general management or those immersed in any sub-field of project management to know:

1. whether practices derived from other project types are appropriate for them to adopt,
2. what standard of proof has been applied to practices that are claimed to be generic, or
3. how competing frameworks and their claims to genericity across all project types can be satisfactorily evaluated.

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Because of the commercial nature of these products, achieving consensus is not a straightforward exercise. It is also one that is not readily amenable for a practitioner organisation to undertake to the level of theoretical rigour necessary. It is most effectively undertaken with academic independence, free of funding from any impacted commercial organisation. This paper contributes to the literature reviewing terminology in management and project management as well as the literature reviewing the veracity and interoperability of commercially available project management products. Projects, business and academic research can all benefit from removal of confusion from the definition of governance and related terms. This can potentially avoid waste of time, resources and money, facilitating building social and physical systems and infrastructure, benefitting organisations generally, whether public, charitable or private.

Confusion over the definition of governance and related terms has existed within the academic community, as noted by (Ahola, Ruuska, Artto, & Kujala, 2014; Biesenthal & Wilden, 2014; Cepiku, 2013; Pitsis, Sankaran, Gudergan, & Clegg, 2014). McGrath and Whitty (2015) traced this confusion back and found that the terms governance and corporate governance had been used interchangeably in the seminal report by Cadbury (1992) which popularised use of the word. That report was prepared for government to address bad behaviour of companies at the time. These were private sector companies whose owners (shareholders) held shares in them (stocks) and this organisational form is referred to as the joint-stock company model. The Cadbury Report was not concerned with addressing the behaviour of other types of entity and so did not accommodate application of the governance concept to other organisational forms. McGrath and Whitty (2015) comprehensively investigated definitions of governance and applied their definitional refining method to Cadbury's definition in developing separate essential definitions of both governance and corporate governance. They considered historical and current usage across many fields by tracking academic sources. They also noted that many papers on governance did not actually define it, although none disputed its importance. This paper moves beyond academic considerations and investigates whether confusion exists in the reference documents used by practitioners, while still, of course, applying academic rigour.

McGrath and Whitty (2015) also noted that the root of the lack of definitional precision they found in governance terminology lay in not distinguishing between the definition of a word (governance) and the definition of a phrase containing it (corporate governance). This was not a problem for the Cadbury Report authors or recipients at the time as, for them, there was no difference between the two. But it has become a terminology problem since then following its wider application outside the joint-stock company model.

The term corporate governance has come to be used whether the governance being referred to is of a corporation or not. Once a term has been arrogated for field-specific usage and usage of the term has spread outside that field, confusion can result producing a situation that is difficult for those other fields to resolve. To resolve this type of confusion, we rely on John Stuart Mill who said:

> It would, however, be a complete misunderstanding … to think that because a name has not at present an ascertained connotation, it is competent to anyone to give it such a connotation at his own choice. The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. … To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name. When this can be done without rendering any received assertions

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> inadmissible, the name can be defined in accordance with its received use (Mill, 1874, pp. 469,470).

This means that the definition of a conceptual term already in use cannot be determined arbitrarily, let alone by a vote of a small sample or simply by the first person to popularise it.

The term governance itself is not dependent upon and has no claim to be 'owned' by the joint-stock company model. Corporate governance is not a term relevant to government departments which do not operate on a joint-stock company model. Corporations and government departments are simply different organisational forms and so both can be considered as requiring organisational governance as defined by McGrath and Whitty (2015). In other words, corporate governance and public governance are simply organisational governance as applied to two different organisational forms.

Tricker (1984), from whom Cadbury had derived his theoretical inspiration, had also paid some attention to definitional precision in noting that governance:

> is concerned with giving overall direction to the enterprise, with overseeing and controlling the executive actions of management and with satisfying legitimate expectations for accountability and regulation by interests beyond the corporate boundaries. If management is about running the business; governance is about seeing that it is run properly. All companies need governing as well as managing (Tricker, 1984, pp. 6-7).

White (1986) had also stated that "scant attention had been paid to governance in the British Company" and that the first reason for rethinking corporate governance was "preventing abuses of corporate power" (White, 1986, p. 188). In distinguishing between management and governance, he also noted that "if ownership, direction and management all rest in the same entrepreneurial individual, there is little opportunity for a distinction between management and governance" (White, 1986, p. 188). This gives a strong hint as to a potential source of later confusion.

McGrath and Whitty (2015, p. 782) noted that

> Tricker acknowledged a generic characteristic of governance that he did not pursue. He proceeded in a combined accounting and legal direction in addressing the difficulties that the mid-nineteenth century conceptual invention of the joint-stock company inadvertently created when it did not envisage the circumstance of one company owning another. He did not distinguish between governance and corporate governance.

However, while McGrath and Whitty (2015) identified the issues and proposed this resolution to the confusion found in the academic literature, they did not investigate practitioner reference documents or practitioner views to see if there was empirical evidence of that confusion having translated into practice. The former is the purpose of this paper.

As we see it, there is a need for independent examination of practitioner documents to determine what practices work and what don't in what circumstances and we consider this is vital for healthy debate and the avoidance of commercially induced group-think.

This paper addresses the question of how practitioner reference documents deal with governance terminology. This question is of concern to academics, as well as practitioners, as the academic literature needs to and does reference practitioner documents e.g. (Joslin, 2017,

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pp. 162, 168; Muller, 2017c, p. 108; Muller, Andersen, Klakegg, & Volden, 2017, p. 61) referencing PMBOK.

A literature review is first conducted to identify any previous reviews of project management reference documents. A research question is then posed, and the research design determined. The documents to be examined are selected and the method of review and assessment determined before proceeding to carry out an examination of practitioner documents. The findings are then presented in tabular form, allowing ready evaluation and comparison. An analysis of each document then follows.

2. Literature review

We will first examine recent work on governance to establish context. A recently published book on project governance edited by Muller (2017a) provided an overview of governance as related to project management. It was concerned with implementing governance in accordance with the Millstein (1998) principles of good governance - transparency, accountability, responsibility and fairness (Muller, 2017b, pp. 15,16). He discussed diversity in terminology around governance, saying "whenever we talk about governance we must first clarify the perspective we are taking towards the governed object" (Muller, 2017b, p. 11). He defined organisational project governance as "the means by which individual projects, groups of projects (such as programs or portfolios), and the totality of all projects in an organization are directed and controlled and managers are held accountable for the conduct and performance of them" (Muller, 2017b, p. 14). However, the singular term governance was not defined. He discussed governmentality, referring to it as "the governing of people, or the 'art' of governance, which is known as governmentality (Foucault, 1991)" (Muller, 2017b, p. 20). Furthermore, "Governmentality is defined as the mentalities, rationalities, and ways of interaction, chosen by those in governance roles to implement, maintain, and change the governance structure. The term governmentality comes from the words governance and mentality" (Muller, 2017b, pp. 20-21).

However this is contradicted by Senellart in Foucault, Senellart, and Davidson (2007)who said:

> Contrary to the interpretation put forward by some German commentators… the word 'governmentality' could not result from the contraction of 'government' and 'mentality', 'governmentality' deriving from 'governmental' like 'musicality' from 'musical' or 'spatiality' from 'spatial' (Foucault et al., 2007, p. 502).

That is to say it was coined simply by adding government + -al- *adjective* + -ity *abstract noun*. Senellart noted that governmentality was "Formulated for the first time in the fourth lecture of 1978 (1st February 1978)" (Foucault et al., 2007, p. 502) meaning that it was Foucault who coined the term. He also said it had "given birth to a vast field of research for a number of years in Anglo-Saxon countries and, more recently in Germany – '*governmentality studies*'" (Foucault et al., 2007, p. 506).

Senellart noted Foucault did not use the term in just a political sense but also in a broader definition of governing or government that was employed until the eighteenth century. He said:

> The Classical Age developed therefore what could be called an 'art of government' in the sense in which 'government' was then understood as precisely the 'government'

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> of children, the 'government' of the mad, the 'government' of the poor, and before long, the 'government' of workers (Foucault et al., 2007, p. 500).

Senellart also noted "The analysis of 'government' in this course was not limited to the disciplines, but extended to the techniques of the government of souls forged by the Church around the rite of penance" (Foucault et al., 2007, p. 500). He also noted:

> The shift from 'power' to 'government' carried out in the 1978 lectures… result(ed) from its extension to a new object, the state, which did not have a place in the analysis of the disciplines (Foucault et al., 2007, p. 495).

He noted that:

> From 1979, the word no longer only designates the governmental practices constitutive of a particular regime of power (police state or liberal minimum government), but "the way in which one conducts people's conduct... Government of children, government of souls and consciences, government of a household, of a state, or of oneself (Foucault et al., 2007, p. 503).

That is to say that for Foucault, it also signified self-control and more generally, the conduct of conduct.

This broad approach involving generic application of the concept to all possible circumstances aligns with the view of John Stuart Mill above and with the approach to defining governance taken by McGrath and Whitty (2015). Given the confusion of meaning surrounding the base term documented above, we consider that clarity is unlikely to be achieved by further constructions upon an already confused base term.

We also restrict ourselves here to definitions of governance and do not attempt to describe current governance practice or comment on ways of implementing 'good' governance.

We adopt the approach that any confusion in governance terminology existing in practitioner reference documents would become evident by examining and comparing their definitions of governance related terms, as McGrath and Whitty (2013); McGrath and Whitty (2015) had done in examining the academic literature. Consequently, we searched for previous reviews of practitioner reference documents before conducting our own review.

A search of all EBSCO databases on 1/10/2017 for both 'review of standards' in the title and 'project management' in the text found no relevant reviews. A similar search for 'comparison' in place of 'review' found no relevant reviews and a similar search for 'examination' found one relevant review, namely Crawford, Pollack, and England (2007) which is considered below. Similar searches of Taylor and Francis and Emerald databases on 2/10/2017 also found no relevant reviews. A Google Scholar search of 'project management standard' with at least one of comparison, examination or review in the title returned one result, Sadeanu, Candea, and Bodea (2013). This was concerned with comparing PMBOK (2013), PRINCE2 (2009) and ICB V. 3.0:2006 and was not concerned with questioning their content. We were not concerned with ICB as it is not our purpose here to make any comment on competency.

Other subsequent investigation located two further reviews. One was Zandhius and Stellingwerf (2013). This also provided a basic comparison of PMBOK (2013), PRINCE2 (2009) and ICB Version 3 as well as Agile, Lean Six Sigma and others and was concerned with comparing these documents rather than with questioning their content.

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The other was by Xue, Baron, Esteban, and Zheng (2015). This provided a basic comparison of ISO 21500 with PMBOK and ISO/IEC TR 29110 (on Software engineering – Lifecycle profiles for very small entities). Again, this comparison did not question the content of any of these documents.

The reviews mentioned so far came after a long period of consensus making in developing ISO21500 between 2007 and 2012 (Sadeanu et al., 2013). The impression we gained from these reviews was that they were more concerned with the general alignment between various standards and were not examining or questioning any fundamental assumption behind any particular document or definition which may have contributed to the earlier difficulty of reaching a consensus view.

Crawford et al. (2007) was the closest to our interest and was concerned with the "relationship between project management performance-based standards through an analysis of differences in language use between the standards of different nations". They noted:

> Through language, we give transferable meaning to the world. Our use of language structures our perception and the possibilities available to us for transferring those perceptions. This paper examines the use of words within the different project management standards, using established statistical linguistics techniques… It is easy to assume that within a field such as project management, where profession-specific terminology is common, that different people attach the same meaning to a particular word. However, this is not necessarily the case. A standard is not a single and unvarying thing interpreted by different cultures in the same way. In light of endeavors to develop internationally applicable project management standards, this paper examines just how standard the project management standards actually are (Crawford et al., 2007, p. 6).

They were concerned with "the threat of fragmentation of project management due to competition, not cooperation, in the development of standards and qualifications" (Crawford et al., 2007, p. 6).

Their analysis sought to identify cultural factors across the full range of language usage, and so even though "The original intention of this study was to compare the various countries' project management standards directly" (Crawford et al., 2007, p. 10), a more broad-scale technique was found to be necessary and they used computational corpus linguistics techniques to conduct keyword analysis. However, our purpose here is to analyse the usage of a single word and its associated terms and so direct comparison of documents is possible and appropriate for this task, using the documents' own declared definitions. Governance was not one of the 48 topics Crawford et al. (2007) identified and their paper contains no mention of it. Analysis of their reference list indicated no references to other comparisons of practitioner documents.

The review of governance terminology in the academic literature by McGrath and Whitty (2013); McGrath and Whitty (2015) did examine the Cadbury Report definition which has been adopted by various practitioner documents; "The report's recommendations have been used to varying degrees to establish other codes such as those of the OECD, the European Union, the United States, the World Bank etc." (Wikipedia, 2017). This indicates that current practitioner documents are likely to contain at least some of the issues they identified.

Having established as far as can reasonably be determined that there has been no previous work along the line we are investigating, we will proceed to propose our research question.

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3.   Research Question

For this examination of governance terminology in practitioner reference documents, we posed the following research question;

> *Does any inconsistency in governance terminology exist within or between management practitioner reference documents?*

4.   Approach

The approach adopted here is the antithesis of Wittgenstein's family resemblance concept which has pervaded much 20th century philosophy and is carried forward by authors such as Haugaard (2010) in addressing power and Seidl (2007) in addressing strategy. McGrath (2018) analysed this theory. He noted many inconsistencies in it and falsified it by developing an essential definition of the term 'game', which Wittgenstein had thought not possible and had used this to justify the concept. McGrath (2018, p. 87) also noted that "The family resemblance theory has simply reified the confusion that can result when the trap of defining by extension is fallen into". In accepting this contradiction of the 'family resemblance concept', this paper continues in what can be labelled a "path-(up)setting scholarship mode" (Alvesson & Sandberg, 2013, p. 148), stepping outside both the conscious and the sub-conscious influence of Wittgenstein.

Alvesson and Sandberg (2014, p. 982) also offer guidelines, one of which is to 'Try alternative vocabularies compared to the conventional one used in one's box". They further note that "box research tends to encourage *incremental* rather than frame-bending research" (Alvesson & Sandberg, 2014, p. 976).

We note that while 'frame-bending' is now required towards a definitional orientation, such focus on definition previously prevailed from the time of Socrates up to that of Mill (quoted above) who died only 16 years before Wittgenstein was born. So the approach we are adopting here is not new; it is rather re-discovered, albeit that the work of McGrath (2018) has now identified ten hitherto hidden sources of definitional error that have magnified, compounded and confounded the problem. This exemplifies "how fashions, elite support and ideologies are critical elements in contemporary ways of addressing the subject matter" (Alvesson & Sandberg, 2014, p. 982).

Any agreed definition represents only an agreement and not anything absolute, but once having made an agreement, people come to depend upon it and it then becomes confusing to refer to it as denoting anything else. So, once a definition is agreed that presents no inconsistency to any other terminology, then maximum functionality is achieved by regarding it as being absolute, even though they are only words and have no physical existence - other than as a mental construct representing something. One could perhaps regard such agreement as a 'social contract', with fixity or determinism dependent upon there being more than one party to the 'contract'.

Relativism is not precluded by accepting fixed meaning of words, albeit that it would be slightly constrained by doing so. But if we don't know what we are talking about in the first place, then we have a difficult time getting to a relativist approach anyway.

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5. Research Design

This research question called for an analysis of various documents commonly referenced by general and project management practitioners to see how they deal with governance. The particular documents need to be selected and the evaluation method determined.

5.1 Practitioner reference document selection

We wished to select documents that have influenced a wide range of international practice including the main influences upon English language usage of the term by including sources from England and the United States. To limit any possible divergence with general management practice, we selected two editions of a general management standard that has influenced general management internationally, and one Australian standard that has influenced the national context where the authors conducted their research. We also included a document giving an ICT perspective. For project management documents specifically, examination of generic project management documents which have some reference to "whole of project" governance was appropriate. This excluded those dealing with particular knowledge areas such as risk or environment.

Consequently, a total of thirteen documents were selected as follows for the reasons given below:

- AS8000-2003 Good Governance Principles, to give local Australian general management history/ context
- the OECD Principles of Corporate Governance 2004 and 2015 to give international general management history and currency
- the 2008 ISO/IEC 38500 IT Governance Standard to include an ICT perspective
- the PMI PMBOK, program and portfolio standards to include the American project management perspective
- PRINCE2, MSP, APM BOK and BS6079 (covering British project management terminology) to include the British project management perspective
- AS ISO 21500:2016 (Guidance on project management) and ISO 21505:2017 (Project, programme and portfolio management - Guidance on governance) to give international project management currency.

5.2 Evaluation method/ Method of analysis

A qualitative deductive approach was selected, as this requires only one document with differing definition to demonstrate that contention of definition exists. However, the documents selected do cover a wide range of international practice and if there is no substantive difference or contention in definition among these, then any assertion to this effect could be considered by some to be inductively validated, even though full agreement from the sample would still not prove that no contention existed.

Answering the research question is then straightforward from the perspective that if all practitioner documents reviewed indicated the same understanding of the particular terminology, then confusion is not established and there is then no contest or disagreement identified among documents requiring resolution. However, if this is not the case, then disagreement over terminology can be considered established.

As mentioned above, a review of governance terminology in the academic literature by McGrath and Whitty (2013); McGrath and Whitty (2015) identified a range of issues. We

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therefore decided to examine the practitioner documents to see if these same issues were present and to see if any other issues arose. For the purposes of assessment, we distilled the definitional problems they identified with governance terms in the academic literature into four categories as follows:

1. **Presumption of the joint-stock company model:** Cadbury (1992, p. 14) defined governance as "The system by which companies are directed and controlled". McGrath and Whitty (2015, p. 770) noted "that this was actually his definition of corporate governance and he did not separately define governance itself". They also stated:

   > Corporate and organisational governance have been deliberately separated as corporations are one form of organisation and government departments are another form, which also require governance but are not corporations. Talk of corporate governance in government departments is therefore a misnomer, unless it is referring specifically to the corporate level of the department, but this is narrow, mixes frameworks and is imprecise and confusing. The term "corporate" is too limiting for universal application (McGrath & Whitty, 2015, p. 765).

2. **The place of accountability:** They pointed out that the need to deal with the sharing of authority introduces the need for accountability, which "is meaningless for a machine or a despot… Any human organisation where people share power will require some form of accountability mechanism to inform or satisfy the interests of participants" (McGrath & Whitty, 2015, p. 777). They found the concept of accountability necessary once the qualifier organisational is added to the term governance. They noted "accountability may be either included within the rules or not and is therefore an optional aspect of organisational governance arrangements, not an inherent aspect of governance itself" (McGrath & Whitty, 2015, p. 777). We note that optionality may be better expressed as 'degree of" accountability, which can vary anywhere between none for a dictatorship (in terms of accountability to all citizens) and a lot for democracies. We also note that sharing ownership is a means of sharing power, as occurs in the joint-stock company model.

3. **Unwarranted inclusions:** Items they found to be unwarranted inclusions were behaviour, strategy, ethics and PR (Public Relations) as well as "leadership, decision making, rationalising, relationships, coordinating" (McGrath & Whitty, 2015, p. 777). McGrath and Whitty (2013) also noted "a range of subjects (leadership, decision making, rationalising, relationships, coordinating) that various authors have attempted to range under the banner of governance". They also mentioned other subjects including accountability framework, organisational structures and processes as well as one reference that viewed it as "administration, coordinating, appraising, planning" (Sohal & Fitzpatrick, 2002). McGrath and Whitty (2015) were also careful to distinguish between governance and strategy and none of their definitions use that latter term.

4. **Means of accommodating warranted inclusions:** They produced separate definitions for various governance terms and noted that "some of these former inclusions (were) either excluded or relegated to organisational governance arrangements, thereby separating process from content" (McGrath & Whitty, 2015, p. 756).

These categories were therefore used as evaluation criteria in our analysis.

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The definitions they derived were as follows:

- Govern = direct and control.
- Governance = the system by which an entity is directed and controlled.
- Government = an entity that controls a geographic area.
- Organisational governance = the system by which an organisation is directed, controlled and held to account.
- Organisational governance arrangements = an entity's structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision making processes (including financial and other delegations, as well as approval processes) and reporting arrangements (annual, financial, progress, assurance, regulatory, stakeholder).
- Corporate governance = the organisational governance of a corporation = the system by which a corporation is directed and controlled and held to account.
- Project governance = the organisational governance of a project = the system by which a project is directed and controlled and held to account (McGrath & Whitty, 2015, p. 781).

McGrath and Whitty (2015, p. 783) also noted that "the term public governance has deliberately not been included in the terms defined above as it is an unnecessary product of the confusion resulting from failing to distinguish between the terms governance and corporate governance". However, considering both corporate and public governance as forms of organisational governance is nevertheless compatible with their approach.

These definitions were developed using a transparent method designed to identify, compare and resolve different usages across multiple fields and so will be used as a set of reference definitions.

6. Examination of practitioner documents

The examination is documented in Table 1, which lists the document and the definitions of governance terms it contains, enabling direct comparison between all documents examined. It also lists the assessment of each document against each of the four categories (criteria) listed above, together with a final category detailing any other difficulty identified.

The results of the analysis are presented in Table 1.

6.1 Comparison of all practitioner reference documents

Examination of the table indicates that there are issues with governance terminology in all of the practitioner documents considered, with no one document being issue free, as the absence of a blank row indicates, albeit that the OECD Principles and AS 6079 contained no governance definitions. Furthermore, all of the issues identified in the academic literature have translated to some of the practitioner documents examined, as the absence of a blank comment column in the table indicates. We will now draw comparisons between the documents analysed.

Only four of the documents examined actually defined the base governance term. Of these, two (ISO/IEC 38500 and AS ISO 21500:2006) used modifications of the Cadbury definition,

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using the term organisational without including accountability. The other two (MSP and the APM BOK) defined it in terms of various organisational governance arrangements. One (AS8000) used a modified Cadbury definition as the definition of corporate governance. One other (PRINCE2) defined governance (corporate) but did not use the Cadbury definition, instead defining it as maintenance of management systems. Use of the Cadbury definition in defining both governance and corporate governance reflects Cadbury's failure to distinguish between the two.

Only three include project governance in any form. The PMBOK actually defines project governance as an alignment. AS ISO 21500:2016) states what it included, but was not limited to, before listing items of organisational governance arrangements. PRINCE2 defines governance (project) as the areas of corporate governance related to projects. None of these definitions capture the essence of the term and none are the same as the reference definition.

Other phrases defined are corporate governance of IT in ISO/IEC 38500, program governance in the PMI Standard for Program Management, governance decisions, governance recommendations and portfolio governance in the PMI Standard for Portfolio Management. It is notable that some of these terms were even considered to need separate definition and furthermore that some of the definitions within the latter document indicated an internal inconsistency between the implicit definition of the base governance terms, with one implying it is a process and another that it is a knowledge area.

The PMI Standard for Program Management mixes governance and management in defining governance management, which ISO/IEC 38500 states are quite distinct although it does not maintain that distinction throughout that document.

The PMI Portfolio Management definition of organisational governance is quite close to the reference definition above except for the inclusion of strategy.

Governance is described in the various practitioner documents as maintenance, alignment, function and knowledge area, none of which concur with the reference definition. However other definitions use the terms process, framework or set which are somewhat similar to the term system, which is used in the reference definition. We note that while Cadbury may have not distinguished between governance and corporate governance and that anything causing cross-field confusion cannot be accepted as generic, he was nevertheless a pioneer of the field and if there is no compelling reason to change a term he used, the difficulty of correcting subsequent usage is minimised if such previously selected uncontentious terms can remain. We therefore find no reason to alter the reference definition use of the term 'system' on this count.

One tendency we noticed in several documents is to either list what may be included and offer no definition (AS ISO 21500:2016), or to claim to define by listing what it may include (ISO/IEC 38500, PRINCE2, MSP, APM BOK – all ICT documents).

It is only the OECD document where the issues identified are unlikely to inadvertently cause confusion. While not defining governance at all may have facilitated this, that document does not conflict with the reference definitions. It deals with governance practices without introducing any inclusions that the evaluation method would deem unwarranted. It gives advice to national governments on the content of desirable practices and so contained the greatest amount of normative content of all the documents reviewed. Our review was concerned only with process and definition of terms and so we make no normative value judgements on what actual practices should be included within any particular organisational

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governance arrangement. We simply deal here with what the elements of those arrangements are, not with their actual content.

In summary, it is evident that the different documents have different understandings of governance terminology. This examination therefore indicates that the research question can be answered affirmatively; inconsistency in governance terminology does exist within and between management practitioner reference documents

We will now report the separate analysis of each document, making observations as appropriate.

7. Analysis of and observations on individual practitioner documents

7.1 AS8000-2003: Good Governance Principles

Section 1.5.1 of (Standards Australia, 2003) defines corporate governance as "The system by which entities are directed and controlled" and entity as "A company, government department, government body or not-for-profit organization". These definitions acknowledge the fact that governance applies to entities other than companies but inappropriately translate Cadbury's definition of corporate governance as "the system by which companies are directed and controlled" (Cadbury, 1992). A government department is not a company. Its head is a minister who directs what is to be done. This definition leaves the residual confusion of attempting to figure out where or how the governance of a government entity is corporate. Cadbury took a government concept (that of governing) and applied it to the corporate environment. This AS 8000 definition takes it back in an unnecessary, convoluted, double loop. It actually generically defines governance but inappropriately labels it as corporate governance. It even acknowledges an inconsistency in its own definition by including the following note:

> Corporate governance addresses the issues arising from the interrelationships between boards of directors, such as interaction with senior management, and relationships with the owners and others interested in the affairs of the entity, including regulators, auditors, creditors, debt financiers and analysts.

> Definitions of corporate governance are many and varied. There is no one global applicable definition but some useful statements include… (Standards Australia, 2003)

The definition of corporate governance also omits accountability.

AS8000 needs to be changed to remove the error that has resulted in this internal inconsistency. Separate definitions of governance and corporate governance are necessary.

7.2 OECD Principles of Corporate Governance - 2004 and 2015

Neither version defines governance or corporate governance or contains a glossary of terms. Both state: "The Principles focus on publicly traded companies, both financial and non-financial. However, to the extent they are deemed applicable, they might also be a useful tool to improve corporate governance in…" with OECD (2004, p. 12) adding "non-traded companies, for example, privately held and state-owned enterprises" and OECD (2015, p. 9) adding "companies whose shares are not publicly traded". The later change makes it clear

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that its focus is on companies with shareholders. The 2004 edition acknowledged the work of Cadbury without specifically referencing him and so it appears that his definition of corporate governance was tacitly assumed and its deficiency regarding presumption of the joint-stock company model, as noted above in the introduction and evaluation method section, has been incorporated.

The document specifies principles at a national government level regarding approaches and required behaviours rather than detailing the elements of organisational governance arrangements. It is concerned with content rather than detailed processes. Although it does not define governance, corporate governance or organisational governance, it nevertheless contains no inclusions that could be regarded by the above evaluation method as unwarranted.

7.3   *ISO/IEC 38500: The IT Governance Standard - 2008*

ISO/IEC 38500 states:

> The objective of this standard is to provide a framework of principles for Directors to use… it also allows that, in some (typically smaller) organizations, the members of the governing body may also occupy the key roles in management. In this way, it ensures that the standard is applicable for all organizations, from the smallest, to the largest, regardless of purpose, design and ownership structure (International Organization for Standardization, 2008, p. v).

It also states many times "Directors should". It is clearly designed for companies and may be generic for all companies, but it appears to have either not envisaged the inclusion of government departments or has assumed loose similarity in the director role. Director positions in government organisations do not have the same obligations as directors of company boards and accountability in a government department rests with the head of that department, not with a board.

The International Organization for Standardization (2008, p. 3) defines Governance as "The system by which organizations are directed and controlled. (adapted from Cadbury 1992 and OECD 1999)". This mixes governance with organisational governance, when compared to the reference definition which introduces accountability when the qualifier 'organisational' is added. This document also defines "Corporate governance of IT" as "The system by which the current and future use of IT is directed and controlled. Corporate governance of IT involves evaluating and directing the use of IT to support the organization and monitoring this use to achieve plans. It includes the strategy and policies for using IT within an organization" (International Organization for Standardization, 2008, p. 3). This contains strategy which is mentioned above as an unwarranted inclusion.

ISO/IEC 38500 gives the six principles of IT governance as responsibility, strategy, acquisition, performance, conformance and human behaviour. Assigning responsibility for tasks is a normal general or project management activity. Strategy is a higher level activity than governance as explained by McGrath and Whitty (2015). Acquisition is actually procurement. Performance is what basic project management monitors and involves standard risk management practices. Conformance at least comes close to being associated with organisational governance, insofar as it mentions satisfying "obligations (regulatory, legislation, common law, contractual), internal policies, standards and professional guidelines" and so can be taken to be a part of accountability. Human behaviour is very general and should be "identified and appropriately considered" (International Organization

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for Standardization, 2008, p. 15). This would appear to overlap with stakeholder management, which is not mentioned explicitly as well as with the project management knowledge area of human resources.

While none of these principles are undesirable or unnecessary, they relate more to good management than to governance. It is therefore evident that in spite of it its claim that "Governance is distinct from management, and for the avoidance of confusion, the two concepts are clearly defined in the standard" (International Organization for Standardization, 2008, p. v), it actually completely mixes the two concepts. It achieves this in part by defining management as a system as well, rather than as the action of taking charge, namely "The system of controls and processes required to achieve the strategic objectives set by the organisation's governing body" (International Organization for Standardization, 2008, p. 4). One can readily question how many separate, different, overlapping standards and frameworks can really be necessary to ensure good management. Just because governance happens to sound more important than management does not justify the development of additional frameworks and standards revolving around that particular word. The confusion in definition of governance terms cannot have helped this situation and may have even resulted from it.

With respect to the inclusion of strategy, that is a higher-level activity that the system of governance is used to implement. It makes little sense to be including a higher-level activity under a lower level activity. Control over any system of governance is necessary to implement any strategy within it. The choice of what is to be done (strategy) is different to the processes by which it is done (management and governance). As McGrath and Whitty (2015, p. 774) noted, governance "is defined in terms of how we do whatever it is that we choose to do and not in terms of what we do or intend to do. What we intend to do is strategy". It is perhaps unfortunate that the notion of the process of corporate governance has acquired a distorted connotation of importance that has overtaken both logic and the purpose it is there for.

These principles essentially duplicate selected elements of any respectable management approach or project management framework but contain so little that it is unlikely to confuse any corporate director who actually read it. If there is really any ongoing need for this standard, ISO/IEC 38500 would be more appropriately labelled for what it actually is, as 'IT strategy, management and governance in corporations'.

Chapter 7 also contains the following statement:

> IT projects are not always delivered successfully. Authoritative research shows that the majority of projects fail to deliver the benefits that justified commencing the project and that, of those that do, the majority come in late and/or over budget.

> Organisations whose IT projects failed usually all deployed recognisable project management methodologies; the reasons for failure were invariably to do with failures of project governance rather than simply of operational management (Calder, 2008, p. Ch7).

This provides a salutary warning to all projects on the potential contribution of confusion in governance terminology to the establishment of inappropriate governance arrangements, as

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well as to ICT projects regarding the governance arrangements of their popular methodologies and to non-ICT projects in taking up ICT based approaches.

Furthermore, if project failure is "invariably" linked with governance failure, continuing looseness of governance terminology cannot possibly assist in resolving this.

7.4   PMBOK - 2017

The only governance related term defined in the glossary of PMI's 2017 PMBOK is project governance which is defined as "The framework, functions and processes that guide project management activities in order to create a unique product, service or result to meet organisational, strategic and operational goals" . This is an improvement on the 2013 definition which defined it as an alignment, but it still defines by extension which creates verbosity and tempts omission when the all-encompassing term 'system' could have been used. It is also restricted by unnecessarily including a purpose, desirable though that purpose may be for organisational projects. Nevertheless, while it may not be fully generic, it serves the purpose for organisational projects and does not conflict with the reference definition.

7.5   PMI Standard for Program Management -2013

Apart from the terms "governance board" and "program governance plan", (Project Management Institute, 2013b) defines the following two terms:

Governance Management. The program management function that provides a robust, repeatable, decision-making framework to control capital investments within an agency, organization, or corporation. This includes decision making which has been listed above as an unwarranted inclusion. It also defines governance as a function, restricts it to investment, places it under the program level and mixes it with management.

Program governance. Systems and methods by which a program is monitored, managed, and supported by its sponsoring organization. This omits accountability and includes methods which are not part of the reference definition and also mixes management and governance which White (1986, p. 188) and International Organization for Standardization (2008, p. v) (ISO/IEC 38500) maintain are two distinct things.

7.6   Standard for Portfolio Management - 2013

There are four governance related terms defined in the glossary of (Project Management Institute, 2013a). Two are rather surprising, namely "governance decisions" and "governance recommendations", which would appear to have not needed definition if a definition of governance itself had been present, and definition of the former term appears to include governance and non-governance (management) decisions. There are other decisions such as strategy decisions that are not just mere matters of some regulatory type of process that happens to be called governance. This reinforces confusion resulting from failure to distinguish a process from its content. This may seem trivial until one considers that the existence of the project management field relies on distinguishing generic (project management) processes from its content (field of application). The other two definitions are as follows:

- Organisational governance which is defined as "The process by which an organization directs and controls its operational and strategic activities, and by which the organization responds to the legitimate rights, expectations, and desires of its

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> stakeholders". This definition includes strategy. It also defines one type of governance as a process rather than as the system for directing and controlling.

- Portfolio governance which is defined as "A Knowledge Area that includes the processes to develop the portfolio management plan; define, optimize, and authorize the portfolio; and provide ongoing portfolio oversight". How can one form of governance be a process and another form be a knowledge area (Note that neither definition refers to it as a system)? Secondly, this definition includes management processes - define, optimise, authorise and oversight, and thirdly it reflects the tendency identified in McGrath and Whitty (2013) and in McGrath and Whitty (2015) to make governance into something more than it actually is, allowing other things in and giving examples of some processes that are included .

Both of these terms also suffer from the absence of a definition of the base governance term

7.7   PRINCE2 - 2017

The only governance related definitions in the (AXELOS, 2017) glossary are as follows:

- governance (corporate) is "the ongoing activity of maintaining a sound system of internal control by which directors and officers of an organisation ensure that effective management systems, including financial monitoring and control systems have been put in place to protect assets, earning capacity and the reputation of the organisation". This mixes organisational and corporate governance, effectively defines corporate governance as maintenance rather than as a system for doing something, and does not mention accountability. It includes protection of assets, earning capacity and reputation which have more to do with management and public relations than with governance. It also includes financial monitoring as governance rather than having a system for them as part of organisational governance arrangements.
- governance (project) is "Those areas of corporate governance that are typically related to project activities". This is not very specific and includes no hint that governance of a project and its parent organisation are not the same but have to mesh.

7.8   MSP - 2011

The glossary of (Office of Government Commerce (OGC), 2011) contains a definition of governance as "The functions, responsibilities, processes and procedures that define how a programme is set up, managed and controlled". This is not a definition of governance. It simply lists some of the items listed by McGrath and Whitty (2015) as comprising organisational governance arrangements. It includes programme setup and management as governance and also includes functions, responsibilities, processes and procedures as part of governance rather than as organisational governance arrangements.

7.9   APM BoK Sixth Edition - 2012

Association for Project Management (2012, p. 237) defines governance as "The set of policies, regulations, functions, processes, procedures and responsibilities that define the establishment, management and control of projects, programmes or portfolios".

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This allows inclusions beyond governance, that is activities other than simply directing and controlling, as well as listing some of the items listed by McGrath and Whitty (2015) as comprising organisational governance arrangements. It also describes governance as a set rather than as a system.

7.10   BS 6079-2:2000

British Standards International (2002) on project management vocabulary contains no definition of governance or corporate governance.

7.11   AS ISO 21500:2016 = ISO 21500:2012

AS ISO 21500:2016 "is identical with, and has been reproduced from ISO 21500:2012, Guidance on project management" Australian Standards (2016). Section 2 on terms and definitions does not define governance, however Section 3.6 states:

> Governance is the framework by which an organization is directed and controlled. Project governance includes, but is not limited to, those areas of organizational governance that are specifically related to project activities. Project governance may include subjects such as the following:
>
> — defining the management structure;
>
> — the policies, processes and methodologies to be used;
>
> — limits of authority for decision-making;
>
> — stakeholder responsibilities and accountabilities;
>
> — interactions such as reporting and the escalation of issues or risks (Australian Standards, 2016).

This mixes governance and organisational governance. It specifies the sort of entity without qualifying the term as organisational governance and then does not mention organisational accountability which would have been unnecessary without its use of the term organisation. It lists as governance many but not all of the items listed in the evaluation criteria as organisational governance arrangements. It also lists things project governance may include but does not actually define it. It defines governance as a framework rather than as a system.

7.12   ISO 21505:2017

International Organisation for Standardization (2017) defines governance as "principles, policies and frameworks by which an organization is directed and controlled".

This includes principles (which may lead to but don't define governance) and policies, one of the items listed in the reference definition as organisational governance arrangements. It also defines governance as frameworks rather than as a system. Frameworks may or may not be compatible with each other and their interactions and any incompatibilities will also form part of an organisation's system of governance.

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8. Discussion

When McGrath and Whitty (2015) conducted their review of governance terminology, they found four principal difficulties. These were:

1. by not distinguishing between governance and corporate governance the joint-stock company model had been presumed
2. the place of accountability, which is meaningless for a machine or a despot but is necessary when authority is shared between people, was unclear
3. there were many unwarranted inclusions and
4. the means of dealing with warranted inclusions was inconsistent.

We then examined a range of practitioner documents to see if the same issues were present. Our review, summarised in Table 1, found that all of these same issues were indeed present. It even found a more extensive list of unwarranted inclusions, namely responsibility, strategy, acquisition, performance, human behaviour, methods, management, management processes, asset protection, earning capacity, reputation and program setup and management)

Our review also identified some further difficulties as well, with several of the documents presenting definitions of governance as:

- an alignment
- a function
- a knowledge area
- a set
- a framework and
- maintenance.

All of this taken together clearly indicates that there is significant confusion in and disagreement about current governance terminology.

9. Implications for the academic/ practitioner interface

This paper demonstrates why the way that project management practitioners organise their methodologies and standards should be of academic concern.

Various of these documents are commercial products, and competition has not resulted in resolution of inconsistencies between them. Practitioners are subject to performance pressure and time constraint are so are not in a position to reconcile these, resulting in ongoing confusion. The development of ISO21500 partly addressed this but was primarily concerned with keeping the field together, as noted by Crawford et al. (2007, p. 6) and there are key differences remaining in the content of various commercial products that are still marketed and used throughout the community. There is no world governing body of the field and so practice can only converge through research and consensus, with the latter hopefully following the former.

Project management disasters are unlike engineering disasters in that they do not generally involve people getting killed through collapse of some physical system or apparatus. Evaluation of project management disasters will therefore generally lack direct, observable, verifiable, attributable evidence other than a cost or time blowout or an implementation failure. Such disasters become subject to a multitude of normative considerations i.e. blame will be strongly contested by those with a stake or interest. This makes sourcing any

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meaningful data very difficult. But if we don't want the field of project management to be governed by the values of the legal system, then it would seem to be a very good idea for some internal evaluation of practices to be done. Definitions provide a good place to start as they quickly identify differences in approach, enable normativity to be avoided and facilitate an objective, independence stance, which surely is the key function of an academia unconstrained by coercive funding pressures.

One further consideration in support of regarding practitioner matters as the legitimate subject of academic research and papers is to consider the following possible hypothetical sequence of events where a large part of a field develops a document without academic involvement and then adopts that as either its basis of practice or as a basis of practice for the whole field. If academics ignore it, the practitioners will continue using it unchallenged. If it survives for a decade or two, it will have become so deeply entrenched in practice that the academics who were aware of its lack of theoretical basis will have been unable to do anything about it and newer academics may well be unaware there was any deficiency at all and accept it as 'fact' and 'true', and seek research funding that does not question it i.e. the system can become reified and resistant to question. The field and professional bodies will then drive enforcement and any problems resulting from unrecognised deficiencies in the document will then be masked and academic research will be relegated to investigating spurious 'factors' or developing contortions that build upon the initial deficiencies. McGrath and Whitty (2013); McGrath and Whitty (2015) document the latter having occurred in the field of governance and it is not inconceivable that the same may have been possible within the field of project management.

The possibility of this being the case is further suggested by the paucity of literature dealing with such an alternative approach within project management, and no amount of literature review into articles based upon currently accepted practice will inform any such investigation. Alvesson and Sandberg (2014) particularly notes this in saying:

> The primary goal in box research is typically to anchor one's work in the existing literature within the box... The literature is often a narrow sub-set of a specific area... To transcend or innovatively challenge the existing body of knowledge becomes irrelevant – as this breaks with the add-to-the-literature logic within the box. As a result, box research tends to reinforce rather than challenge existing theories in the field through the naturalization of 'gap-spotting' studies… (and) it generates an *inward dynamics* of knowledge production, which in the long run is unhealthy for the advancement of knowledge… Boxed-in research tends to produce what Alvesson and Spicer (2012) refer to as functional stupidity… an orientation to carry out technically competent work within a narrow area combined with an *inability* to engage in critical and substantive reasoning and ask for justifications (e.g. asking why we do research in the way we do it, work with certain unquestioned assumptions and use a specific vocabulary) (Alvesson & Sandberg, 2014, p. 976).

10. Conclusion

Thirteen practitioner documents were reviewed and their handling of governance terminology was examined. The review concluded that these sources contain considerable differences in terminology and none demonstrate the internal consistency or comprehensiveness provided by the reference definitions from McGrath and Whitty (2015). The research question was

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therefore answered affirmatively; inconsistency in governance terminology does exist within and between the management practitioner reference documents considered.

Given the statement in ISO/IEC38500 that project failure is inevitably due to governance failure, there would appear to be a pressing need for adopting common international standard governance terminology.

The definitions developed by McGrath and Whitty (2015) can provide the means of achieving this as they were developed using a transparent and rigorous method which provides a basis for assessment of any contest over particular terms.

Most, if not all the documents reviewed here would then require updating accordingly.

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Table 1

Issues identified in the definitions of governance terms in practitioner reference documents

Document Relevant Definitions	Types of issue identified
	Type 1: Presumption of the joint-stock company model **Type 2: The place of accountability** **Type 3: Unwarranted inclusions** **Type 4: Means of accommodating warranted inclusions** **Type 5: Other**
AS8000 (2003) • Corporate governance = The system by which entities are directed and controlled • Entity = A company, government department, government body or not-for-profit organization	Type 1: Presumes non-corporates have corporate governance Type 2: Accountability is missing from its definition of corporate governance Type 5: Self-contradicts its own precedence of entity and company
OECD Principles of Corporate Governance (2004 and 2015) No definition of governance or corporate governance and no glossary of terms given.	Type 1: The 2015 edition makes it clear that it applies to companies with shareholders Type 4: Specifies approaches and required behaviours at a national government level as principles rather than detailing the elements of organisational governance arrangements. Type 5: Does not define governance, corporate governance or organisational governance.
ISO/IEC 38500 (2008) • The Introduction states "The objective of this standard is to provide a framework of principles for Directors to use" and many times states "Directors should". • Governance = The system by which organizations are directed and controlled. (adapted from Cadbury 1992 and OECD 1999). • Corporate governance of IT = The system by which the current and future use of IT is directed and controlled. Corporate governance of IT involves evaluating and directing the use of IT to support the organization and monitoring this use to achieve plans. It includes the strategy and policies for using IT within an organization. • Six principles of governance; responsibility, strategy, acquisition, performance, conformance and human behaviour.	Type 1: Presumes the joint stock company organisational form Type 2: Omits accountability from corporate governance of IT Type 3: Includes strategy in corporate governance of IT Type 3: Five of the six principles; responsibility, strategy, acquisition, performance and human behaviour overlap with other things and do not constitute governance or organisational governance arrangements as per the reference definitions. Type 4: Only the conformance principle corresponds with part of organisational governance arrangements. Type 5: Mixes governance with organisational governance
PMI PMBOK (2017) Project governance = the framework, functions and processes that guide project management activities in order to create a unique product, service or result to meet organisational, strategic and operational goals".	Type 3: Includes a purpose Type 5: Defines by extension, creating verbosity as well as tempting omission and does not define the base governance term.

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PMI Standard for Program Management (2013) • Governance Management = The program management function that provides a robust, repeatable, decision-making framework to control capital investments within an agency, organization, or corporation. • Program governance = Systems and methods by which a program is monitored, managed, and supported by its sponsoring organization.	Type 2: Omits accountability Type 3: Includes decision making; methods and management Type 5: Defines governance as a function, restricts it to investment, places it under the program level, mixes it with management and does not define the base governance term.
PMI Standard for Portfolio Management (2013) • Governance decisions = Portfolio governing body decisions based on portfolio performance, component proposals, and risks as well as capability and capacity of resources, funding allocations, and future investment requirements. • Governance recommendations = Portfolio governing body recommendations based on portfolio performance, component proposals, and risks as well as capability and capacity of resources, funding allocations, and future investment requirements. • Organisational governance = The process by which an organization directs and controls its operational and strategic activities, and by which the organization responds to the legitimate rights, expectations, and desires of its stakeholders. • Portfolio governance = A Knowledge Area that includes the processes to develop the portfolio management plan; define, optimize, and authorize the portfolio; and provide ongoing portfolio oversight.	Type 3: Includes strategy; management processes - define, optimise, authorise and oversight. Type 5: The need for definition of the first two terms is unclear and both suffer from absence of a definition of the base governance term + both definitions overlap with management. Type 5: Defines a particular type of governance (Organisational governance) as a process. Type 5: Defines a particular type of governance (Portfolio governance) as a knowledge area and says it is more than a process.
PRINCE2 (2017) The only governance related definitions in the glossary are as follows: • governance (corporate) is "the ongoing activity of maintaining a sound system of internal control by which directors and officers of an organisation ensure that effective management systems, including financial monitoring and control systems have been put in place to protect assets, earning capacity and the reputation of the organisation". • Governance (project) is "Those areas of corporate governance that are typically related to project activities".	Type 1: Mixes organisational and corporate governance. Type 2: Omits accountability. Type 3: Includes protection of assets, earning capacity and reputation. Type 4: Financial monitoring included as governance rather than organisational governance arrangements. Type 5: Effectively defines corporate governance as maintenance rather than as a system for doing something. This is not very specific and includes no hint that governance of a project and its parent organisation are not the same but have to mesh.
MSP (2011) Governance = The functions, responsibilities, processes and procedures that define how a programme is set up, managed and controlled".	Type 3: Includes programme setup and management Type 4: Includes functions, responsibilities, processes and procedures as part of governance rather than as organisational governance arrangements.

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APM BOK (2012) Governance = The set of policies, regulations, functions, processes, procedures and responsibilities that define the establishment, management and control of projects, programmes or portfolios	Type 4: Except for the term control, this defines organisational governance arrangements rather than governance itself. Type 5: Describes governance as a set rather than as a system.
BS6079 (2000) No definition of governance or corporate governance given	Type 5: Does not define governance, corporate governance or organisational governance.

AS ISO 21500:2016 = ISO 21500:2012
Section 2 on terms and definitions does not define governance, however the text in Section 3.6 states that:
  • Governance is the framework by which an organization is directed and controlled.
    Project governance includes, but is not limited to, those areas of organizational governance that are specifically related to project activities.
  • Project governance may include subjects such as the following:
    — defining the management structure;
    — the policies, processes and methodologies to be used;
    — limits of authority for decision-making;
    — stakeholder responsibilities and accountabilities;
    — interactions such as reporting and the escalation of issues or risks.
'ISO 21505:2017
Governance = principles, policies and frameworks by which an organization is directed and controlled
	Type 2: Mixes governance and organisational governance. It specifies the sort of entity without qualifying the term as organisational governance and then does not mention organisational accountability which would have been unnecessary without its use of the term organisation.
	Type 4: Lists as governance many, but not all of the items listed in the reference definition as organisational governance arrangements.
	Type 5: Defines governance as a framework rather than as a system. It also lists things project governance may include but does not actually define it.
	
	Type 3: Includes principles (which may lead to but don't define governance)
	Type 3: Includes policies, one of the items listed in the reference definition as organisational governance arrangements.
	Type 5: Defines governance as a framework rather than as a system.

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What do practitioners think governance is? A study on perceptions in Queensland, Australia

What do project management practitioners think governance is? A study on perceptions in Queensland, Australia

Abstract

Purpose: To determine if there is confusion in governance terminology amongst experienced management and project management practitioners.

Design/ methodology/ approach: Practitioner interviews and subsequent analysis.

Findings: Significant differences in governance terminology were found. The participants had nevertheless arrived at similar operating arrangements for their committees, even though they came from different segments of different industries and did not agree on the definition of governance. It was possible to develop a list of working parameters for operation of these committees from their responses. The labelling of committees associated with governance as steering or decision-making was found to be problematic and various causes/ motivations for the differing definitions of governance having arisen were detected. These ranged from altruism, through dogmatic belief in particular frameworks, to enhancing career prospects/ ego.

Research Implications: The sample came from organisations and industries in one state in one country. The need for further investigation of governance terminology used in various project management practitioner reference documents and methodologies was identified.

Social Implications: Creation of a unifying feature within the project and management literature, shifting the understanding of governance and its boundaries and limitations. This will help progress governance from complexity to simplicity, from an art to an understandable practice, from a concept that has been hijacked for partisan and political gain to a lean social tool which can be put to use for the benefit of organisations, whether public, charitable or private.

Originality/ value: The value is clarity – resulting in the avoidance of confusion and misunderstanding together with their consequent waste of time, resources and money.

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Introduction

"Transparent, effective, accountable governance is critical to ensuring that development benefits people and the planet" according to the World Resources Institute (2018). However confusion exists within the academic community over the definition of governance and related terms. This was chronicled by McGrath and Whitty (2013) and McGrath and Whitty (2015) who found documented evidence of this in (Cepiku 2013; Ahola et al. 2014; Biesenthal & Wilden 2014; Pitsis et al. 2014). Their analysis identified further confusion between governance and corporate governance arising from assumption of the joint-stock company organisational model. They also pointed out that governance itself does not require accountability and used the term organisational governance to accommodate this. They also noted "a range of subjects (leadership, decision making, rationalising, relationships, coordinating) that various authors have attempted to range under the banner of governance" along with accountability framework, organisational structures and processes (McGrath & Whitty 2013). One paper had even viewed it as "administration, coordinating, appraising, planning" (Sohal & Fitzpatrick 2002). McGrath and Whitty (2015) were also careful to distinguish between governance and strategy and none of their definitions of governance terms used that latter term. However, they did not investigate practitioner reference documents or practitioner views to see if there was empirical evidence of confusion existing in the practitioner community.

This clearly indicates that confusion over the definition of governance has been established in the academic literature, which leads into asking the question as to whether practitioners are similarly confused. A research question can therefore be formally stated as: Is there confusion about governance terminology amongst project management practitioners?

A literature review is first conducted to provide current context and to see if other reviews of practitioner views on this subject have been conducted. The research is then designed, selecting the instrument, designing the questions and selecting the sample. An evaluation method is then determined. The interviews were conducted, and the results are reported and analysed before being evaluated and discussed. A typology of motivations is then developed.

Literature review

We will first briefly examine a recent work on governance to establish context. A book on project governance edited by Muller (2017a) with chapters by 11 authors has recently been published and provides an overview of governance as related to project management. It is concerned with implementing governance in accordance with the Millstein (1998) principles of good governance - transparency, accountability, responsibility and fairness (Muller 2017b, pp. 15,6). The book discusses governance models, positioning, orientations, paradigms, principles and theories but does not address the issue of its definition. It does however note diversity in terminology around governance in saying "whenever we talk about governance we must first clarify the perspective we are taking towards the governed object" (Muller 2017b, p. 11).

We have noted from our review of the McGrath and Whitty (2015) sources, that many authors did not recognise their own confusion. To locate any other investigations of practitioner views on governance, we conducted a literature review which is systematic or structured in the sense that search conditions are pre-determined and then implemented. However, because this review is attempting to identify confusion that authors may be unaware of themselves, the pre-determined targeted searches will not return results that a conventional systematic review of a field normally would i.e. a long list of references comprehensively covering the field of governance. To do so would be futile and detract from

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identifying confusion; it would result in being distracted by reviewing large volumes of literature where the authors are unaware of confusion existing and so would detract from our research. We are specifically targeting and researching terminology confusion and that alone. A further factor supporting this approach is that the subject sounds important and can affect career progression so much that it can be most un-wise to admit to any uncertainty or confusion about it and so the subject is best dealt with in an independent academic research environment. A further consideration is that in researching confusion, it is not necessary to locate everything that has ever been written on a subject; it is only necessary to find some confusion that actually exists. If confusion is found, then it is irrelevant however many other people may have written about it and not recognised this.

We decided to use the EBSCO database as it is an aggregator which searches multiple databases from various sources. We developed three sets of search terms; one to identify any practitioner investigations for governance specifically, one to identify any papers dealing with management terms more generally and one to identify instances of confusion in governance terminology. These searches were designed to cover the search space. They and any specific reasoning behind them and are detailed below.

Any investigation of practitioner views would have to have the terms governance and practitioner in their title as such a task could not be done to an acceptable academic standard as an incidental part of some other study. A search of all EBSCO databases was therefore conducted on 3/11/2017 for 'governance' and 'practitioner' in the title. It found 86 items of which 41 were non-duplicates. All were examined but only three were relevant. Lunt and Fouché (2010) working in the field of social work said "There is growing interest in the contribution of practitioner research towards bodies of knowledge and practice change." Murungi and Pena (2017) conducted a core/periphery analysis of practitioner and academic perceptions and noted "a possible disconnect between academic knowledge and how IT practitioners actually work." Lambert (2006) noted that Social science had not been very effective in improving practice and that "Part of the failing is due to the near-exclusion of practitioners from research design and implementation and of practitioner perspective from problem definition and conclusion formulation and presentation (form and language)." These references all support our endeavours to seek the views of practitioners but revealed no investigation of practitioner views on governance. Their calls support the views of Walker et al. (2008) on the need for collaborative academic/ practitioner research, colloquially referred to as 'pracademics' when the researcher is also an experienced practitioner.

We next searched all EBSCO databases on 3/11/2017 for "management term" and 'confusion' in any field. This found only one item. It was by Kang (2015), who in discussing human performance technology (HPT) commented "People use the same terms and concepts and unconsciously think that other people's understanding of the term or concept is the same as theirs". They noted that there was no universally accepted definition of change management and proposed "new terms- macro change management and micro change management-for the two uses of the term change management" (Kang 2015, p. 26). We note this solution added a qualifier to gain the necessary precision.

We then looked for instances of governance confusion by searching all EBSCO databases on 3/11/2017 for 'governance' and 'confusion' in abstracts and found 166 items of which only 59 were non-duplicates. All abstracts were examined and there were only five where the two terms were related to each other and to definition. These were Romero (2012); Farazmand (2013); Barbazza and Tello (2014); McGrath and Whitty (2015); Hasselman (2017). They are considered below in chronological order.

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Romero (2012) reported 4 different definitions of IT governance and noted "These varying definitions open the door to numerous, mixed, and disparate views on the subject and, subsequently, how it is applied and practiced" (Romero 2012, p. 67). He did not analyse them or attempt to reconcile them but did state "IT governance actually is a function of the business and should have been called *business governance of lT or enterprise governance of IT*" (Romero 2012, p. 69).

Farazmand (2013, p. 351) said "confusion reigns with different viewpoints, especially when there is no consensus as to what for example governance and administration means or should be". He offered the term 'sound governance' as an alternative to the term 'good governance' (Farazmand 2013, p. 355). He noted that "replacing or substituting governance for public administration has become a fashionable trend in academic as well as practitioner circles worldwide" (Farazmand 2013, p. 349). He also noted scholars and supra-governmental institutional organizations having followed the concept 'governance' to the point that "it became a buzzword subject of the national and international conferences, seminars, and workshops, as well as a key word for grant writers seeking research and conference funding for papers, seminars, reports, and books" and that conferences organized by UN and affluent governments, often sponsored by global corporations, promoted this notion cognitively and disseminated it worldwide (Farazmand 2013, p. 354).

He further noted that "'good governance' … became one of the most pressing requirements on third world countries in Asia, Africa, and Latin/Central America as a condition for international assistance (Amsden 2007; Hamilton 1989)" (Farazmand 2013, p. 353), and that the former president of Tanzania, Julius K. Nyerere, in delivering the keynote address at the UN Conference on Governance in Africa in 1998, severely criticized the notion of "good governance" as an imperialistic and colonizing concept (Farazmand 2013, p. 353). It is interesting that consideration of the subject from multiple normative perspectives by Farazmand (2013, p. 351) also noted that "The second problem with "good governance" is its heavily loaded normative values – what is good and what is bad and for whom? - as defined by global power elites (Hardt and Negri 2000; Hauffman 2006; Parenti 2010)" (Farazmand 2013, p. 355). He said "Governing refers to the function of governance by whatever actors or authorities or institutions, including nongovernmental ones, whereas governance consists of process, structure, value, management, policy, and administration" (Farazmand 2013, p. 356). He asserted that "Public management, administration, and governance are not neutral concepts; they embody 'normative values' " (Farazmand 2013, p. 353). These deal with exercising and influencing power; how the system is driven, rather than what the governance system is. He also stated "should we not use the prefixes of 'public' or 'private' governance—we should" (Farazmand 2013, p. 355). This corresponds with McGrath and Whitty (2015, p. 783) saying "the term public governance has deliberately not been included in the terms defined above as it is an unnecessary product of the confusion resulting from failing to distinguish between the terms governance and corporate governance".

Barbazza and Tello (2014) presented a table of governance definitions from 19 sources including international bodies and finds a wide range of inclusions. These were classified into dimensions that included fundamental values and sub-functions. Many of these were normative, such as democracy, ethics, integrity, partnerships, participation, consensus and formulating strategic direction. They did not propose either a definition of governance or a definitional method.

McGrath and Whitty (2015) reviewed previous governance literature and identified definitional confusion. They developed a method for refining definitions of groups of related terms and applied it to a range of governance terms, producing the following definitions:

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- Govern = direct and control.
- Governance = the system by which an entity is directed and controlled.
- Government = an entity that controls a geographic area.
- Organisational governance = the system by which an organisation is directed, controlled and held to account.
- Organisational governance arrangements = an entity's structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision making processes (including financial and other delegations, as well as approval processes) and reporting arrangements (annual, financial, progress, assurance, regulatory, stakeholder).
- Corporate governance = the organisational governance of a corporation = the system by which a corporation is directed and controlled and held to account.
- Project governance = the organisational governance of a project = the system by which a project is directed and controlled and held to account (McGrath & Whitty 2015).

These definitions relegated many of the terms commonly associated with governance to organisational governance arrangements. They explicitly excluded ethics and strategy, as these can be normatively contested.

Hasselman (2017) noted "Adaptive management is now an accepted quality of governance and, in some cases, a legislative requirement of natural resource management. The concept is widely encouraged; yet, there remain high rates of implementation failure" (Hasselman 2017, p. 31). Hasselman (2017, p. 31) also noted "Confusion on the definition of adaptive management is one cause of implementation errors, with researchers, natural resource managers and policy-makers talking and acting cross-purposes". She analysed the definitions of adaptive management, adaptive co-management and adaptive governance, highlighting confusion within definitions, between definitions and misinterpretations of definitions, noting that interchangeable use of these terms suggested a lack of additionality. She also noted "The relationship of adaptive governance to governance is also questionable, with adaptive governance defined variously as a mode of governance and as a quality of good governance". (Hasselman 2017, p. 39).

A further paper dealing with the association of project governance with steering committees and project boards was also located. It was by McGrath and Whitty (2013) and drew the distinction between whether a committee advises or decides and the difficulties that not discerning this difference can cause. This association has existed for some time, as indicated by its presence in the PRINCE2 governance model where "the steering group is equivalent to PRINCE2's Project Board" (Murray 2009) Section 19.10. The association of steering committees with governance is still current, as evidenced by Muller (2017b, p. 18) saying "Project governance… is typically executed by a steering group, which directs and controls the project manager". Muller (2017c, p. 109) also notes "The steering group is the most widely used governance institution. Ninety-seven percent of project managers indicated that they report to a steering group". A further paper surveying practitioners on the subject of steering committees by McGrath and Whitty (2018) has also come to our attention. It identifies six separate confusions concerning steering committees and confirms the model developed by McGrath and Whitty (2013).

Other sources have noted the difficulty of definitions generally. Crawford et al. (2007, p. 6) noted "It is easy to assume that within a field such as project management, where profession-specific terminology is common, that different people attach the same meaning to a particular

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word. However, this is not necessarily the case". This expresses a view similar to Kang (2015) above, supporting careful consideration of definitional matters.

Ozkan (2015) also documented resolution of terminology confusion in the business process domain using a consolidated class diagram to describe the structure of a system of terms by showing the system's classes, attributes, operations and relationships. This produced "a comprehensive list of the related concepts all together in one picture and their links to each other from a single and consistent point of view." (Ozkan 2015, p. 2).

This literature review has therefore confirmed that confusion in governance terminology exists in the academic literature and it has also found no prior investigation of practitioner views on governance and no assessment of the impact this confusion has had on practice. We can therefore proceed with investigating our research question.

Research Design

Our ontological position is that confusion in governance terminology exists. To investigate this, we adopt the epistemology of constructionism, as governance is a social construct, influenced by organisational cultural environment. Our theoretical perspective is interpretivism as the meaning of governance depends on the consciousness of people using the term. The research question calls for use of a qualitative method of data collection, and our methodology is discourse analysis and our research method is the interview.

Use of quantitative methods would tempt drawing conclusions by induction based upon a value judgement on confidence limits. Adopting a qualitative method enables application of the scientific method of deduction or disproving, to enable definitive statements to be made about what can be falsified. This enables a narrowing of the field of truth, rather than producing confidence limits on hypotheses or speculations. Language is a system of communication that works through agreement, rather than a physical system constrained to obey laws of nature. We, of course, set out to use a sample large enough to identify the majority of issues and this is further elaborated in the following sections.

Instrument selection

Conducting a survey was not considered appropriate as this would not facilitate exploring issues in depth relative to the particular circumstances of individual participants (Wengraf 2001, p. 62). Fontana and Prokos (2007, p. 23) considered "Face-to-face interviews have many advantages over less interactive methods. As Shuy (2002) notes, many situations benefit from face-to-face interviews, including those in which the interview is long, or includes complicated topics or sensitive questions". Governance is a complex subject and face-to-face interviewing was considered an appropriate means of canvassing it while avoiding positivist oversight.

We nevertheless sought to structure the interviews so they did not become undirected conversations leading nowhere. Fontana and Prokos (2007, p. 19) noted that in structured interviewing, "all respondents receive the same set of questions asked in the same order" and "The interviewers must perfect a style of "interested listening" that rewards the respondent's participation but does not evaluate these responses (Converse and Schuman 1974)" (Fontana & Prokos 2007, p. 20). This was appropriate for our particular research question, and suggested use of a semi-structured interview which Wengraf (2001, p. 1) noted as appropriate for depth interviewing. Barriball and While (1994, p. 330); Fontana and Prokos (2007) also noted "semi-structured interviews are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers".

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Wengraf (2001, p. 162) noted "Semi-structured interviewing is characterized by an emphasis on relatively open questions. However, you may wish also to put certain closed questions". Fontana and Prokos (2007) said "the structured interview … often elicits rational responses, but it overlooks or inadequately assesses the emotional dimension" (Fontana & Prokos 2007, p. 22). While conducting this study we have observed that governance is a subject that can induce strong emotions, and Whitty (2010) also noted the influences of emotions in project management behaviour. We therefore wished to capture the emotional dimension of governance. We therefore decided to use semi-structured face-to-face interviews with a combination of open and closed questions, some of which would directly call for an emotional response.

Question design
Question design was based on the categories of questions used in a management study by Kummerow and Kirby (2013). These categories were evaluation, personal experience and context, and they were a mixture of open and closed. The questions used in this study were tailor-made for the research question and based on the Kummerow and Kirby (2013, pp. 542-4) protocol. However, their investigation was concerned with behaviour rather than concepts, occurred within a contained organisational boundary and was more amenable to statistical analysis than the research question posed here.

For this particular research question, it was appropriate for the majority of interview questions to be open, with closed questions being used principally as prompts.

The interview strategy was to first confirm the background and context of the person by determining various classificatory factors, then ask the pre-determined interview questions. The background and context factors were:

- the sector of their organisation (Public or Private enterprise (G=Government, P = Private, H = Hybrid)),
- the area within the Sector (SG = State Government, LG = Local Government, SGA = State Government Authority, M = Manufacturing, E = Education),
- the person's work type = The type of products worked with (I = Infrastructure (Civil/Building/Electrical/Mechanical), IT = Information and Computer Technology, including IT infrastructure, BD = Business Development).

Semi-structured interview questions were then developed to capture as many perspectives of governance as possible. The approach was to ask evaluation questions on the words used and then explore personal associations with the term. The initial evaluation questions therefore addressed the words used in governance, with Q1 exploring definitional words used, Q2 exploring associations with the term and Q3 exploring one particularly common association. A personal experiences question then followed to elicit feelings towards governance (Q4.

A combination of open-ended and closed questions was developed as follows:

Q1. What words would you use to describe or define governance?
Q2. Are there any things or terms you equate or associate with governance?
Q3. Do you associate steering committees with good governance? (Y/N/M)
Q4. What feelings does use of the term evoke for you?
The open-ended questions (Q1, Q2 and Q4) were intended to range across the field and encourage participants to present anecdotes, observations and opinions. The single pre-determined closed question (Q3) was prompted by work on committees by McGrath and Whitty (2013). This question actually had no 'right' answer and although the question was a closed one, it was designed to flush out issues behind whatever strong opinion was expressed.

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Other closed questions were asked by way of 'impromptu' prompts to either stimulate further observations or to clarify meaning when the response was not clear. In the latter cases a summary or interpretation of the view expressed was related back to the participant for confirmation or correction.

The interviews were expected to take between 60 and 120 minutes. All interviews were conducted within that time frame, with most taking 60 to 90 minutes.

Sample selection
As noted above, a qualitative deductive approach was adopted. Using a deductive approach, only one dissenting view is sufficient to demonstrate contention exists while, of course, even full agreement from the sample would not still not prove that no contention existed. This renders statistical analysis inappropriate and so it was not necessary to have a statistically significant minimum sample size for the purpose of gaining inductive confidence.

Only people who were both knowledgeable on the topic and held organisational positions where they would be required to implement their knowledge were interviewed. This avoided assessing issues of training and experience. This also conforms with consensus theory which is based on the principle that experts tend to agree more with each other within their particular domain than do novices, according to (Romney et al. 1986) who also indicated stable results with sample sizes of around six 'experts'. We decided to select only people who were all at least a program manager or head of a project management support office. More recently, Guest et al. (2006) have indicated a sample size of six to 12 is sufficient where the participants share common experiences, participants are interviewed separately and in private and the questions asked comprise a common domain of knowledge and a similar set of questions is asked of all participants. On this basis, given that we were interested in differences between engineering infrastructure and IT and given the literature review found previous interviews of IT practitioner but none of engineering infrastructure practitioners, we set out to interview at least 12 with an engineering infrastructure project background plus at least six from an IT background.

The likelihood of detecting disagreement was increased by selecting the interview sample across the boundaries of discipline and organisation type. A range of these were selected; from government and private enterprise, from physical infrastructure and ICT, and from consulting and project owner organisations.

Consideration was given to whether participants would be selected locally in Queensland, Australia or from interstate or overseas. Australia sits at cultural and geographic crossroads between England/ Europe, the Americas and Asia. Local members of The Australian Institute of Project Management are heavily involved with the International Project Management Association (IPMA) and local practitioners were involved in development of the first PMBOK. The Project Management Institute (PMI) also has a strong local presence. This, together with the ease of global communication, global access to databases and the existence of internationally accepted bodies of knowledge should ensure that world-wide trends influence local participants. It was therefore considered that the sample could be selected locally. The research question was also framed deductively rather than inductively to avoid sample size and location effects. We also note the findings of Guest et al. (2006) that when sampling within a targeted specific group, adding results from another country identifies few additional factors.

Potential organisations and candidates were approached, 21 experienced managers and project managers agreed to participate, and all were interviewed, exceeding the requirement

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for theoretical saturation. The participants all had between 20 and 45 years of working experience. Several headed large infrastructure delivery organisations.

Evaluation method

The responses of participants were recorded, transcribed and then compared on a question by question basis. The evaluation of the research question is straightforward from the perspective that if everyone interviewed indicates the same understanding of governance, then confusion is not established and there is then no contest or disagreement identified among practitioners requiring resolution. However, if this is not the case, then disagreement over terminology can be considered established and we will then examine participant statements for themes/ clues as to possible causes/ motivations for these differences having developed.

Data collection and taxonomy of the group of participants

Interviews were conducted between 13 August 2014 and 3 September 2015.

21 people were interviewed from 7 organisations of which 4 were in the private sector (2 separate consultancies, 1 multi-national manufacturing company and 1 educational institution) 2 from the Government sector (a state government department and a local government department) and 1 which straddles both – a commercialised state government authority. All had offices in Queensland, Australia. The interviews averaged 90 minutes duration, with the shortest taking 45 minutes and the longest two hours.

The distribution by industry area was 4 from private industry (1 from each company), 16 from government (7 from state (1 of whom was a contracted consultant) and 9 from local (1 of whom was a contracted consultant)) and 1 was from the hybrid organisation (who was also a contracted consultant).

The distribution of work types engaged in was 9 in physical civil infrastructure, 6 in IT, 1 in business development, 1 in manufacturing, 1 in academia/ buildings, and 3 in multiple work types (2 in infrastructure and business development, 1 in physical infrastructure and IT).

The full taxonomy of the interviewed group is given in Table 1 which shows the participants (1 to 21), their organisation (A to G), industry sector, area within that sector, and their work type or discipline.

Table 1

Participant Taxonomy

#	Org	Sector	Area	Work type
1	A	P	M	I
2	G	P	E	I
3	C	G	LG	BD
4	C	G	LG	IT
5	D	H	SGA&C	IT&I
6	C	G	LG	I
7	C	G	LG	I
8	B	G	SG	I

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9	B	G	SG	I
10	C	G	LG	IT
11	B	G	SG	I
12	C	G	LG	I
13	C	G	LG	IT
14	B	G&P	SG&C	IT
15	B	G	SG	I
16	C	G	LG	I
17	C	G&P	LG&C	IT
18	B	G	SG	IT
19	E	P	C	I
20	B	G	SG	I&BD
21	F	P	C	I&BD

Legend:

G=Government	SG=State Government	I=Infrastructure (Civil/ Building /Electrical/ Mechanical)
P=Private	SGA=State Government Authority	IT=Information & Computer Technology, including IT infrastructure
H=Hybrid	LG=Local Government	BD=Business Development
	C=Consultant	
	M=Manufacturing	
	E=Education	

In the following sections, participants are referred to by their number and organisation e.g. 1A or 21F. The abbreviations in the Table 1 legend are also used in places where brevity is advantageous.

Note that full transcripts of interviews have not been included in this paper due to word limit restraints.

Results

The results of the analysis of participant responses to the four questions are presented below.

Q1: Governance description

The question asked was "What words would you use to describe or define governance?"

The words used to describe governance were as follows: oversight, process, directed, control, decision making, structure, approvals, way finding, management of risk, systems, gates, order, support, quality, framework and Quality Assurance (QA).

Control was the most frequently used word and was mentioned explicitly by nine participants, closely followed by decision making which was mentioned by eight. Seven mentioned responsibility and structure, framework and oversight were all mentioned by five. Roles were mentioned by four, approvals and accountability each by three, direction, risk and quality/ QA each by two and support and way finding by one each.

One participant was fulsome about the definition of governance (in his response to Question 6), saying:

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> This thing's as long as a piece of string! You could add anything in there and call it governance if you wanted. I don't know where that story starts and ends. All I know is it's a part of a good functioning organisation to have it and I hope you can find the answer to it. I've never adequately sat down to distil it all. I think you'd get spaghetti. I had one go at that about 10 years ago and gave up. (3C).

While none of the words being used were incompatible with each other, they did indicate the ambit of the term and their range indicates there was no agreed definition. The research question can therefore be answered affirmatively; experienced management and project management practitioners are confused in their usage of governance terminology.

Q2: – Governance association

The question asked was "Are there any things or terms you equate or associate with governance?"

This yielded a wider range of terms than Question 1 did. These are listed below and were analysed by comparing word for word all the terms used against the reference definition. Matches are shown in bold typeface.

The terms used were as follows: police role, oversight, gate process/ **system**, **govern**, **control**, **rules**, regulations, **policies**, legislation, **processes**, methods, **procedures**, **organisational structure**, standards, checks and balances, **delegations**, audit, review, ethical standards, legal frameworks, risk management, business continuity, ownership, **accountability**, **responsibility**, 'pain in the arse', **roles and responsibilities**, committees or program boards, strategic plans, steering committees, Project Control Groups (PCGs), charters, Terms of Reference (TORs), rigour, **direction**, business case, **reporting arrangements**, **decision making**, **assurance**, support to deliver, framework, authority, giving leadership and adherence to process.

Q3: – Governance and Steering Committees

The question asked was "Do you associate steering committees with good governance?"

9 said yes, 6 said no, 5 said maybe and 1 was not asked. However, of the 9 who said yes, 4 were unreserved (2G, 9B, 10C, 20B) and all were referring to steering committees that worked effectively. The remaining 5 gave 'yes if' type responses, one of whom (7C) said "Yes if they have appropriate authority to do something. It's not governance if they don't decide". One who said maybe (4C) said "Steering committees can be valuable, depending on how they are run". One who answered no said "they should be but they don't here" (13C) and one who said no (17C) said "I associate them with governance but not necessarily with good governance".

The responses indicate that there is not universal agreement that the existence of a steering committee equates with good governance. However, the insights contained in their observations were instructive. It appeared that most participants had experimented with the concept and by trial and error over many years had arrived at some realisations that had commonalities. It is evidently possible to sense things without necessarily being able to put that sense into words, as evidenced by participant responses.

Whether the response to the question was yes or no, most seemed to accept that the mere existence of something called a steering committee does not equate with good governance, but if it is constituted well and functions effectively, it can be a useful governance tool.

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Much of the contention and apparent disagreement in the responses involved whether the committee should or does make decisions or not. This issue was directly addressed by several; "They decide some things and endorse others to go up the line" (20B), "some are information sharing rather than direction giving" (15B) and "levels of governance from a board type level down to PCGs because you have different levels of control and decision-making responsibility" (6C). In other words, there will be or needs to be a Terms of Reference (TOR) that makes clear what matters the committee can decide and which it must refer upwards. Many explicitly mentioned TORs (6C, 7C, 14B, 16C, 21F). One pointed out that their organisation's highest-level project committee was purely advisory (6C).

This issue of what 'steering committee' means was investigated by McGrath and Whitty (2013) who researched its origin and found the term had been appropriated by IT in the 1980s to influence organisational power, and the label 'steering' was used, despite cautions in the literature, regardless of whether the committee was actually steering or not. This had the effect of imposing a democratic device into authoritarian organisations. So use of the phrase 'steering committee' as a generic term has been and still is a misnomer and the importance of deciding versus advising, first raised in Drury (1984) remains unacknowledged and untested in the subsequent literature(McGrath & Whitty 2013).

The interview responses here indicated that labelling of Steering Committees is still an issue indicating that the misnomer still persists more than 30 years later.

The reference by 14B to PRINCE2 labelling such a committee as a board rather than steering committee is at first surprising, given the IT origin of the term (as traced by McGrath and Whitty (2013)), until one realises that a board sounds much more important than a steering committee, so the attempt to influence organisational power appears to have continued and just evolved.

It is evident that to untangle confusion around this we need to be very specific about who is deciding what and which set of decisions are actually being referred to. A person who is a decision maker in some organisational circumstances may have no decision-making authority on the particular committee being discussed.

Frustrations with steering committee governance was perhaps best and most humorously expressed by 21F who chronicled attempts to hijack steering committees into delaying projects as follows:

> Invariably, when someone says: 'I want to have a steering committee', I think of a steering wheel with multiple hands on it. Everybody wants to be on a steering committee because there's no responsibility on a steering committee. Anybody can get on there and interfere and stop things from happening … Steering committees drive me nuts. They generally should be a consultative group sitting off to one side for the people who actually have to deliver something. I'm dealing with one right now… saying 'Oh no, we want to review that'. I responded saying that you commissioned us to kick that ball into that goal by that time, we've given you the timeframes that you need to make decisions by and you now don't have time to do additional layers of consulting on this. That's what we signed up for, that's what you signed up to… I had a fellow the other day on one steering committee who said 'I want to apply Gateway thinking to this'. The only reason he wanted to put a gateway on it was that it gave him a chance to slow things down. Steering committees to me are just a way people hide. If you are on the project team or a PCG or the project manager, you've got nowhere to hide. You've got a scope; you've got to deliver it; end of story.

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Another said "They are used as talk fests on details rather than for making decisions based on outcomes" (17C). One noted the potential complexity of governance arrangements saying "There is a balance to be achieved. You can go crazy and over complicate" (10C), and another said "(Instances of) poor (governance) have generally been associated with vast levels of bureaucracy – (with people) scared of what decisions will mean to those above them" (19E).

The responses to this question indicated that although the definitions of governance given were quite varied, the implementations of committee arrangements that had actually occurred were remarkably similar, indicating convergence of experienced practitioner views on this subject.

This was quite a remarkable outcome that was worthy of further exploration. It was evident that there was veracity in this coalescence of practice that had emerged which would be worthwhile documenting. Consequently, any items that participants indicated were important to either have or avoid in achieving successful committee governance were coded as contributing to either success or failure. The desirable features were listed together with the items to avoid, with the latter expressed inversely where possible to achieve positive wording. This produced a set of 10 committee governance operating parameters. These parameters emerged principally from the responses to this question (Q3), with a few emerging from the responses to Q4. The final list is presented below in Table 2. The participants whose responses to this question provided the basis for each factor are noted after each factor, together with any contributions that came from Question 4. The wording has been synthesised into a cohesive whole by the principal author, following the essence and intent of participant statements.

Table 2

Operating parameters for Project/ Program Committee Governance

#	Operating Parameter
1	Ensure that the project is big enough or different enough or there are a sufficient number of projects in a program to warrant this level of governance overhead (i.e. don't unnecessarily introduce this additional layer of bureaucracy. Committees should not be used as a substitute for the project or program manager being empowered to undertake adequate consultation). (6C, 20B)
2	Ensure that if the committee, as distinct from the chair, is to actually make decisions that these decisions do not overlap with any existing organisational accountabilities. (17C, 18B)
3	Committee members should have ownership and buy-in, be interested and engaged, prepared to follow the Terms of Reference (TOR) and recognise the difference between their roles in the project/ program governance structure and their roles within the organisation structure. That means people organisationally junior to you may have a more senior project governance role than you, which needs to be respected. The focus needs to be on facilitation rather than saying no. Don't ask for reports you aren't going to read and don't use your membership of the committee to attempt sink the project. (4C, 5D, 21F) (7C, 10C, 12C, 19E in Q4)
4	The number of members should be limited, while ensuring all the necessary project governance interests are represented. Advisers and possibly observers can attend but

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	not participate, upon the invitation of a committee member, with concurrence of the chair. (11B)
5	Members must have decision making authority in their own area even though they may not be authorised to make decisions under the TOR of this particular committee. (7C, 11B, 12C, 19E, 21F)
6	The TOR must be clear on committee roles and specify what decisions can/ are to be made, how they are to be made (e.g. decision of the chair, consensus, majority vote, all members having veto rights), what advice is to be provided to whom and what support is to be provided to the project(s). (6C, 16C, 20B)
7	If the decision-making authority rests with the chair, the TOR should make it clear that committee members are there to assist the decision maker and provide advice. They have the power to influence and a role to do so, but not to decide. (Of course, they do have to decide on behalf of the part of the organisation they head whether to support or oppose propositions and will be held to the commitments of resources or assistance made in the meetings). So, the actual owner of the outcome of the project is best as the chair. (14B, 16C, 21F)
8	Committees and their members should not lightly involve themselves in the day to day running of the project/ program. They should have the necessary knowledge and experience to foresee project needs, make critical timely decisions that enable the project to progress unimpeded. They should then get out of the way to let the project/ program get on with it, unless and until the project/ program asks for assistance or it becomes evident that the project/ program is not heading in the direction intended. (2G, 17C, 21F)
9	The committee should concern itself with supporting the project/ program, keeping in mind the suitability of its outputs to achieve its strategic outcomes, the technical and financial viability of the project/ program and whether it should continue in its current direction. This is particularly so at major milestones. (14B, 21F)
10	Legitimate internal conflicts of interest are reduced or avoided if the owner of the outcome, the owner of the output and the owner of the budget are the same person. (21F in Q4)

Note 1: These operating parameters all deal with committee arrangements only. It was evident from participant responses that ensuring the parent organisation has good processes in place for its projects is a separate exercise, and that shunting the governance of this task off to some project steering committee that has no control over organisational governance does not work.

Note 2: Parameters 3, 4, 8 and 10 deal with significant differences between some general management and project management practices.

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Q4: – Feelings evoked by the term Governance

The question asked was "What feelings does use of the term (governance) evoke for you? "

Responses were generally in terms of reactions to good and bad governance and indicated that the term evokes a wide range of strong emotions - ranging from excitement through to despair, aggravation and frustration. One laughed (14B) when asked the question. One ironic response was "It depends which end of it you're on" (6C). The overall feeling can be broadly summarised as indicating that you get good feelings if the governance is good and you don't if it isn't. The responses of excitement and challenge and of pleasure and pain aligns with the Yin-Yang theme observed by Whitty (2010), which he described as "Fear/ nervousness mixed with thrill/ excitement – towards the challenge".

Confusion around the meaning of the term, came up in many responses (7C, 11B, 14B, 15B and 16C). "Governance can be misunderstood" (16C). "You have to make sure the other person is using the language in the same way you think." (15B). "In our organisation it was bandied around a lot to mean a whole lot of different things" (11B). One mentioned its "buzz-word" status (14B). This definitional confusion was well articulated by 7C as follows:

> The term is so confused, and people don't respect it in the way it should be. Here we have complete misunderstanding of governance and people try to make it something that it's not. You just need to have clear line of command. They'll use it as an excuse to create a governing body when one's not there, or as a reason to circumvent process or legislation. There's a lack of willingness to define governance… People find it very difficult to articulate governance because what happens is egos get bruised along the way, so people who think they're important find out they're not important and that's one of the critical factors.

This means that the governance definitional space has become competitive and therefore open to manipulation as individuals seek to promote their views and influence outcomes in ways favourable to them. This was also evident in the comments of 21F reported above in response to Question 3 regarding his frustration with people seeking to subvert by bringing in other governance measures for their own purposes/ advantage. This is also supported by (Whitty 2010) who noted "project managers utilise various artefacts associated with project management in an emotional way to increase their competitive advantage in the organisational environment".

7C also explained this confusion occurred because the organisational structure is not the same as the governance structure. But it was evident that despite this terminology confusion, workable arrangements had been put in place, with 16C commenting that they were not doing gateway reviews anymore as things weren't going wrong.

One consultant (14B) noted a "lack of knowledge broadly across a range of industries on what good project governance looks like... I have observed this in government, banking and finance, and broadly across other industries including mining and retail". This provides further affirmation that the answer to the research question is affirmative.

14B also referred to people broadly having a sense of what governance is but being unable to apply that. This coincides with the observation made in reporting the results of Question 3 above, that language represents meaning rather than being meaning itself and that it is possible to sense things without necessarily being able to put that sense into words.

The responses to this question confirmed the answers to the research question derived from the earlier questions.

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Discussion

As mentioned several times in the reporting of results, confusion over what governance actually means was found in the practitioner interviews, enabling the research question to be answered affirmatively. However participants had come to remarkably similar committee governance arrangements; they just used different words and had different preconceptions about them. Given that the participants all had between 20 and 45 years working experience, and were all concerned with getting things to work, it is perhaps unsurprising that they had arrived at similar arrangements, even though they came from different segments of different industries.

The participants listed so many facets of governance that the metaphor of light reflecting in all directions from a diamond comes to mind. In a similar way, meaning seems to be attributed to governance in all sorts of ways. While some appreciate an ever-changing meaning, others focused on the meaning from one particular facet. Participants seemed able to sense the meaning of governance but not quite distil or determine or verbalise its essence. This is perhaps symptomatic of the way we human beings come to understand and form concepts; by experiencing different aspects of them until we feel we can appreciate a coherent whole. This aligns with the "desensitisation" interruption of the sensation part of the gestalt cycle of experience (COE) in which one may be "less sensitive to inner and environmental stimulants" (Zwikael & Bar-Yoseph 2004, p. 141) leading to inappropriate information being gathered and consequently, the real problem not being identified.

A different metaphor of sightedness could be used, expanding slightly upon the Hindu fable of the blind men appraising an elephant, as expressed in the poem by Saxe (1873). The blind men touch different parts of the elephant and assert with certainty that it is like a wall, a spear, a snake, a tree, a fan and a rope, but "Each in his own opinion, Exceeding stiff and strong, Though each was partly in the right, And all were in the wrong!". The partially sighted perceive some outline form of the whole animal, sensing its power and potential; the fully sighted observe it being led in a direction; some of those may not want it to go that way and wonder what they can do about it and how its heavy momentum can be redirected. Governance therefore is experienced in a similar way, where practitioners appraise what it is, dependent on their various experiences and exposures to it. For some within the practitioner group interviewed, this seemed to have been pre-conditioned by their exposure to PRINCE2 and the way it has approached steering committee decisions. Those that had either direct or indirect exposure to it verbalised them as decision making but did not act in that way. This aligns with the "confluence" interruption of the closure part of the gestalt cycle of experience (COE) in which "Total lack of criticism may lead to close without real and full resolution of the problem" (Zwikael & Bar-Yoseph 2004, p. 142).

That led us to consider typologies and motivations.

Typologies & motivations

We reflected upon the views of Eastman and Bailey (1994, p. 173) who noted the centrality of value conflict in management and the need to understand the values that guide management inquiry. Their typology presented two dimensions, uniformity-diversity and economic-cultural.

We then sought to consider why the views we found were so diverse and how a common implementation could have been arrived at, from or in spite of them. We had excluded issues of education or training or inexperience by selecting only experienced practitioners for interview. That led us to consider their personal motivations in implementing governance arrangements.

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The possibilities ranged from self-interest to altruism. Base self-interest could come from either ego or money and altruism could come from either dogged belief in a particular system or a desire to implement whatever was thought to work best for the common good. This gave four possible typologies of motivation for the views that participants expressed and adopted as follows:

1. Altruistic desire for the common good
2. Dogmatic belief in frameworks
3. Desire for control and aversion to being controlled = ego/ power seeking
4. Promotion prospects.

These four typologies correspond loosely with those of Eastman and Bailey (1994). Their uniformity-diversity contest is present in 2 and 3 and their economic-cultural dimension is present in 1 and 4.

The interview data was examined and evidence of all four typologies was found.

Altruistic desire for the greater good

It appeared that all participants desired arrangements that worked and this could be regarded as an altruistic desire for the greater good. However, this was not a factor differentiating their stated views which in some cases belied the arrangements they had put in place. However, it did seem to be a significant factor in them having arrived at a common implementation of the governance concept. To have achieved that, they had to have taken action they found to work, but then rationalised or expressed their views about the concept differently.

Dogmatic belief in frameworks

Part of the differing understandings of the concept appeared to arise from a belief in or a commitment to what seemed like an almost ideological project management position. This was that various project management frameworks, such as PMBOK, PRINCE2 and MSP, are absolute truth, rather than alternative representations of reality. They are positivist frameworks and are supported by "The vision that Comte and Mill shared of a science that could resolve issues of value and better the human condition (which) is alive and well in management" (Eastman & Bailey 1994, p. 173). Of course, belief in a framework can also accord with self-righteousness, pointing to the external authority for 'proof'. However, these frameworks actually have different premises as well as some definitions not generic to all circumstances, and by sampling across engineering infrastructure and IT it became evident that there are differences, even though their exact nature did not emerge and required separate investigation to determine. We also note that this ideological approach also provided a very effective means for IT ideas to infiltrate engineering infrastructure, in spite of the latter's long history of project management and 5D noting "but with software, it is still a discipline in its infancy".

Desire for control and aversion to being controlled = Ego/ power seeking

7C mentioned egos getting bruised, which is relevant to the power/ control/ promotion issue. 7C was referring to people with senior organisational positions finding they did not have the authority they may have expected to have over project organisations that existed within their own organisations and having to emotionally deal with that. This also gets to the struggle project management has had in gaining acceptance from general management. 21F also noted people bringing governance in as a means of subversion for their own purposes and advantage.

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Promotion

The extent to which participants appeared to adopt an ideological view appeared to relate to their position in the hierarchy as the most senior people were the least dogmatic on frameworks. This brings into consideration the inter-related matters of simple desire to succeed in what one does, the desire for the control necessary to do it and the interplay between those things and one's economic prospects, i.e. promotion - the public-sector equivalent of the private sector money focus. None of the participants actually mentioned promotion. It appeared to be both unspoken and unseen. One alluded to it, and to the issue of power/ control in responding to the question on feelings about governance, saying "It depends which end of it you're on" (6C).

Observations

We note that these typologies do not all provide motivation in the same direction and some e.g. 1 and 3, or 1 and 4 can be in total conflict. We further note that governance can be a useful pawn in career advancement and political games as it sounds so important that the first one to use it can win; one's career prospects can hinge on creating the appearance of knowing what governance is and not knowing could potentially be disastrous.

It is also apparent that lack of definitional precision and agreement can feed all four typologies but cannot provide a satisfactory epistemological base for any knowledge. For some conceptual terms, it can be quite difficult to distinguish what we know from what we think we know. This is difficult to recognise and combat. It requires active discourse to agree on what it is we actually mean before we can confidently assign an agreed meaning to a conceptual term and then consider that to be ontology i.e. what we know as distinct from what we think we know. Note that we are distinguishing here only between what we think a term means and what we all agree it means; we are not actually referring to the actual meaning represented by the word. We consider language to be just another way/ means/ framework we use to represent meaning, as did John Stewart Mill:

> The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. … To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name… which is vulgarly called defining not the name but the thing. What is meant by the improper expression of defining a thing … is to define the name, subject to the condition that it shall denote those things (Mill 1874, pp. 469,70).

We consider realisation of and vigilance on this matter essential to achieving clarity and agreement in the definition of governance, and of conceptual terms generally.

Such error can be seen in Hasselman (2017) who distinguished between positivism and constructivism to differentiate between the three terms she was dealing with (adaptive management, adaptive co-management and adaptive governance). In doing so, she overlooked the prior problem that it was the constructivism (knowledge constructed by the learner) that preceded the ontological assumption that introduced all these other things into governance. Such 'ontology' can stem from the epistemological error of basing what we think we know on something someone says, when they may have just arbitrarily decided it, or it may have just suited their convenience at the time. This appears to be what has happened with the governance concept, where arbitrary assumed knowledge has been constructed by some previous users of the term.

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It is therefore evident that wherever confusion in terminology is identified, it is advisable to go back and eliminate that unnecessary confusion, then proceed back to where we were and see how many unnecessary (i.e. non-existent or fake) problems have gone away.

During the interview process there were also two items raised that had not been included in the academically derived McGrath and Whitty (2015) definitions given in the literature review above. These were records and audit. These are most important and can easily be overlooked. They would most appropriately be added to the definition of organisational governance arrangements, which was their one definition by extension rather than by intension. The following revision is therefore proposed, with the additions shown bolded and the reporting arrangement items rearranged in order of immediacy:

- Organisational governance arrangements = an entity's structure (component parts, inter-relationships), positions (roles, responsibilities, pay levels and numbers), rules (written and unwritten, including policies, procedures, codes, methodologies and conventions), decision making processes (including financial and other delegations, as well as approval processes) **records** and reporting arrangements (financial, progress, stakeholder, assurance, **audit**, regulatory, annual).

Implications

This investigation demonstrates the importance for practitioners as well as for researchers of first agreeing on what it is we are all talking about. Development of the world is done through projects. If governance is as important as the World Resources Institute (2018) claims, then it is important that the projects delivering development do not lack clarity around their governance arrangements - as this cannot but reflect in unintended waste of time, effort and funding. This process can be facilitated by viewing language as a framework to represent meaning rather than as being meaning itself and by stating clearly what we understand key conceptual words to signify.

We do not address here any normative issues with any particular governance implementation. This investigation simply provides an example of one circumstance where it would be a really good idea if we all knew exactly what it is we are all talking about i.e. make explicit and agree what we understand a label given to a concept to mean before we attempt to address normative issues by evaluating good or bad relative to a set of values. This means making definitions explicit and developing common language so that, in enthusiasm to get to the values, slight errors don't magnify, get out of control and develop into separate, unproductive and unnecessary conflicts, activities or even industries.

Given the philosophical aversion towards definition of the last 80 years or so, this requires a philosophical basis to counteract. This malaise is typified by the family resemblance concept of definition developed by Wittgenstein and Anscombe (1958) and continued by Haugaard (2010), Seidl (2007) and others. That approach treats language as meaning, rather than as just another framework for representing meaning. It consequently excuses definitional looseness and ignores the importance of silent or assumed qualifiers, as pointed out by McGrath and Whitty (2017). It allows anybody to define anything they like. This indicates that it would be desirable to investigate the governance terminology in various project management practitioner reference documents and methodologies.

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Limitations and future research

The limitation of this work is that it is based upon a sample of organisations and industries in one state in one country. While the factors mentioned above in sample selection should result in world-wide trends affecting local participants, there is no guarantee of that.

The potential removal of the competitive advantage from those invested in the concept of governance remaining confused or in in their conception of it being 'right' may also inhibit acceptance of the issues raised by this paper.

The interview responses also indicated that confusion exists over the boundaries between ethics, management, strategy and leadership, indicating that further definitional work on these subjects would be worthwhile. Power was also identified in the discussion as another concept that would benefit from clear definition.

Further investigation into the governance terminology in various project management practitioner reference documents and methodologies also appears warranted.

Conclusion

This paper has contributed to the debate on governance and its definition by documenting the collection and analysis of data from experienced project management practitioners across a range of industries and disciplines in Queensland, Australia. It confirmed that the confusion in governance terminology present in academic publications is also present in that practitioner sample. It also found that experienced practitioners had nevertheless been able to achieve satisfactory implementations of governance but were unable to articulate governance in a way that indicated agreement on the meaning of the term has been reached. The characteristics of these implementations were extracted and synthesised into a set of operating parameters for committee governance. A typology of motivations was then developed in an attempt to identify the drivers for developing divergent definitions of the governance concept accompanied by implementation of common committee governance arrangements. The notion of separating what we have actually agreed from what we think we've agreed on the meaning of conceptual terms was identified as producing faulty epistemology leading to false ontology. A need to examine the definitions of governance terms in practitioner reference documents and methodologies was concluded together with the need to properly define various other terms commonly used in association with governance. It was also proposed that records and audit be added to the definition of organisational governance arrangements located in the literature review. A set of committee operating parameters was also deduced from the practitioner responses and reported in a form that is readily usable by practitioners.

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Do steering committees really steer?

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Abstract

Purpose – The purpose of this paper is to investigate the confusion among project management practitioners about the role of steering committees.

Design/methodology/approach – Semi-structured interviews were conducted with highly experienced participants selected from a range of industries and disciplines in Queensland, Australia.

Findings – Six separate confusions on the role of steering committees were identified within that practitioner community. However, despite participants expressing various opposing views, they had actually come to the same working arrangements for their committees; all that was missing was a common conceptualisation of these working arrangements and consistent terminology.

Research limitations/implications – The paper provides clear evidence to the academic literature that confusion over the role of steering committees actually exists within the practitioner community and identifies six separate ways in which this occurs. It also identifies a problematic error in the widely used PRINCE2 governance model. Clarity in committee governance arrangements will facilitate future research endeavours through the removal of confusion surrounding committee labelling and accountability.

Practical implications – A committee decision tree model that guards against all six confusions is proposed for practitioner use, providing a means of avoiding unnecessary internal conflict within organisational governance arrangements. It can be used to check terms of reference of existing or proposed committees, facilitating organisational efficiency and effectiveness. The suggested renaming of project control groups to project coordination groups, and discontinuance of the practice of labelling committees that cannot authorise their decisions as either steering committees or boards, further supports this.

Social implications – Reconciliation of terminology with actual practice and the consequent clarity of governance arrangements can facilitate building social and physical systems and infrastructure, benefitting organisations, whether public, charitable or private.

Originality/value – Clarity regarding committee accountability can avoid confusion, misunderstanding and their consequent waste of time, resources and money.

Keywords Infrastructure projects, Project governance, Governance structures, Information and communication technologies, Organizational project management, Governance of projects, Project management, Project politics

Paper type Research paper

Introduction

Confusion has existed within project management scholarly publications over the role of steering committees, according to McGrath and Whitty (2013). They found that the issue had been overlooked in the academic literature since the 1980s when the label of steering committee had been attached to ICT committees, regardless of whether these committees decided or advised.

The purpose of this research was to investigate whether the project management practitioner community is similarly confused regarding the role of steering committees. It also explored what adaptations that repeated application of the concept over the last few decades had produced regarding how this democratic device (steering committee) has operated within organisations having an authoritarian structure.

In this paper, we review the literature on the steering committee. We then develop research questions and design the research by selecting the investigation instrument, designing the questions, selecting the sample and determining the method of analysis and evaluation. We then outline the key characteristics of the participants selected before reporting the results, considering the issues identified and considering a model to resolve the confusion.

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Literature review

Development of the steering committee was investigated by McGrath and Whitty (2013), who found steering committees were introduced in the 1980s to address a perceived lack of IT organisational power by attempting to influence or change existing power structures. This is evident in Grindlay (1981), Nolan (1982), Robey and Markus (1984). McGrath and Whitty (2013) found "no evidence of any consideration of how these committees would interact with existing power structures that were hierarchical and autocratic". They also noted the caution by Drury (1984) regarding the importance of whether a committee decides or advises and that this has been ignored in the academic literature since. They also pointed out that the steering committee was a democratic artefact introduced into authoritarian structures, with the potential to disrupt, and stated "The broad philosophical issue is when, where, how and why interspersing democratic structures within a hierarchical and authoritarian structure can actually work" (McGrath and Whitty, 2013). They developed a model for handling such an insertion. It asked a series of questions to determine whether the committee decides or advises. The model was intended to be applied when considering establishment of a committee. It can also be applied to an existing committee to see whether its method of operation is causing any governance conflicts. It starts with first determining whether a committee is actually necessary, based on the need for collaboration with and between stakeholders. If there is no such need then there is no need for having a committee as a committee is a device-enabling collaboration. The rest of the model is concerned with determining whether the committee decides or advises. It does this by applying two tests to any notion that it will decide. The first test ensures the committee's accountabilities do not conflict with any organisational role. If there is any conflict, then a governance conflict will result and so the committee should be set up as advisory only. The second test is whether there is an organisational role or committee that can over-rule it. If there is, then the committee can make recommendations only and it is advisory. If the answers to both tests are negative, then the committee can be regarded as decision-making.

The McGrath and Whitty (2013) Committee Decision Tree model is shown in Figure 1.

It appears from the literature that the original intention of inserting a democratic device into an authoritarian structure and then mislabelling that device as a steering committees was noble, as it was to give computer system users the ability to influence systems that they would use (Grindlay 1981; Robey and Markus 1984). However, application of the steering committee concept has not accommodated the ongoing operation of existing power structures in a sustainable way, as evidenced by Lechler and Cohen (2009, p. 46) noting that the "concept of a steering committee is neither clearly defined nor perceived in industry". They also noted "a general lack of research on the role of committees in the implementation of projects" (Lechler and Cohen 2009, p. 51). We note that it would have reduced the disrupting (ICT) influence in the 1980s to have made the subtle disturbance of existing power structures clear. Furthermore, branding it as a democratic device would have made it difficult to question at a time when the Cold War was threatening the basis of western democracy. Nevertheless, early papers (Grindlay 1981; Nolan 1982; Drury 1984; Robey and Markus 1984; McKeen and Guimaraes 1985) warned of the dangers of steering committees. Nolan (1982) even stated committees had a bad name, but considered they were the best way to go. Lechler and Cohen (2009) classified steering committees by level (executive and business unit) rather than by purpose, function or structure and noted "Our results indicate that the probability of project success or failure cannot be predicted exclusively from the presence or absence of a steering committee". They too ignored Drury's (1984) warning regarding whether the committee advises or decides. Reimers (2003, p. 348) mentioned a consequence of ignoring that advice; that "a majority-based decision-making principle (in the steering committee)

Source: McGrath and Whitty (2013)
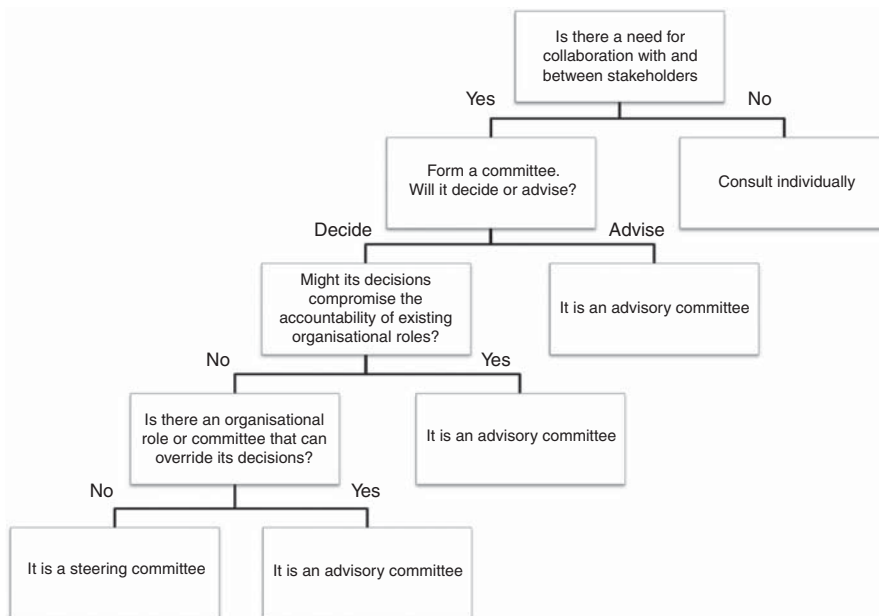
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Figure 1
Committee decision
tree

would enable other managers to block such decisions". McGrath and Whitty (2013) noted
that "Many of the later papers that cited Drury (1984) made the assumption that 'steering'
was a generic term that encompassed any committee involved with projects".

McGrath and Whitty (2013) also noted:

Calling the committee by the name "steering", which Drury (1984) indicated was widely advocated
in the systems literature at the time "for groups concerned with MIS issues", means that steering
was supposed to be inclusive of both recommending and deciding. This is logically inconsistent.
These two options of harnessing available power are mutually exclusive. Steering a direction
means making decisions, not making recommendations or providing guidance. So use of the phrase
"steering committee" as a generic term has been and still is a misnomer.

Recent academic publications on governance indicate that use of the term "steering"
referring to a group or committee is still prevalent. Muller (2017a, p. 18) says "Project
governance […] is typically executed by a steering group, which directs and controls the
project manager". Muller (2017b, p. 109) notes "The steering group is the most widely used
governance institution. Ninety-seven per cent of project managers indicated that they
report to a steering group".

Muller *et al.* (2017, p. 60) note that The Office of Government Commerce (OGC) in the UK
proposes the PRINCE2 governance framework, which recommends that the Steering Group
(or in their terms Project Board) is accountable to program or corporate management for the
success (or failure) of the project. They then continue to note a variety of models, noting
"That begs the question of when such a steering group is appropriate" (Muller *et al.*, 2017,
p. 61). They continue as follows: Andersen (2008) highlights two circumstances in which
steering groups staffed by line managers may be appropriate:

When there is little or no familiarity with project work within the organisation.

When the project involves several organisations (Muller *et al.,* 2017, p. 61).

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They also note "If a project involves several organisations or enterprises, a steering group is essential […] Issues connected with the project will obviously need to be dealt with by several executive managers, as many as there are companies in the alliance" (Muller *et al.*, 2017, p. 61).

This recent literature questions the assumption of a universal need for all projects to have something called a steering committee or group or equivalent.

We conducted a literature review to locate any other evaluations of steering committees. We developed search terms by reasoning that any such evaluation of the steering committee device would have to have the term "steering committee" in its title, as such an exercise could not be conducted incidental to another investigation. We also decided to exclude extraneous references by searching for "project management" in all text. We decided to use the EBSCO database as it is an aggregator which searches databases from multiple sources.

An EBSCO search for "steering committee" in the title and "project management" in all text was, therefore, conducted and produced only five items of which only two were relevant. One was an opinion piece on the operation of steering committees and contained no references. The other was by Murphy (2016) who investigated factors contributing to steering committee performance within an information processing environment. He "found that practitioner literature and academic journals offered little more than anecdotal information on the inner workings of SCs (steering committees), leaving managers guessing at what approach and remedies would work best" (Murphy, 2016, p. 1). He also noted that "Earlier studies found that many things are called 'steering committees' and the term remains nebulous" (Murphy, 2016, p. 3). His thesis did not question their history or labelling, and he did not define the term steering committee.

One of the findings from his qualitative interviews was that "Steering committees function better when there is a defined decision maker" (Murphy, 2016, p. 57). This effectively says they work best when advisory; serving a communication function that supports the decision maker and providing a decision-making forum, but not actually having the authority to implement. This is at odds with his later statement "Autonomous decision-making improves a steering committee's capabilities and leads to improved satisfaction with development process" (Murphy, 2016, p. 142). The two statements can only be reconciled if responsibility and accountability are aligned through the person with the decision-making authority being on the committee. This lack of specificity appears to have become enshrined in practice as, in a section titled Steering Committee Governance, he notes "use of a steering committee is considered a sound project management practice. Its pivotal role is reinforced in the practitioner literature such as in the *Guide to the Project Management Body of Knowledge* (*PMBOK*)" (Murphy, 2016, p. 135). There is a fundamental presumption that the steering committees equate with sound project management practice. This universality was challenged by McGrath and Whitty (2013), which was not referenced in Murphy (2016). Furthermore, McGrath and Whitty (2015) resolved a definition of governance that is not dependent upon a steering committee. They presented a comprehensive mapping of governance terminology that is completely independent of committees.

A further EBSCO search for "steering committees" in the title and "project management" in all text and produced only three items; one was by Lechler and Cohen (2009) which we had already located and referred to above. The other two are as follows.

Loch *et al.* (2017) consider lessons for effective governance by steering committees. They conducted semi-structured interviews with 17 CEOs or senior executives across Europe and the Mediterranean across a range of process and service industries and identified five themes – or important items to pay attention to. While one of these was steering committee composition, the steering committee mechanism itself was not considered as a potential contributor. This paper was not a critical evaluation of the steering committee mechanism. It seemed to indicate the acceptance of steering committees becoming involved in detailed

management of a project as an indispensable part of governance without paying too much attention to whether it might compromise internal accountabilities or compromise the position of the project manager. This is evident from the general tenor of the paper and the interview questions, one of which asked: "Do you supervise different parts of the project differently?" This begs the question of what a steering committee would be doing getting involved in management and supervision of the project, indicating a high likelihood of authority of the project manager having been compromised.

Mosavi considered portfolio steering committees whereas we are primarily interested in project steering committees. However, he noted "research shows that there are speculations on whether project portfolio decision making should be done in groups (e.g. portfolio committees) or individually (e.g. portfolio manager)". He also noted "Assuming that organizations might be better off to make project portfolio decisions individually, poses an important question about the roles of portfolio committees" (Mosavi, 2014, p. 390). Interviews were conducted with such committee members from the R&D departments of three Danish companies that had PPM in place, producing 29 transcripts. Three roles were determined for these committees; communicating, negotiating and deciding. However, the mechanism itself was not critically evaluated and it was concluded that the three determined roles were related to two governance design factors, namely, frequency and duration of meetings.

A search of the Taylor and Francis database for articles with "steering committee" in the title (this database did not allow for a concurrent text search to select only project management) located 22 items, none of which evaluated the mechanism itself. Searching for the plural form produced 1,203 matches. None of the few such titles examined were evaluations of the mechanism, indicating that the lack of granularity in the database search tool made the search unhelpful. A search of the Emerald database was also conducted for both singular and plural terms and both returned no results.

The literature review has, therefore, confirmed the existence of academic confusion over the definition and the role of the steering committee and located one model providing a means of determining whether a committee decides or advises.

Definition of steering committee

As the literature review found that that the "concept of a steering committee is neither clearly defined nor perceived in industry" (Lechler and Cohen, 2009, p. 46), we will first derive a definition of the term so that we have a reference to compare with practitioner views. By steering, we take the *Oxford Dictionary* definitions of "steer" as to "guide or control the movement of (a vehicle, vessel or aircraft), for example, by turning a wheel or operating a rudder", and "steering" as "the action of steering a vehicle, vessel, or aircraft". However, this latter definition is recursive and therefore unacceptable, so we take the definition of the verb, strip it of its extensions to render it more general and apply it to the organisational context as "controlling the actions of an entity". By "committee", we take the *Oxford Dictionary* definition of "a group of people appointed for a specific function by a larger group and typically consisting of members of that group", and strip it of its latter two superfluities to render it more general as "a group of people appointed for a specific function". This, therefore, includes boards and parliaments as well as informal committees and committees set up by a single person. We, therefore, understand a "steering committee" to be "a group of people appointed to control the actions of an entity".

This definition would indicate that the real issue being considered here is whether a particular committee is actually a steering committee or not. However, the model identified in the literature review has used the terminology decide vs advise, which would lead to using the terms "decision-making committee" and "advisory committee". We will avoid this complication by simply referring to committees rather than to steering committees or project steering committees, except where the colloquial or participant usage dictates otherwise.

Research questions (RQs)

The literature review found terminology confusion and a model for determining whether a particular committee decides or advises. We set out to explore whether similar confusion was present in the practitioner community and to test the veracity of the previously developed model. The following RQs were, therefore, developed:

RQ1. What confusion exists in the practitioner community regarding the role of steering committees?

RQ2. Does the committee decision tree model resolve any confusion identified in *RQ1*?

Research design

These RQs call for use of a qualitative method of data collection; it is not possible to express answers to these questions quantitatively. If confusions are identified in one place, then any denial of the existence of the issue can be definitely refuted, rendering possible the inference that it may be an issue in other places.

Instrument selection

The nature of the RQs suggests an interview approach as it is unlikely that satisfactory answers could be gained by survey. This is supported by Fontana and Prokos (2007, p. 23) who considered "Face-to-face interviews have many advantages over less interactive methods. As Shuy (2002) notes, many situations benefit from face-to-face interviews, including those in which the interview is long, or includes complicated topics or sensitive questions". The subject of steering committees attracts a diversity of opinion, and face-to-face interviewing was considered an appropriate means of canvassing it while avoiding a positivist oversight.

We nevertheless sought to structure the interviews so they did not become undirected conversations leading nowhere. Fontana and Prokos (2007, p. 19) noted that in structured interviewing, "all respondents receive the same set of questions asked in the same order" and "The interviewers must perfect a style of 'interested listening' that rewards the respondent's participation but does not evaluate these responses (Converse and Schuman 1974)" (Fontana and Prokos, 2007, p. 20). This was appropriate for our particular RQs, and suggested use of a semi-structured interview which Wengraf (2001, p. 1) noted as appropriate for in-depth interviewing. Barriball and While (1994, p. 330) and Fontana and Prokos (2007) also noted "semi-structured interviews are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers".

Wengraf (2001, p. 162) noted "Semi-structured interviewing is characterized by an emphasis on relatively open questions. However, you may wish also to put certain closed questions". Fontana and Prokos (2007) said "the structured interview […] often elicits rational responses, but it overlooks or inadequately assesses the emotional dimension" (Fontana and Prokos, 2007, p. 22). Whitty (2010) noted the influences of emotions in project management behaviour. We, therefore, wished to capture these emotions. We, therefore, decided to use semi-structured face-to-face interviews with a combination of open and closed questions, some of which would directly call for an emotional response.

Question design

Question design was based on the categories of questions used in a management study by Kummerow and Kirby (2013). These categories were evaluation, personal experience and context. Their questions were a mixture of open and closed. The actual questions used in this study were tailor-made for the RQs and were only very loosely based the actual

Kummerow and Kirby's (2013, pp. 542-544) protocol as their investigation occurred within a contained organisational boundary and was more amenable to statistical analysis than the RQs posed here.

For our particular RQs, it was appropriate for the majority of questions to be open, with closed questions being used principally as prompts.

The interview strategy was to first confirm the background/context of the person by determining various classificatory factors, then ask the pre-determined interview questions. The background/context factors were:

- the sector of their organisation (public or private enterprise (G = government, P = private, H = hybrid);

- the area within the sector (SG = state government, LG = local government, SGA = state government authority, M = manufacturing, E = education); and

- the person's work type = the type of products worked with (I = infrastructure (civil/ building/electrical/mechanical), ICT = information and computer technology, including ICT infrastructure, BD = business development).

These backgrounds were considered to cover the predominant local project management cultures.

Semi-structured interview questions were then developed to capture as many perspectives on steering committees as possible. The approach was to have evaluation questions that covered both the extent and nature of these committees before evaluating their operation. The initial evaluation question (Q1) therefore addressed their extent, with Q2 and Q3 exploring the nature of their operation and Q7 examining the variation off this over time. The remaining questions (Q4, Q5 and Q6) explored their method of operation.

A combination of open-ended and closed questions was developed as follows:

Q1. To what extent does your organisation rely on committees?

Q2. What power is given to these committees and how do they exercise it?

Q3. What decision-making responsibilities do these committees have? (These may be different for different committees. If so, list them?

Q4. How effective are these committees?

Q5. What conflict arises between committees and organisational roles?

Q6. How is this conflict managed/resolved?

Q7. Do project committee roles or mandates vary during the project lifecycle?

The open-ended questions (1–6) were intended to prompt participant discussion. The single pre-determined closed question (7) was designed to explore reasons for any variations over time.

Other closed questions were asked by the way of "impromptu" prompts to either stimulate further observations or clarify meaning when the response was not clear. In the latter cases, a summary or interpretation of the view expressed was related back to the participant for confirmation or correction.

The interviews were expected to take between 60 and 120 min. All interviews were conducted within that time frame, with most taking 60–90 min.

Sample selection
As noted above, a qualitative approach was adopted, rendering statistical analysis inappropriate. It was, therefore, not necessary to have a statistically significant minimum sample size, as would be required for the purpose of gaining inductive confidence.

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Only people who were both knowledgeable on the topic and held organisational positions where they would be required to implement their knowledge were interviewed. This avoided assessing issues of training and experience. This also conforms to consensus theory which is based on the principle that experts tend to agree more with each other within their particular domain than novices do according to Romney *et al.* (1986), who also indicated stable results with sample sizes of around six "experts". We decided to select only people who were all at least a programme manager or head of a project management support office.

The sample was selected so that all the backgrounds considered predominant in the previous section were represented. The criterion was to cover the diversity of possible views rather than to achieve any minimum sample size within all groups. Notwithstanding that, we were particularly interested in the engineering infrastructure/ICT interface which presented the major cultural distinction.

More recently, Guest *et al.* (2006) have indicated a sample size of 6 to 12 is sufficient where the participants share common experiences, participants are interviewed separately and in private and the questions asked comprise a common domain of knowledge and a similar set of questions is asked of all participants. On this basis, given that we were particularly interested in covering cultural differences between engineering infrastructure and ICT and given the literature review found previous ICT practitioner interviews but none in engineering infrastructure, we set out to interview at least 12 with an engineering infrastructure project background plus at least 6 from an ICT background.

The likelihood of detecting disagreement was increased by selecting the interview sample across the cultural boundaries of discipline and organisation type. Consequently, a range of these were selected; from government and private enterprise, from physical infrastructure and ICT and from consulting and project owner organisations.

The sample location was also considered. The researchers are based in Queensland, Australia, and consideration was given to whether participants would be selected locally or from interstate or overseas. Australia sits at cultural and geographic crossroads between England/Europe, the Americas and Asia. Local members of The Australian Institute of Project Management are heavily involved with the International Project Management Association and local practitioners were involved in development of the first Project Management Body of Knowledge. The Project Management Institute also has a strong local presence. This, together with the ease of global communication, global access to databases and the existence of internationally accepted bodies of knowledge should ensure that worldwide trends influence local participants. It was, therefore, considered that the sample could be selected locally. We also note the findings of Guest *et al.* (2006) that when sampling within a targeted specific group, adding results from another country identifies few additional factors.

Potential organisations were identified, their agreement obtained and potential candidates approached. In total, 21 experienced project managers agreed to participate and were interviewed, exceeding the requirement for theoretical saturation. Several of those interviewed headed large infrastructure delivery organisations.

Method of analysis and evaluation

The responses of participants were recorded, transcribed and then compared on a question by question basis. The evaluation of *RQ1* is straightforward from the perspective that if everyone interviewed indicates the same understanding of the role of steering committees, then confusion is not established and there is then no contest or disagreement identified among practitioners requiring resolution. However, if this is not the case, then confusion over steering committee operation can be considered established. Any differences of view will be reported and analysed, observing themes as they emerge. Those themes will then comprise the confusions that will provide the answer to *RQ1*. These will then be analysed individually.

RQ2 will be analysed by determining whether the themes/confusions that emerge from *RQ1* can be avoided by the committee decision tree model identified in the literature review.

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Data collection and taxonomy of the group of participants

Interviews were conducted between 13 August 2014 and 3 September 2015.

In total, 21 people were interviewed from seven organisations of which four were in the private sector (two separate consultancies, one multi-national manufacturing company and one educational institution), two from the government sector (a state government department and a local government department) and one which straddles both – a commercialised state government authority. All had offices in Queensland, Australia.

The distribution by industry area was four from private industry (one from each company), 16 from government (seven from state (one of whom was a contracted consultant) and nine from local (one of whom was a contracted consultant) and one was from the hybrid organisation (who was also a contracted consultant).

The distribution of work types engaged in was nine in physical civil infrastructure, six in ICT, one in business development, one in manufacturing, one in academia/buildings and three in multiple work types (two in infrastructure and business development, one in physical infrastructure and ICT).

The full taxonomy of the interviewed group is given in Table I showing the participants (1–21), their organisation (A–G), industry sector, area within that sector and their work type or discipline.

In the following sections, participants are referred to by their number and organisation e.g. 1A or 21F. The abbreviations in the notes section of Table I are also used in places where brevity is advantageous.

No.	Org	Sector	Area	Work type
1	A	P	M	I
2	G	P	E	I
3	C	G	LG	BD
4	C	G	LG	ICT
5	D	H	SGA&C	ICT&I
6	C	G	LG	I
7	C	G	LG	I
8	B	G	SG	I
9	B	G	SG	I
10	C	G	LG	ICT
11	B	G	SG	I
12	C	G	LG	I
13	C	G	LG	ICT
14	B	G&P	SG&C	ICT
15	B	G	SG	I
16	C	G	LG	I
17	C	G&P	LG&C	ICT
18	B	G	SG	ICT
19	E	P	C	I
20	B	G	SG	I&BD
21	F	P	C	I&BD

Notes: G, government; P, private; H, hybrid; SG, state government; SGA, state government authority; LG, local government; C, consultant; M, manufacturing; E, education; I, infrastructure (civil/building/electrical/ mechanical); ICT, information and computer technology, including ICT infrastructure; BD, business development

Table I.
Participant taxonomy

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Note that full transcripts of interviews have not been included in this paper due to word limit restraints.

Results

The results for each of the seven interview questions are reported below and the themes that emerge from them are underlined progressively before being discussed in the following section.

Question 1 (Q1) – Reliance on committees

The interview question asked was "To what extent does your organisation rely on committees?"

The participant responses were assessed to see whether their organisation's reliance on committees was H – high (or heavy), M – moderate or L – low. 16 were assessed as H, 3 as M and 2 as L. Of the ones assessed as H, six actually said high or heavy, one said "hugely", one said "a fair bit", one said "to quite a degree" and one said "too much". The 16 Hs were from five large organisations – two government, one government-owned corporation and two private organisations. The 3 Ms were from the two government organisations from which other participants' views were assessed as H. These were both delivering infrastructure and related services for which ICT was a support function and these responses were not from ICT work areas. The two Ls were from a small and a medium private sector consultancy in the infrastructure work area.

The responses revealed an astounding number of committees, leaving the researchers with a general impression of over-governance existing in the practitioner community. 13C said "ICT has been governed to death, honestly. […] The new CIO is purging them. There are 25 committees overseeing things in our ICT area. We think that's overkill". One who was not from ICT (2G) referred to having six levels of committees in their organisation. 7C from engineering infrastructure said "It starts from the top and doesn't stop. There's the top-level committee and you committee your way down forever […] Every project has to be represented by a PCG (Project Control Group)".

Engineering infrastructure participants reported fewer committees than those in ICT, with several infrastructure participants mentioning that not every project needs or has a steering committee and 11B (G) saying "If they have no purpose, we don't have them. Where we set one up, we put a lot of effort into making sure it operates properly. Larger projects have steering committees".

Those from small to medium consultancies did not set up steering committees at all. As 19E said "We rely on committees outside our organisation to be making decisions". These organisations seemed to leave committees to the government, as 17C noted in saying "I think it's a public-sector thing". However, the comments of 1A and 2G here would suggest that the influence has spread beyond the public sector, albeit that the number of levels in one such private sector organisation (1A) was quite controlled whereas another (2G) said "there's probably at least six levels of committees, constantly reporting upwards". The smaller private sector organisations appeared not to have been drawn into the difficulties that some committee arrangements can bring. This could have been due to those organisations not being large enough to either need such arrangements or to fail to notice the inefficiency of diluted accountability that introducing them into a short management chain would bring. 19E from a medium size infrastructure engineering consultancy said their committees were "organisation related, not project related and are related to broad specific objectives but are not management". 21F from a small engineering infrastructure and business development consultancy said "Steering committees are solutions that are thrown at problems rather than using a rigorous approach to the allocation of responsibilities".

Comments on committee operations raised by participants included 16C from engineering infrastructure noting that "Most committees are either advisory or approve certain things"

and 17C from ICT saying "It just abrogates responsibility. A committee can't be accountable – only individuals can […] Committees are run by TORs (Terms of Reference) and I think you would use the term responsibilities rather than accountabilities". 1A from private industry said "The sponsors would make decisions using the committee for advice. The committees never voted. I saw that in government. That was bizarre; I struggle with that concept". 11B from government infrastructure said "The steering committees are mainly about the outcomes, separate to the outputs. Any of the external people are from part funders. Other government departments are on some". 8G from government infrastructure said "There are so many programs and sub-programs and fingers in pies that aren't focused on delivery and outcomes and are more focused on expenditure".

Several made comments on the existence of committees. 3C from business development said "You can function without committees". 5D from infrastructure and ICT said "I'll more commonly engage people as needed […] I won't have a PSC (Project Steering Committee) all the way through […] For standard capital works I have no PSCs as they are line of business". 12C from a large engineering infrastructure organisation said "Steering committee is a great buzzword. Everyone has to have one". 14B said "Small ICT projects may not have a board, just a project exec from the business". 15B in responding to an interviewer supplementary question "Does every project have to have a steering committee?" said "No […] We have specific project committees and a few program boards". 20B said:

> I have a problem sometimes with people saying we really need to have a steering committee. Do they really need that or to just get a group of people to get together, sort something out and move on […] A lot of them are more working groups […] As soon as you call something a steering committee, everyone feels like they have to stick an Executive Director or a General Manager on it. You just have to challenge it all the time.

One commented on formal Gateway Review Committees, saying "We have stopped doing formal gateway reviews on our projects, although I conduct such reviews informally myself. They were discontinued because things weren't going bad anymore and our customers didn't want to pay for them" (16C).

Question 2 (Q2) – Committee power

The interview question asked was "What power is given to these committees and how do they exercise it?" Comments of note are extracted below.

The findings indicate that steering committees are potentially useful communication devices with the potential to be dysfunctional. As 21F said "I'm not a fan of committees. I'm a fan of clear governance". This and other responses indicated that many had also worked through the issues creating the difficulties referred by 21F and reached a workable resolution.

Many acknowledged that their steering committees performed an advisory function. The key to this appeared to be participants considering that it is the people on these committees who can be held accountable rather than the committees themselves (1A). This sentiment was expressed by many others as well. 2G pointed out that committees may have delegated decision-making authority "but only within a framework decided for them". 3C said "None have authority". 6C said "They are for collaboration and have responsibility not accountability – that's with owner and deliverer. Committees have responsibilities but are not entirely accountable". 7C said:

> The only power player is the project owner, the rest are advisors. PCGs don't make decisions. Project owners make decisions. The PCG is a decision-making group because the decision maker is there. If it meets without the project owner, it's only advisory and it's not a governance body. There's no such thing as a quorum, the project owner is either there or not.

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13C said "The project owner or chair is the decision maker and has the highest power. The Senior User and Senior Supplier don't have any power but the chair listens to what they have to say". 14B said "For a project board, the project executive has ultimate authority; it's not a democracy". 16C said "PCGs are around scope and procurement. PCGs make decisions within bounds […] The owner makes the decision, on advice […] the committee is really advisory even if it's called decision-making. Generally, there's consensus". 19E said "Our committees make recommendations only".

Eight participants across engineering infrastructure, ICT and business development work areas and across four organisations explicitly mentioned that these committees were advisory relative to the organisational role that had the authority to make the decision.

Some, however, held the opposite view, with 10C saying "Steering committees have full decision-making and financial control" and 12C saying "Ultimate responsibility sits with PCGs as a decision-making group".

This establishes that that confusion over whether steering committees decide or advise does also exist within the practitioner community. Interestingly, it appeared that the confusion was semantic, as those maintaining that steering committees were decision-making were operating them in the same way as those who said they were not, as evidenced by 12 C's response to Question 5, reported in that section below. This indicates that the conflict between authoritarian and democratic power models/devices been resolved in practice by ensuring that within a bureaucratic or authoritarian structure, these committees have no accountability and are used as advisory communication forums to assist the person with authority at the meeting, who may be its chair, in making decisions.

Other responses highlighted other aspects of committee operation. 20B distinguished between boards and steering committees, noting "Some people call things steering committees that aren't […] Some maintenance will have steering committees, but it's not a board […] the terminology is an issue". 1A said "The committees I saw in government, I don't know why they even there […] Some people didn't even know why they were on these boards".

Other responses to this question were.

8B said "Whether there are individual project committees depends on scale. Large, complex projects need a project level group". Several others also noted similarly.

15B said "I'm on one. It's managed as a decision-making body and meets at milestones and makes decisions to move to the next milestone […] It does make decisions on narrowing options or which options are taken through to the next milestone".

These responses point to a need for collaboration rather than control and to committees making some process decisions but not making the final commitment to implementation/ expenditure.

Question 3 (Q3) – Committee decision-making responsibilities
The interview question asked was "What decision-making responsibilities do these committees have? (These may be different for different committees. If so, list them)?"

The responses to this question were consistent with the analysis of the previous question, with six (1A, 3C, 13C, 14B, 16C, 19E) stating unequivocally that project steering committees had no decision-making responsibilities. One of these (19E) said "They are used for consultation and as a communication device. We like them to feel like they made a decision". Another (3 C) said:

> I don't think there's anybody in their right mind that would set up a committee and give it free range. It's got to be answerable to someone. I've got into a lot of strife allowing these to continue and nipped them in the bud when I realised what I'd left there.

Only two unequivocally stated that they did have decision-making responsibility (4 C and 12 C).

The remainder gave qualified answers, indicating some level of awareness of the potential <u>confusion of responsibility with accountability</u>. One said they did but only if the chair was present (7C), indicating that authority and accountability rest with the chair, not with the committee, with 14B noting "a PRINCE2 project board has no decision-making power. The entity doesn't have power". Others felt that the steering committees did make some limited decisions. 15B indicated these decisions were within limits, saying that a steering committee "does make decisions […] If it can't decide, will get the consultants to proceed with say both options to the point where a decision can be made. It's more about incremental narrowing down". 20B made a similar observation in saying:

> There are some issues it makes decisions on and some things it can't approve, but you won't get approval unless the steering committee has endorsed it, so it does have power. They are there to give comfort to the decision makers.

Others made similar observations. From this and the responses to the other questions, it is evident that <u>terminology regarding the word decision</u> is an issue.

One response to this question mentioned a disciplinary committee that operated "like the rugby league judiciary" (2G), who also said "A committee wouldn't be dismissed; it would be individual members being reprimanded". Disciplinary committees will be considered in the discussion section below, as will technical review committees, which were also mentioned by some participants.

Question 4 (Q4) – Committee effectiveness
The interview question asked was "How effective are these committees?"

The responses were assessed to see whether they considered the effectiveness of committees was H – high, M – mixed (medium) or L – low. 12 were assessed as H, 7 as M and 1 as L, with 1N/A, saying the question was too broad.

The committee sizes were not asked but some reported their numbers. Some project control groups (PCGs) had the standard PRINCE2 number of three, one mentioned the ideal as "a smallish group of 5-6 supported by a key suite of advisers" (8B) and one referred to a (non-project) committee of 30–40 people (2G).

While participant answers ranged from high to low, their observations were not inconsistent, identifying factors supporting and inhibiting committee effectiveness.

Factors mentioned as supporting committee effectiveness were:

- the members have a genuine interest;
- having a smallish group of five to six supported by a key suite of advisers;
- people understand their roles, members having a common vision on where they are going;
- having a solid TOR with clear scope, role, reporting arrangements;
- "clarity around whether they are advisory or what the nature of the committee is" (3C); and
- support from on high, especially when the project cannot deliver because it cannot get supplies from other parts of the organisation.

Factors mentioned as inhibiting committee effectiveness were:

- a person is just there to feed back to somewhere else;
- people are time poor and delegate their attendance;
- multiple people pulling in all sorts of directions to stop, slow or deviate;
- members who cannot tell me their purpose on the committee;

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- committees used as a blame smearing activity;
- delivery committees that include stakeholders who should be put off to one side and managed, so they do not obstruct; and
- committees that "haven't been fitted into the governance arrangements and just exist in the firmament" (21F).

Two participants mentioned the deciding vs advising issue (3C and 21F), corroborating identification of it as an issue by McGrath and Whitty (2013) as well as the affirmative answer to *RQ1*. The remark by 21F that his views were formed "around the late 70s early 80 s when the term steering committee was starting to be used" also corroborates the findings of McGrath and Whitty (2013) tracing the usage of the term "steering committee" in the academic literature back to the early 1980s.

Question 5 (Q5) – Conflict with organisational roles
The interview question asked was "What conflict arises between committees and organisational roles?"

The responses were assessed on a yes/no basis as to whether their view indicated that such conflict existed or not. In total, 11 responses were assessed as N, 9 were assessed as Y and one was N/A, offering no comment.

Many focussed on internal committee conflict rather than conflict with the accountability of organisational roles. Several saw no conflict between committees and organisational roles giving the reason that these committees are not empowered to make decisions (19E, 6C and 9B). Conflicts between committees and organisational roles that participants mentioned were:

- around resources (1A) and money (15B);
- not everyone with a contributing interest being in the room (12C, 20B and 21F);
- committees becoming "zealots driving the organisation in directions it doesn't want to or have time to go in" (3C), which 2G expressed as "people have misused authority, unintentionally because their personal view differed from that of others" and 4C as "obstructing or second guessing" (4C);
- committees being established to appear to be doing something on an issue the organisation "doesn't want to deal with structurally" (3C) and "can be part of a piece of laziness on the part of the organisation. You think you've got the issue covered because you've got a committee. It's a bit of a political statement" (3C);
- inappropriate TORs, members and/or the chair not understanding their roles (8B, 21F); and
- multiple governance structures that must co-exist – organisational, financial, project – not sitting together harmoniously (7C).

Several of these are symptomatic of the confusion surrounding whether these committees authorise or advise. One response to this question was relevant to Question 2, namely that of 12C in saying:

> There's no vote. It's not a democracy. The project owner is accountable. There is consultation at a PCG or Board level, but clearly the chair is the person who makes the decision. Does this mean these committees are advisory? No. They are decision-makers, but the ultimate decision is made by that person. You need to have all those people at the table. The committees do overlap with the chair, but the chair has the final decision.

Question 6 (Q6) – Conflict resolution
The interview question asked was "How is this conflict managed/resolved?"

The responses were assessed on whether they indicated the means of resolution was H (hierarchical) or O (other). In total, 16 gave responses that were assessed as answered H and 5 responses were assessed as O.

Many of the 16 whose response was assessed as indicating conflict was managed/resolved hierarchically (H) said the chair/sponsor/project executive/DG/CEO/CIO decides. Of those whose response was assessed as O (other), apart from 19E, who said "It doesn't occur", all gave similar responses indicating some conflict resolution process. This was also indicated by five whose responses were assessed as H, who mentioned the consultation, communication and negotiation aspects of committees and the allocation of risk money.

Several other conflict resolution processes other than hierarchical were mentioned as follows:

- 4C said "stakeholder negotiation" and 21F said "ensuring there's a discussion with affected parties with view to resolving it".

- 11B said "Most of this stuff is either relationships or role clarity and mostly role clarity. If there's no reason to have a committee and there's someone accountable for it, then don't have one".

- 13C said "We offer to facilitate a process. We keep them on track and give them little cheat sheets that talk about emotional maturity (and) sabotage by not listening".

- 14B said "Alignment of governance with organisational structure is crucial to avoiding all of that conflict".

Question 7 (Q7) – Committee lifecycle roles
The interview question asked was "Do project committee roles or mandates vary during the project lifecycle?"

The responses were assessed on whether they considered their roles or mandates changed or not, with Y = yes, N = no and M = maybe. Most were explicit requiring little interpretation. In total, 11 gave responses that were assessed as Y, 8 were assessed as N and 2 as M.

Many of those who said "no" responded from the perspective of the part of the organisation they were involved with rather than from the perspective of the full project. 6C made this explicit saying "Not for project delivery". 7C added "What you do may change but your role doesn't". 16C said "TORs are consistent all the way through. The members may change" and 10C and 20B expressed similar sentiment. 17C said "There are certain boards you go to at various points in the life cycle. The PCGs are periodical, the others come in at particular points & we deliver projects and don't do the total end-to-end project".

13C said "the same roles will stay […] The types of issues they deal with stay pretty much the same […] We generally don't get a PCG until the project is all set up. The initiation generally won't have a PCG".

The responses to this question were interesting but yielded no additional information affecting the answer to either RQ.

Discussion
There are several themes that emerge from these results, each indicating a confusion existing in the practitioner community and collectively constituting the answer to *RQ1*. These themes/confusions are listed in Table II.

All six confusions are enmeshed, and all contributed to the differences of views that participants expressed. However, when it came to practical implementation, all participants who were dealing with un-constituted boards or steering committees had reached the same workable arrangements which did not actually allow the command and control

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ID	Confusion between	Resulting in
C1	Whether establishing a steering committee is warranted or not	A proliferation of committees
C2	Responsibility and accountability	Dispersion of accountability rather than single point accountability
C3	Authorising and deciding	Assigning labels to committees which cannot authorise that imply their role is at too high a level (i.e. steering or board)
C4	Deciding and advising	Belief that all committees given the label "steering" are decision-making whether they are organisationally constituted to make implementation decisions or not.
C5	Steering committees and boards	Steering committees acquiring an ethos that their constitution does not support
C6	Democratic and authoritarian power models/devices	The democratic steering committee device potentially subverting an organisation's command and control structure

Table II.
Steering committee confusions

organisational power to be countermanded or dispersed. This effectively recognised the potential for disruption, no matter what contrary or conflicting words they put around it.

The confusions identified in Table II are elaborated below.

C1 – Whether establishing a steering committee is warranted or not
This confusion emerged from the responses to Q1. Some considered all projects needed a SC (7C). However, many did not (11B, 12C, 14B, 15B, 19E, 20B) and from performance monitoring results some of these were claiming, this was not adversely impacting their project delivery and may well have been enhancing it. The most common determinant mentioned was project size, with some of those who did not routinely establish committees saying that they became necessary for large projects. 20B specifically mentioned the constant vigilance required to ensure unnecessary and unproductive committees are not established. The level that this can reach is evidenced by 13C saying there were 25 committees overseeing things in their ICT area. The problem was by no means restricted to ICT areas, but the number reached in that one area was astounding. An expression of the majority collective view would be that steering committees are only necessary for large projects and that in many cases, establishment of a temporary issue resolution or working group is preferable.

C2 – confusion of responsibility and accountability
This confusion emerged from the responses to Q3. These two terms have been defined by McGrath and Whitty (2018) as:

> Responsibility: an obligation to satisfactorily perform a task

> Accountability: liability for ensuring a task is satisfactorily done.

The confusion between these two terms was in regard to dispersion of them, which is dealt with below and the origin of the confusion is then traced back to a particular source.

Dispersion of responsibility
Dispersion of responsibility is not the same as the dispersion of accountability. The two concepts have long been confused but have now been defined with the quite distinct and different meanings given above by McGrath and Whitty (2018) who also confirmed the statement by Cornock (2011) that responsibility can be delegated whereas accountability cannot. Delegation of responsibility is useful and necessary for distributing work.

Dispersion of accountability

It is evident from the responses to Question 6 and also to other questions that committees which decide hierarchically and do not vote, do not disperse accountability. Conversely, a committee that votes does disperse accountability away from individuals to a single accountable, representative entity, where that entity is properly constituted. A corporate board clearly has accountability for the company it directs, and its constitution ensures that no one individual can take complete control of the corporation to the disadvantage of the other owners. There are other circumstances where the dispersion of accountability is advantageous, namely judiciaries/ disciplinary committees and appeal committees, as mentioned by 2G.

2G likened his organisational disciplinary committee to a sporting judiciary committee. Sporting disciplinary committees disperse accountability away from both the organisation and individuals within it. This can be useful for demonstrating independence or in protecting and/or supporting the individuals on such committees. However, the matters dealt with do not compromise any organisational authority. Sporting judiciary committees do make implementation decisions, but on behavioural matters only. They also apply a set of pre-determined rules which they have authority to interpret but not to change. They do not commit their parent organisation to any expenditure, resource allocation, organisational change or strategic direction (other than their own operating expenses). Their function is to prevent unsanctioned activity happening, not to initiate anything new. Consequently, having authority to make implementation decisions on such matters does not conflict with the authority of any proactive role in the organisation of which it is a part.

Confusion between the two

There were two participants whose response to Question 2 indicated they viewed steering committees as having accountability. These two participants were in or associated with ICT. Consequently, the principal ICT source was investigated to see if it might contain the source of this confusion. PRINCE2 does not use the term "steering committee" but it does note in Section 19.10 that "the steering group is equivalent to PRINCE2's Project Board" (Murray, 2009) and in Section 5.2.5 it notes that "PRINCE2 recommends that for completeness the Project Board should include representation from each of the business, user and supplier interests at all times" (Murray, 2009). Section 5.3.2.2 lists the first duties of the Project Board as "Being accountable for the success or failure of the project in terms of the business, user and supplier interests" (Murray, 2009). It also states under the heading of authority that "the Project Board is accountable for the project" (Murray, 2009). However, having asserted this accountability, it then goes on to say under the heading of "executive" that:

> Although the Project Board is responsible for the project, the Executive (supported by the Senior User(s) and Senior Supplier(s)) is ultimately accountable for the project's success and is the key decision maker. The Project Board is not a democracy controlled by votes. The Executive is the ultimate decision maker (Murray, 2009).

This is clearly internally contradictory and while the latter statement distinguishes correctly between accountability and responsibility as defined above, the earlier statements confuse these concepts. The contributing committee roles and the committee itself have responsibilities but not accountabilities.

This perpetuates the mistake of the 1980s identified by McGrath and Whitty (2013) long after the historical motivation of disruption to existing power structures has been forgotten. As concluded earlier, if a committee can decide something but cannot authorise implementation, then it is advisory. A proper board can authorise the implementation of decisions. Most PRINCE2 project boards cannot do this and so the label is a misnomer.

This confusion has become "generic" "best practice" through being marketed as such. OGC self-declares "Since 2000 the Office of Government Commerce (OGC), former owner of Best

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Management Practice, has been the custodian of the portfolio on behalf of the UK government […] The Best Management Practice portfolio covers a range of best management practices" referring to PRINCE2 MSP and other offerings (Office of Government Commerce, 2017). AXELOS has continued declaring PRINCE2 and other products as "Best Practice Solutions" (AXELOS, 2017). This provides an example of a practice thought to be "best" and generic within the confines of one field, being applied universally to circumstances where it is not generic. Project Coordination Group would be a much more appropriate name for a PRINCE2 committee than steering committee or board and such a change to PRINCE2 would be highly desirable.

C3 – Confusion between authorising and deciding

This confusion emerged from the responses to Q3 and Q5 and warrants further analysis. The word "decide" is defined in the *Oxford Dictionary* as "come or bring to a resolution in the mind as a result of consideration". We therefore need to carefully consider who actually decides what. The committee may collectively resolve (= decide) what is best and the chair (or other person with authority, who may be present or not) will decide whether that resolution will be implemented. Of course, the whole point in a collaborative environment is to reach agreement on action that the person with authority will have no hesitation in implementing. But this nevertheless masks the reality of organisational power; that authority can over-rule a recommendation. In essence, this is no different to deciding to take personal action on a difficult matter opposite to what one considers to be "best" due to prevailing circumstances such as lack of power to do so. There are two decisions, one to come to a view on what is best and another on how to implement it, as any activist group attempting to influence authority would attest. The second requires having the authority to implement.

Those participants who considered that their project steering committees had no decision-making power were looking at their lack of organisational authority to implement the position they agreed to, making their decisions simply recommendations. Those who considered these committees made decisions were ignoring the authority to implement.

The project steering committee, therefore, provides a forum that includes:

(1) a chair or other person who has the authority or power to authorise action for their project or organisation; and

(2) members who can influence the chair's desired outcomes due to their power to authorise action within their own contributing organisation – and who can witness what is happening and feel some sense of ownership due to their participation.

Even though the committee may collectively determine a feasible course of action, the members, apart from the authorised person, have no authority to decide to implement on behalf of the project or organisation. As many said or implied, there is no vote. The appearance of such a steering committee being able to authorise (decide to implement) is therefore an illusion which is supported by such decisions being published through the medium of committee minutes.

It is, therefore, necessary to be quite specific about where the authority to implement decisions actually lies.

A steering committee member can, of course, still gazump an implementation decision by failing to implement it within their own organisation, but that is a matter of politics and organisational tactics which we are not dealing with here.

C4 – Confusion between deciding and advising

This confusion emerged from the responses to Q2 and Q4. Several participants mentioned technical review committees and exploring their modus operandi is useful in understanding this confusion. Technical or quality review committees generally decide whether technical or quality standards of project outputs have been met or not. They then advise the higher entity

that has the authority to decide on whether a project progresses or not. When a project output is not accepted by such a review committee and the project manager arranges remedial work, the project manager is accepting that whoever has the necessary power will agree with the committee and will require its decision to be implemented; so that committee only appears to have the authority to act on its decision. The authority actually lies with the person or entity the committee reports to. If a committee can be over-ruled, it is an advisory body, not a decision-making body. Even if the controlling person is on the committee, this does not change anything as "accountability cannot be delegated" (Cornock, 2011) and rests with that person. There is a clear distinction necessary between committee members making their own decisions on how to approach matters before the committee and the committee itself actually having the authority to decide, i.e., to implement whatever conclusion it may come to.

In the circumstance where a recommendation of such a committee threatens entity reputation or survival, it can be overridden, and the recommendation ignored or modified. Business then proceeds through committee members either having their objection recorded or accepting the possible future liability consequences if they do not feel able to have their objection so recorded. Accountability for knowing sufficient to be able to form a view may well rest with committee members, but that is a different accountability with a different higher entity, such as legislation, professional body or public opinion. So, there are categories of decisions and making internal decisions does not make the committee itself a decision-making entity.

Participants mentioned numbers of other committee types: project, programme and other name boards, PCGs and working groups. The names did not necessarily indicate whether they were steering (making decisions) or not. Various committee types can have various functions; some are responsible for making and implementing decisions (such as company boards of directors), some contain the person who makes decisions thus giving the appearance that the committee has the authority to implement its decisions when it does not (some project committees e.g. PRINCE2), some make and implement decisions on quite limited, specific matters (judiciary committees), some make recommendations on matters that the person they report to has to think very carefully about not accepting (technical standards/quality review committees) and some simply provide a convenient forum for coordination. These committees all require their members to make internal decisions to be able to provide advice, but that does not mean their committees are decision making for the organisation.

C5 – Confusion between steering committees and boards
This confusion emerged from the responses to Q2. Corporate boards are legitimately constituted to make implementation decisions by voting. As shown above, project steering committees that are not managing joint ventures are not. They are designed as a means of communication and to provide a forum to facilitate the person with authority making decisions. Labelling them as boards is therefore misleading and risks inducing committee members and others into the delusion of thinking that the committee itself has the authority to implement. It also attempts to artificially inflate the importance of these committees by association of their name with corporate boards.

C6 – Confusion between democratic and authoritarian power models/devices
This confusion emerged from the responses to Q2. The practitioners interviewed had dealt with the conflict between authoritarian and democratic power models/devices by ensuring that within a bureaucratic or authoritarian structure, these committees had no accountability and that they were used as advisory communication forums to assist the person at the meeting with the authority, who may be its chair, in making decisions. Nevertheless, some held to the conceptualisation that they were decision-making. This has been discussed and resolved above in considering C2.

Applicability of the committee decision tree model

The common implementation solution that practitioners had arrived at, with their steering committees being subject to direction of the chair and therefore not actually making decisions to implement, corresponds with the result of applying the model. True steering committees that slip straight down the left-hand side are joint-stock company boards of directors and judiciaries including juries. Even where an appeal mechanism exists, some penalty or sanction or threat of same will remain until or unless overturned as the committee does have authority and can authorise. Any joint venture (JV) arrangements, including alliances also slip straight down the left-hand side. Note that this accords with the observation of Muller *et al.* (2017) noted in the literature review that a steering group is essential if a project involves several organisations or enterprises. Voting within these arrangements generally operates on an "all have veto" arrangement rather than a simple majority, to avoid relative strength or contribution issues, with discussion continuing until a resolution is reached that all can live with. This is a democratic device where a voting arrangement other than a simple majority is pre-agreed. Committees other than judiciaries and JVs within a bureaucracy cannot slip down the left-hand side. They may seem to operate like a JV, but the key difference is that their members can be directed, unlike a JV or company board.

C1 dealing with whether it is necessary to have a committee at all is accommodated by the first question in the decision tree. The second box addresses C4, the deciding vs advising question. The third and fourth boxes address C3 regarding where the power to authorise lies. The whole model deals with C6, resolving the democratic vs authoritarian device potential conflict, by proposing committees as forums for discussion and consultation. C5 is addressed by the absence of the word "board" from the model, but this does not preclude any proper steering committee that can actually authorise being labelled as a board. The whole model also deals with C2, ensuring that accountability is not compromised in the delegation of accountability.

The model therefore provides a clear process for determining whether the committee decides or advises and it also ensures there is no conflict between the democratic and authoritarian devices by requiring committees to be established as advisory if there is any potential conflict with organisational roles or if there is an organisational role or committee that can over-rule it.

It is therefore evident that application of the model to check a committee's TOR before establishment can avoid the confusions and governance conflicts identified in *RQ1*. This confirms that the answer to *RQ2* is positive. Note that the model could also be applied to existing committees to determine whether their role may be causing any governance conflict.

Observations

It is noteworthy that none of the true steering committees (company board, JV board, judiciary, disciplinary committee, appeals committee) actually have the label steering and that any change of name would be most unlikely as their other names sound more important anyway, as well as actually describing what they actually do. This leaves practically nowhere that the steering committee title is actually useful and leads to the conclusion that most, if not all committees labelled as steering do not and cannot actually steer.

It seems that practitioners have become comprehensively confused with imprecise definition and labelling leading to inestimable loss of productivity. The extraordinary waste is referred to by many participants in statements such as the 25 ICT committees mentioned by 13C in response to Question 1 and the vigilance needed to stop the same thing happening in engineering infrastructure mentioned by 20B in response to Question 1.

The working arrangements that the participants had arrived at reflect the reality that committees that are not constituted to authorise can only recommend. Both recommending and authorising, involve making decisions. In some areas where beliefs to the contrary have become entrenched, such as in ICT areas following PRINCE2, it requires a paradigm shift to shed that erroneous view of "best practice" and recognise that there are only very limited

circumstances within a bureaucracy where committees can be established that can actually steer – and this is on matters which are also very limited.

It would benefit the clarity of governance if use of the terms steering committee and board were to disappear from project usage for circumstances other than where there are joint funding partners, such as alliance delivery contracts or planning studies of areas with overlapping geographical jurisdictions and joint funding arrangements. And judiciaries are not referred to as steering committees anyway.

The remaining committees are advisory and would be more appropriately labelled coordination committees, which for projects would have the same acronym as some currently use, namely PCG, with the C denoting "coordination" rather than "control". That label sounds suitably important, befitting the communication role they play, but without misleading anyone through loose terminology into thinking they do something that they do not and what's more cannot. It also avoids puffing up their importance with a more important sounding governance label. It describes much more accurately what they do within the power structure of a bureaucracy.

Limitations and future research

The limitation of this work is that it is based upon a sample of organisations and industries in one state in one country. While Australia does sit at a cross-road between England/ Europe, the Americas and Asia, and while global communication, global access to databases and the existence of internationally accepted bodies of knowledge mean that worldwide trends should be picked up in any local study, there is no guarantee of that.

During this study, data were also collected on project governance and the exercise of power and these will be analysed separately.

Future research could be conducted in other geographic locations. Research could also be conducted on the impact of committees being labelled as steering committees or boards when those committees have responsibility only and cannot have accountability.

Conclusion

This paper has documented the collection and analysis of data from experienced practitioners concerning steering committee roles. It found that, not only was confusion present, there were six different ways in which it arose. It also found that while there was contention over terminology, the practitioners interviewed had nevertheless implemented common governance arrangements which were appropriate to their steering committees being advisory; they were simply unable to articulate that agreement due to the confusions identified. This arrangement was that the project steering committees recommended rather than authorised, and simply provided a forum for the person having authority (the power to implement) to reach a conclusion upon what to do.

It was also pointed out that this leaves practically nowhere that the steering committee title is actually useful. The answer to the question posed in the title of this paper is no; committees labelled as steering that are established within an authoritarian chain of command do not and cannot actually steer. It was noted that joint ventures will generally be labelled as boards rather than steering committees and that disciplinary committees do have the power to authorise penalties on individuals for behavioural breaches within the organisation without diffusing managerial accountability and are given labels other than steering that better reflect their purpose.

A previously developed model to avoid internal conflict within bureaucracies was examined and then confirmed. The only committees that get down the LHS of this model are those that can authorise, such as company boards, JVs and disciplinary committees. This model was recommended for use in checking for governance conflicts in both existing and proposed committees.

IJMPB

Specific changes were recommended to the PRINCE2 governance model regarding correcting the confusion of accountability with responsibility and ceasing to describe committees that cannot authorise activities as boards.

It was also recommended that such committees be established as project <u>coordination</u> groups, which has the same abbreviation as project control groups PCGs, leaving an existing common acronym in place, with a different middle word.

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Do steering committees really steer?

Further reading

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Part 3

WHAT IS PROJECT GOVERNANCE?

Disclosing the source of confusion and revealing the essence of governance

Table of Contents

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Defining strategic management

Abstract
The concepts of leadership, strategy, management and strategic management are inter-related and the meanings of all these terms are contested to some degree. This paper explores these concepts in detail and applies a rigorous definitional refining method developed for application to a group of related conceptual terms. The resulting definitions clearly distinguish between a strategy and a plan, remove problematic field-specific extensions from the definitions of leadership and management and propose a resolution of long standing contest around the meaning of the term strategic management. Leadership is defined simply as showing the way, strategy as the pattern in a series of actions, management as taking charge, and strategic management as taking charge of the pattern in a series of future actions.

Keywords: leadership, strategy, management, strategic management, define, refined definition.

Introduction

The concepts of leadership, strategy, management and strategic management are inter-related and have been somewhat entangled, lacking clear, non-overlapping definition; Leadership has long been associated with management and was subsumed within it until around the 1980s (Rost 1991, p. xiv; Borgelt 2014, p. 51) and Borgelt (2014, p. 52) noted the terms still entangled; McGrath and Whitty (2015) noted the confusion among governance, leadership and strategy; and Ronda-Pupo and Guerras-Martin (2012, p. 162) documented lack of agreement on the concept of strategy.

If academics are confused over the definitions of these terms, there seems little chance of practitioners or the general public having separately and independently arrived at clear definitions. This can only cause waste of time and money and adversely impact productivity within both the practitioner and research communities.

These individual concepts are explored in detail using a definitional refining method for defining a group of related conceptual terms. Refined is taken to mean 'with unnecessary elements removed' - an abbreviation of the Oxford Dictionary definition of removing impurities or unwanted elements. The method used is non-normative, i.e. it avoids making moral or value judgements. It is also non-behavioural and non-institutional. Each term is approached from a purely definitional viewpoint, without entering into any debate concerning the merits or otherwise of any other aspect of the subject terms or their associated areas of study; it simply develops non-overlapping definitions with a view to removing confusion thereby potentially achieving improved organizational, individual and research outcomes.

Consequently, this paper develops a 'refined' definition of the essence of the contested English language terms leadership, strategy, management and strategic management. It also resolves clearly the distinction between a strategy and a plan, removes problematic field-specific extensions from the definitions of leadership and management and proposes a resolution of long standing contest around the meaning of the term strategic management.

Defining strategic management

Definitional confusion regarding leadership, strategy and management

terminology

Before dealing with documented evidence indicating this confusion individually for each term, we note generally that, while lack of clarity of definition cannot possibly assist productivity in any area, whether considered from the perspective of practitioners, academics or the general public, it is very difficult to get hard evidence enabling this to be quantified in any way. If definitional confusion or overlap is even recognised at all, it is potentially corporately embarrassing to acknowledge, let alone to admit its cost. The authors are aware of a number of such instances but are not at liberty to name organizations. Most of the wasted costs we are aware of were unquantifiable except for one whose cost was approximately $10M. It is also very difficult to measure an after-state occurring after agreement and implementation of clear definitions - as any costing must rely on an estimate of money not wasted, which can only really be speculation. We therefore proceed with the notion that it must save something and must therefore be worthwhile doing.

Definition of terms has been recognised as a significant issue by many including Socrates, Plato, Aristotle, Hobbes, Locke, Voltaire and Wittgenstein. This has been documented by McGrath and Whitty (2015), who also separated strategy from governance and pointed to the need to properly define strategy.

Strategy

The lack of agreement on a definition of strategy has been noted by many authors. Steiner and Miner (1982, p. 17) observe that "Unfortunately, there is no consensus about the meaning of the word…strategy." Dietrich and Lehtonen (2005, p. 387) note that "the concept of strategy itself is rather ambiguous and rather abstract in nature." Ronda-Pupo and Guerras-Martin (2012, p. 162) comment that "To understand the essence of any concept, it first must have a clear definition…Unfortunately, the absence of a broad, comprehensible, and shared vocabulary is an obstacle that this field has still not managed to overcome." They document many other authors having come to the same conclusion.

Leadership and management

In spite of the efforts of Rost (1991) in surveying and defining leadership, Borgelt (2014) still found it necessary in her PhD thesis to survey usage to distinguish between the terms, indicating some degree of ongoing confusion.

Strategic management

In the absence of agreement on the definition of strategy as mentioned above, it is not surprising that there is also contention over its compound term strategic management. The research conducted in preparing this paper and documented below found a variety of different understandings of the concept of strategic management and these are documented in the discussion of strategy.

Defining strategic management

Approach

McGrath and Whitty (2015) demonstrated the pitfalls of defining single intellectual conceptual terms within the bounds of one single field and in isolation from other terms. This appears to be the only such method that exists and so will be used here. Their approach has objectivist epistemology with a positivist theoretical perspective that seeks to define objective content without claiming that the derived definitions describe anything existential. It simply defines concepts non-normatively, that is without allowing any value judgements to intrude into any definition, producing definitions which, if agreed and adopted, have the potential to remove unnecessary debate and confusion. It takes the view that while there may be no absolute truth, to be productive as a society, a discourse that removes confusion is necessary, one that all can participate in, with shared understanding of meaning, removing accidental and undetected differences. This position is therefore midway between (or partly both) realist and post-modernist, as this apparatus (ensuring consistency and universality of terminology), can replace chaos with order.

This paper is, in effect a further test of the application of their method to see if it can remove confusion from the group of terms dealing with leadership, strategy and management.

Method

The McGrath and Whitty (2015) definitional refining method is set out below:
Group rules pre-definition:
1. Select the group of terms to be defined.
2. Determine the order of definition as follows:
    a. Identify any inconsistencies within the group that may require one term to be defined before another.
    b. Where a compound term is to be defined, define the component terms first.
    c. Where a derivative term is to be defined, define the root term first.
    d. Where a term has a noun and a verb form, define the verb first.
3. Consider any terms that are likely to be used in definition that may themselves require prior definition.

Steps to determine a connotative (intensional) conventional definition of each term:
1. Define derivative or component terms using the root or component definitions that have previously been defined by this process or are clear and accepted in their meaning. (This obviates the need to proceed through the remaining definitional steps unless there is other reason to do so, such as confusion in the meaning of the compound or derivative term itself).
2. Survey lexical usage (This and the following two steps may be omitted if there is a known comprehensive academic review of definitions of the term).
3. Analyse this to determine the main contenders for inclusion in the definition (and show these in pale grey highlight).
4. Develop a connotative (intensional) conventional definition. (This may be synonymous, operational or by genus and difference).
5. Report and analyse any known academic review of definitions of the term
6. Remove unwarranted inclusions.
7. Remove divergence of meaning resulting from mixing content and process by removing any reference to content (for generic conceptual terms).

Defining strategic management

8. Remove any remaining divergence of meaning and for operational definitions, consider the need for additional inclusions, by checking against the following, as appropriate to the particular term:
    a. Historical usage
    b. Field/ specialty usage - the definition most generic to as many fields as possible will be selected
    c. Practitioner usage (via practitioner literature, considering the influence of opinion and marketing)
    d. Competing concepts and frameworks (considering the influence of opinion and marketing)
9. Check any resulting definitions by genus and difference against the Copi and Cohen (1990) five rules and discard any which do not satisfy them.
10. Report the ~~adopted~~ derived definition. (Note; this change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word 'derived')

Group rules post definition:
1. Cross-check terms defined in this group for any inconsistency and resolve.
2. Cross-check any terms defined in this group known to be used interchangeably with other terms outside the group and resolve any inconsistency.

The five rules for checking a definition by genus and difference, sourced from Copi and Cohen (1990, pp. 151-5) are as follows:
1. States the essential attributes of the species
2. Avoids circularity
3. Neither too broad nor too narrow
4. Avoids ambiguous, obscure or figurative language
5. Affirmative rather than negative.

Lexical usage will be sourced from the following dictionary sources:
1. A range of dictionaries that have been well known for many years that were available (in 2013/ 14) online (Cambridge ; Collins ; Longman ; Macmillan ; Macquarie ; Merriam-Webster ; Oxford)
2. A range of various online dictionaries (BusinessDictionary.com ; Dictionary.com ; TheFreeDictionary ; Wiktionary) and
3. The Concise Oxford Dictionary (1964) - as a comparator for how these definitions may have changed over the last 50 years.

Group rules pre-definition

Group pre-definition rule 1 – Select the group of terms to be defined

McGrath and Whitty (2015) indicated that governance is related to strategy, ethics and power which are also the subject of similar definitional confusion. These all impinge on leadership and management. However, the definitions of leadership, strategy and management are not dependent on these other terms, and so those terms will not be included in the group to be defined here.

McGrath and Whitty (2015) also found that leadership and strategy had been incorrectly included under the ambit of governance. The boundary between management and leadership is another common confusion. So the group of terms to be selected for definition will be

Defining strategic management

leadership, strategy and management. This will then allow strategic management to be defined.

Group pre-definition rule 2 - Determine the order of definition

Rule 2 (a) – Identify group term inconsistencies

None present.

Rule 2(b) - Compound terms

The only compound term in the group is strategic management and so both component terms will be defined first.

Rule 2(c) – Root of Derivative terms

The root terms of the derivative words in this group are lead(er) and manage, and while none of these appear contentious, defining lead, leader and manage may potentially assist in removing confusion and so these three will be defined ahead of their respective derivative.

Rule 2(d) - Define verb form of term before the noun form

As per 2(c), lead and manage will be defined ahead of leader, leadership and management.

General

Leadership is the most general and will be defined first, followed by strategy, which is the province of leadership, followed by the more procedural management. This will then allow definition of strategic management.

The order of definition will therefore be as follows: leadership, strategy, management, strategic management.

Group pre-definition rule 3 – Definitional terms requiring prior definition

There are no other terms outside this group that have multiple meanings and are commonly used in defining these terms. While the term plan is sometimes confused with strategy, the term plan itself is not contested and so the Oxford dictionary definition will be adopted: a detailed proposal for doing or achieving something.

Define 'Leadership'

Step 1 Define derivative or component terms

Leadership is a derivative of the word lead(er), which is, in turn, a derivative of the word lead. Lead will be defined first followed by leader, followed by leadership.

Defining strategic management

Step 2 Survey lexical usage

Lexical usage is surveyed in Tables 1a, 1b and 1c, which show only the key parts of the dictionary definitions.

Insert Tables 1a, 1b and 1c here.

Step 3 Analyse lexical usage

In Table 1a, the most commonly used definition of the word lead is to "show the way". To "guide" is the next most commonly used and several use to "go in front" and one uses "cause to go with". Show the way is the most generic, includes the others and is therefore the most suitable for use in the tentative definition.

In Table 1b, the most commonly used definition of the word leader is one who leads, with directs or controls also being mentioned. Direct and control are implied by the term leading anyway and so this simple definition as one who leads refers back to its root term, which accords with the selected method is acceptable for use in the tentative definition.

In Table 1c, there is general agreement on two definitions of leadership as the position of leader and the capacity or ability to lead. The former describes a role rather than the function, and this is not contentious. However, such usage generally occurs prefixed with the article 'the', qualifying it as unique. It is unqualified essence being sought here, not unique instantiation and so this will be ignored. The second definition deals with what leadership actually does. While it does refer back to its root term, which accords with the selected method, the reference to capacity is limiting, as it excludes the action; in other words, how one might recognise leadership when one comes across it. Reference would generally be made to someone's leadership capacity when referring to how well they might be able to lead, and it is the essence of a word being sought here, not that of a phrase (two words). So in spite of the frequent lexical reference to ability and capacity, this cannot be accepted. The same applies to references to a leadership group. The term will therefore be defined as required by Step 1, in terms of its root.

Step 4 Develop a connotative (intensional) conventional definition

The tentative definitions are therefore as follows:
Lead = to show the way
Leader = one who leads (shows the way)
Leadership = the act of leading (showing the way)

Step 5 Report academic review of definitions

A comprehensive review of both dictionary and academic definitions of leadership was carried out by Rost (1991), who then proposed the following definition: "an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes". He considered this definition contained the "four essential elements that must be present if leadership exists or is occurring" (Rost 1991, p. 102). A more recent review was done by Borgelt (2014) who settled on the Rost (1991) definition.

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Rost (1991, pp. 38-44) conducted an extensive survey of dictionary definitions and his review of preceding academic sources was also extensive, indicating 500 academic, dictionary and practitioner sources (Rost 1991, p. 9). He also separated the concept of leadership completely from management, which he also defined. He noted that the previous "industrial paradigm of leadership" had "conceptualised leadership as good management" (Rost 1991, p. 10). In developing his definition, he stated he wished to avoid the pitfalls of "one discipline scholars" defining the word with an adjective in front of it, such as business, educational or political (Rost 1991, p. 1). His objectives were to "critique the efforts of leadership scholars and practitioners in the twentieth century to understand leadership based on the values and cultural norms of the industrial paradigm" and "to move our understanding of leadership forward, towards the post-industrial paradigm that will take hold in the twenty-first century" (Rost 1991, p. xiv). He also set out to redress his finding that:

> Most of the research on leadership has emphasised the same two items – the peripheral aspects and the content of leadership – and almost none has been aimed at understanding the essential nature of what leadership is, the process whereby leaders and followers relate to one another and achieve a purpose (Rost 1991, p. 4).

Over two decades later, Borgelt (2014) noted:

> Rost's definition … is relevant to any discipline and, arguably, applicable to any era. It establishes what leadership is and untangles the confusion between leadership and leader, so that leadership processes and applications become much more transparent. Therefore this definition can be used as a benchmark against which to determine how well, and by what means, leaders create mutual purposes, effect change and influence relationships.

However subsequent work has indicated some difficulty with his resulting definition. His definition initially appears to be by intension but is actually limited by value judgements to one particular extension. That extension is a socially inclusive, moral, non-coercive influence process. There are other circumstances where leadership occurs, as Burns alludes to at the end of his Foreword to (Rost 1991, p. xii) "the role of great conflict in great leadership; Rost leans toward … consensus procedures and goals that I believe erode such leadership". Rost (1991, p. 156) states categorically that "A relationship in which the pattern of behaviours is classified as predominantly coercive and authoritarian is not leadership." This is problematic as it would exclude much military and police leadership as well as ship captains who must have command and authority. His discussion of this also raises the difficult question of degree; what proportion of authoritarian behaviour would be needed before the behaviour one was witnessing became something other than leadership. It is not just through influence that power is exercised. It is also exercised through authority and force, and all these means of exercise cannot not occur without a leader. Leaders may have influenced their followers to the point where they will obey commands without thinking too much and this may be absolutely necessary in difficult or crisis situations. However, the restriction to the single extension of influence makes the definition deterministic and static, fixed to the time at which influence is occurring and not accommodating changing circumstances over time.

A further, related difficulty with the Rost (1991) definition is that it describes leadership as a relationship rather than an action which can be clearly recognised when observed. The definition is based upon patterns of behaviour as being the determinant of leadership rather than the other way around, with the pattern of behaviour determining what the particular style of leadership is.

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However there is nothing in the Rost (1991) definition that conflicts with the derived definition and this discussion does not challenge it as a definition of what might be termed 'influence leadership' or 'leadership through influence'. However his definition is limited to that extension and so cannot be accepted as a generic, essential definition of the term.

This discussion makes no comment on leadership characteristics, styles, desirable qualities, outcome or performance achievement, or cross-cultural factors or impacts. These can be normative or strategic matters and are covered by other work such as the Global Leadership and Organizational Behavior Effectiveness (GLOBE) GLOBE study which has been researching cross-cultural factors in leadership over several decades. (Hoppe 2007).

Step 6 Remove unwarranted inclusions

There are no unwarranted inclusions in the proposed definition.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

No further check necessary.

Step 9 Check against the five rules

The definitions by genus and difference satisfy Rules 1 to 5.

Step 10 Report the derived definition

The derived definition are therefore as follows:
- Lead = to show the way
- Leader = one who leads (shows the way)
- Leadership = the act of leading (showing the way)

Define 'Strategy'

Step 1 Define derivative or component terms

This is not a derivative or compound term.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 2, which shows only the key parts of the dictionary definitions.

Insert Table 2 here.

Step 3 Analyse lexical usage

Any definitions referring to any particular area or type of organization or position (e.g. military general, board, CEO, general manager, business, politics etc.) will be rejected so that a generic definition is produced. As strategy is a term that is often linked in colloquial organizational use with leadership, management and sometimes governance, any reference to these will be rejected. However it is noteworthy that Table 2 contains no such references, other than indirectly to leadership via the term "generalship". The word plan is the most commonly used definition in Table 2 with method and series of actions also being mentioned. Achieving a goal, desired future and something over the long term are also mentioned.

Step 4 Develop a connotative (intensional) conventional definition

Use of any of the Table 2 definitions that include 'plan' with 'goal' or 'future achievement' has several difficulties; the future time scale, differentiating strategy from planning (or from a plan) and exclusion of circumstances where there was no planning - where actions occur and the strategy can only be deduced afterwards (e.g. evolution or circumstances where we act automatically on inherited, instinctive or habitual rules or guiding principles without necessarily being aware of what our strategy actually is). Strategy in a game of Chess will have a completely different timescale to that in an infrastructure plan. A strategy is broad whereas a plan is associated with detail, so it is best not to include the word 'plan' directly in the definition. Furthermore, strategy may not be evident from looking at a plan. For example, a strategy for an infrastructure plan may be simply to do as much as can be done with the money made available, or to do particular things in particular electorates to win an election, or to provide a key missing piece of infrastructure to achieve another objective (such as economic stimulus or providing something out of reach of private enterprise). Strategy behind government regulation may be to resolve conflict, to advantage a particular group, or to establish a new market. These may or may not be stated in the legislation.

The following tentative definition of strategy can therefore be derived: 'A series of actions that achieve a goal'. This accepts the key elements in Table 2 but removes the dependency on the word 'plan', resolves the time scale concerning the future and accommodates circumstances where there was no design or planning but still some unconscious strategy. However, this definition could equally well define a plan, whose meaning is not contested and for which we will adopt the Oxford definition as a detailed proposal for doing or achieving something. To overcome this difficulty, the order will be reversed, and strategy tentatively defined as 'The goal achieved by/ contained in a series of actions'. However, the word goal is also problematic, as strategy is more an approach to achieving a goal than the goal itself. So the definition will be modified to 'The approach contained in a series of actions'.

Step 5 Report academic review of definitions

The academic distinction between methodology and method is similar to the distinction between strategy and plan. Crotty (1998, p. 3) referred to methods as techniques or procedures, and to methodology as "The strategy, plan of action, process or design lying

Defining strategic management

behind the choice and use of particular methods and linking the choice and use of methods to desired outcomes." This lacks distinction between strategy and plan, and is too verbose for our purposes, but its essence is contained in Mintzberg (1978, p. 935) which defined strategy as "a pattern in a stream of decisions" which "enables us to consider both sides of the strategy formation coin: strategies as intended, a priori guidelines as well as strategies as evolved". This is very similar to the proposed definition.

Events or actions that are random have no pattern and therefore, by the Mintzberg definition, no strategy. Where a pattern can be found then there can be said to have been a strategy. Analysis of natural or historical events is the province of scientists and historians, who might work out why things happened or where a sequence of events may have been heading. These would normally be referred to as scientific discoveries or societal trends rather than as strategy, as there is no human determination of natural laws and the trend of historical events is often not obvious when the events are occurring (e.g. the battle may be lost but the war won). However, these scientific and historical interpretations would not be excluded by the Mintzberg definition or by that derived from Table 2.

Back analysis of past events contains no element of the future sense of strategy. However, people may interpret events that happen to them from a spiritual or personal growth perspective, seeking God in them or a pattern in their own behaviour that they may not have been previously aware of. These would normally be referred to as faith, personal growth or changing habits, but could also be referred to as life strategies, which neither definition excludes.

So a combined definition would be 'The approach/ a pattern in a series/ stream of actions/ decisions'.

Some choices need to be made for the various elements between the Mintzberg definition and that derived from Table 2. The easiest choice is between series and stream. Stream implies a continuous flow that may not necessarily be present and so series will be used. Either or both of the two remaining choices would be satisfactory, however a selection will be made. While strategy is carried out for future action, past strategy can also be identified and it is no less strategy because it was in the past. So pattern is more general than approach as it better covers back-analysis as well as circumstances where no pre-planning or approach was consciously known in making the decision to take the particular action. Actions will be preferred to decisions as any action requires a prior decision anyway and it is the action that others will notice rather than the decision to take it, whether that action is physical, written or verbal.

So the derived definition is 'a pattern in a series of actions'.

This clearly separate a plan from a strategy. A plan with timing for a particular sequence of steps may achieve a number of strategic objectives, such as sequencing projects to achieve a realistic expenditure flow, balancing available resources, ensuring steady continuity of employment, and/ or ensuring a network operates effectively by scheduling dependent works after their precedents have been completed. These latter comprise the strategy. Of course, this does not preclude any particular document from including both a plan and a strategy, but it would suggest they be appropriately labelled as including both.

Defining strategic management

Strategizing done in present time is about the future. But this does not mean that strategy should be defined as referring to the future. If we look at a series of past events and attempt to determine what the strategy was, we are not at liberty to influence it. Time-scale is not therefore an essential part of the definition and must be left out. The proposed definition accommodates usage of the term in past, present or future tense. We can say "the strategy was" or "the strategy is" or "the strategy will be".

Step 6 Remove unwarranted inclusions

None remain.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Historical check (a) is the appropriate check for this term.

Step 8(a) Consider historical usage

Strategy has historically derived from the Greek word for 'generalship', as noted in the Business Dictionary definition in Table 2. This also concurs with the fifth century BC Chinese author Sun Tzu's famous work. He refers thus to the silence and lack of obvious sign of strategy: "All men can see the tactics whereby I conquer, but what none can see is the strategy out of which victory is evolved" (Sun & Cleary 1988, pp. VI -27) and "in war the victorious strategist only seeks battle after the victory has been won" (Sun & Cleary 1988, pp. IV-15). This does not conflict with the derived definition.

Step 8 (b) Field/ speciality usage

Chandler (1962, p. 13) considered "Strategy can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals." This definition refers to how strategic management might be done rather than what strategy actually is.

Quinn (1980, p. 7) said "A strategy is the pattern or plan that integrates an organization's major goals, policies and action sequences into a cohesive whole". This is compatible with derived definition but includes elements of strategic management that do not need to be included in a definition of strategy.

Feurer and Chaharbaghi (1995, p. 11) open with their interpretation of early definitions as "strategy is a rational decision-making process by which the organization's resources are matched with opportunities arising from the competitive environment." They observed that regardless of whether strategy is environmental or resource driven "all these frameworks have one thing in common which is that they all aim at maximizing the performance of an organization by improving its position in relation to the other organizations operating in the same competitive environment" (Feurer & Chaharbaghi 1995, p. 11). They also mention other definitions as "Strategy is the primary means of reaching the focal objective" and "the

direction and scope of an organization over the long term" (Feurer & Chaharbaghi 1995, p. 11). The first of these three definitions describes one approach to strategic management, the second is vague and the third includes considerations that have been discussed in reaching the derived definition.

Artto and Dietrich (2004, p. 144) observed:
> Early theories of organizational strategy saw 'strategy as an action of intentionally and rationally combining selected courses of action with the allocation of resources in order to carry out organizational goals and objectives in order to achieve strategic fit and thereby obtain competitive advantage (Hatch 1997)'.

This doesn't conflict with the derived definition, while adding much about the how and why, which is not essential in a definition of what it is.

Morris and Jamieson (2005, p. 5) considered "Corporate strategy is a means of thinking through and articulating how an organization's corporate goals and objectives will be achieved." This is vague, referring to a means of thinking, rather than to what it actually is.

Milosevic and Srivannaboon (2006, p. 99) noted that "Though the definitions of business strategy vary, these - in general - do focus on how to better deal with the competitive environment (Tse & Olsen 1999)". This is also vague and gives the purpose of strategic management rather than defining what strategy actually is.

Ensign (2008, p. 28) noted that "While it is correct to view strategy as a prescriptive or normative statement of goals, strategy also involves behaviour" and "There is a making or shaping of strategy (formulation) and the act of using strategy implementation" (Ensign 2008, p. 28). He then proposed the following definition: "Strategy is a systematic series of actions directed to some ends that seek to maintain or optimize a firm's position, plan, pattern or perspective" (Ensign 2008, p. 29). The key elements of this definition are compatible with the derived definition; the remainder are specific to strategic management and so cannot be included as an essential feature of strategy. The normative determination of goals, the impact on behaviour and the way strategy is formulated and implemented are not excluded but do not need to be included as they are all about how it might be done rather than what it actually is. He also pointed out that "strategy can be dichotomized as intended or emergent" (Ensign 2008, p. 29). This is accommodated in the derived definition, as mentioned in Step 4.

Nichols et al. (2008, p. 135) said "Strategy, then, is not about delivering step-by-step instructions for achieving a goal. When people approach it that way, reality always gets its way. Instead strategy is more about preparing people to act appropriately in the face of the unexpected." This could equally well define risk management as is vague.

Meskendahl (2010, p. 808) noted that "Business strategy describes the way in which a firm decides to compete in the market compared to its competitors (Varadarajan and Clark, 1994; Walker & Ruekert, 1987)." This describes style and doesn't say what strategy actually is.

Aggerholm et al. (2012, pp. 413-4) considered:
> Strategy here is defined as a 'situated, socially accomplished activity, while strategizing comprises those actions, interactions and negotiations of multiple actors and the situated practices that they draw upon (Jarzabkowski, 2005; Jarzabkowski & Spee, 2009; Johnson et al., 2007)'.

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The description of strategizing includes much about how it is done, while the definition of strategy is vague.

McKeown (2012, p. xxi) said "Strategy is about shaping the future. That's the reason we're interested. And that's the best definition I can offer you." This describes a desired outcome of ogranisational strategic planning but is not actually a definition of the word strategy. It also excludes evolved strategy, but is not incompatible with the derived definition.

Wiesner and Millett (2012, p. 99), in considering definitions noted:
> Van Gelderen, Frese and Thurik (2000) define strategies at the individual level as plans for actions that influence how people are doing things. The working definition of 'strategy' employed in our study is consistent with the definition offered by Gibcus and Kemp (2003). They define strategy as as "a mechanism to focus the efforts of a company".

Neither of these two definitions distinguishes plan from strategy.

Ronda-Pupo and Guerras-Martin (2012, p. 180) reviewed 91 definitions between 1962 and 2008 before concluding that "the essence of the strategy concept is the dynamics of the firm's relation with its environment for which the necessary actions are taken to achieve its goals and/or to increase performance by means of the rational use of resources." Again, this is vague and does not specify what strategy actually is. This is more of an understanding of the elements of strategic management than a definition of the single word strategy. It is evident that they regarded strategy and strategic management almost synonymously. Their co-factor analysis of nouns and verbs was relative to their involvement in strategic management rather than about definition of the word strategy. It was, in effect, an attempt to define two words rather than one, using a form of voting process. This method can only produce definition by extension, not intension.

Many of the above definitions focused on the content of strategic management rather than on the process of the English language definition of a word. This lead to competing definitions by extension rather than to definition by intension, which enables the essential meaning to be determined.

This discussion finds no reason to change the derived definition.

Step 9 Check against the five rules

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10 Report the derived definition

The derived refined definition is as follows:
- Strategy = the pattern in a series of actions.

Defining strategic management

Define 'management'

Step 1 Define derivative or component terms

Management is a derivative of the word manage, which will be defined first.

Step 2 Survey lexical usage

Lexical usage is surveyed in Tables 3a and 3b, which show only the key parts of the dictionary definitions.

Insert Tables 3a and 3b here.

Step 3 Analyse lexical usage

In Table 3a, the most commonly used words are control, deal with, in (or take) charge of, handle, direct, organise and supervise. The most general is to take charge of, which covers both organising and supervising. To deal with and to handle are both vague terms that can mean other things as well as management, such as punishing or debating. Control and direct have been separately defined as part of a group of power related terms not reported here, using the above method, as:

- Control = to ensure that actions occur in a particular way.
- Direct (v) = to give orders, commands or instructions.

McGrath and Whitty (2015) have defined governing as directing and controlling. Managing the ongoing operation of an organization is generally much broader than the governance structures and processes it is directed and controlled by and taking charge captures that essence. The sense of succeeding that is present in some definitions implies managing well and to avoid value judgement, will not be considered.

In Table 3b, the most commonly used words are the act, art, manner, practice and process of managing/ controlling/ organising/ coordinating/ dealing with. Act is the most generic of the genus terms and includes practice and process. The words art and manner are more descriptive of style than of the activity. The alternatives for the difference term of managing are all discussed above, with the exception of coordinating, which did not receive a mention in Table 3a. Two sources list organising and controlling (Cambridge and Longman). One lists organization and coordination (Business). By including two descriptors, both sets of words include the sense of both organising something and then monitoring operations and taking corrective action. However, it could also be argued that organising involves coordinating anyway, and furthermore, both aspects are covered by taking charge. If there is someone taking charge of an activity, then it is being managed, whether it is in the organization or operations phases.

Step 4 Develop a connotative (intensional) conventional definition

Manage will be tentatively defined as to take charge, and management will be tentatively defined as the act of managing (taking charge).

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Step 5 Report academic review of definitions

Borgelt (2014) surveyed definitions of both leadership and management. She found definitions of management congregated around two main schools, typified by Rost and Mullins, and she was principally concerned with avoiding overlap between leadership and management within the organizational context. Borgelt (2014, p. 50) first considered "Management is an authority relationship between at least one manager and one subordinate who coordinate their activity to produce and sell particular goods and/or services. (Rost 1991, p. 145)." She noted this definition included extraneous items (production, sales, goods and services) and excluded self-management and particular circumstances where no authority exists. This led her to prefer the definition of the other school "[M]anagement takes place within a structured organizational setting and with prescribed roles; is directed towards the (set) aims and objectives; is achieved through efforts of other people (or self); and uses systems and procedures (Mullins 1989, p. 166)" (Borgelt 2014, p. 50). She noted that this "contains no reference to selling and allows for self-management". However, while this is the case and this definition does facilitate the distinction between leadership and management within the organizational context, there are other contexts within which the term management is used which this definition does not readily cover, such as a family situation, where household finances are managed.

The Mullins (1989) definition could be considered either a precising definition or a definition by extension. It is also very specific to the organizational context and cannot readily be reduced to essential concepts. However the Rost (1991) definition can be reduced to a satisfactory definition by intension if its specifics of authority, relationship and subordinate are omitted and a more generic description of purpose (rather than the very specific production and selling of goods and services) is adopted. This produces a definition of management as 'coordination of activity to produce an outcome'. This definition satisfies Borgelt's requirements regarding selling, self-management and keeping separate the concepts of management and leadership.

Step 3 concluded that taking charge was more generic than coordination, and so this will be replaced to give 'taking charge of activity to produce an outcome'. The question then remains as to whether the qualification 'to produce an outcome' is essential. There would be little point taking charge of something if there was no purpose. That purpose could range from doing something for the good of the managed entity to doing something for the good of the manager. Either way, there is still an outcome desired. In the interest of avoiding tautology, qualification will be considered unnecessary and removed, leaving the definition proposed in Step 4 unchanged.

Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Only check (a) is necessary.

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Step 8(a) Consider historical usage

The early management work of Fayol (1949) published in English 24 years after his death, and 33 years after its original publication in French in 1916, set out the five primary functions of management as being to forecast and plan, organise, command or direct, coordinate and control (which in the French sense of the word also included monitoring). The proposed definition above is silent on forecasting and planning but does not preclude them. The same can also be said for the Rost (1991) and Mullins (1989) definitions. This presents no problem for a definition by intension. The remaining four Fayol primary functions and in fact all five, for that matter, can be seen as extensions of the type of activity necessary to coordinate activity to produce an outcome. So the Step 4 definition is consistent with the early meaning of the term 'management' as outlined within an organizational context while not limiting its meaning to that context.

Step 9 Check against the five rules

The definition of manage is operational. The definition of management is by genus and difference and does satisfy Rules 1 to 5.

Step 10 Report the derived definition

The derived definition is as follows:
- Manage = to take charge.
- Management = the act of managing (taking charge).

Define 'strategic management'

Step 1 Define derivative or component terms

Management is a derivative of the words strategy and management which have been defined above, removing the need for Steps 2 and 3.

Step 4 Develop a connotative (intensional) conventional definition

Combining the two terms that have already been defined above produces the following definition: the act of taking charge of the pattern in a series of actions. This is generic and can be applied on an individual as well as an organizational basis. It is silent on means of implementation, allocation of resources etc.

Step 5 Report academic review of definitions

This has been addressed in defining strategy.

Step 6 Remove unwarranted inclusions

There is one such inclusion regarding time-scale that results from simply combining the definitions of these two words. Carrying out the activity of strategy development in the present time requires dealing with future activity. Strategic analysis of past actions

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determines what the strategy actually was. Note that in the preceding two sentences, qualifiers are used around the word strategy to denote time. Strategic management cannot be done as a back-analysis. A set of past actions will have been strategically managed by someone else already, whether intentionally or not and those activities are no longer available to be strategically managed. Strategic management has future intent. The definition of strategy must be neutral on time-scale to allow for past, present and future, but this is inappropriate when combining these two words together into a new term. The definition will therefore be modified to the act of taking charge of the pattern in a series of future actions.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

None present or required.

Step 9 Check against the five rules

The definition satisfies Rules 1 to 5.

Step 10 Report the derived definition

The derived definition is as follows:
- Strategic management = the act of taking charge of the pattern in a series of future actions.

Group rules post definition

Cross check 1 Consistency within group

The definitional method has not resulted in any inconsistency between terms in this group.

Cross check 2 Consistency with terms outside the group

There is no known overlap of meaning of any of the above group of terms with any other

term outside the group that would prevent the definitions being accepted.

Summary of definitions

The accepted Oxford Dictionary definition is as follows:
- Plan: a detailed proposal for doing or achieving something

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Other accepted definitions derived using the McGrath and Whitty (2015) method are as follows:
- Control: to ensure that actions occur in a particular way
- Direct: to give orders, commands or instructions

The definitions derived in this paper are as follows:
- Lead: to show the way
- Leader: one who leads (shows the way)
- Leadership: the act of leading (showing the way)
- Strategy: the pattern in a series of actions
- Manage: to take charge
- Management: the act of managing (taking charge).
- Strategic management: the act of taking charge of the pattern in a series of future actions

Observations and refinements on the method and its application

On the method

Analysis of the method indicated that in Step 10, the word 'adopted' should be 'derived'. This change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word derived.

Definitional step 2 of the method indicates lexical usage can be omitted if there is a known, comprehensive academic review of definitions of the term. Such reviews existed for leadership and management. The extensive reviews conducted by two academic sources two decades apart, who both settled on the same definition of leadership, had tempted the authors into just accepting it. However closer examination revealed that although it was an intensional definition, it was actually of one particular extension of the word. It was therefore necessary in both cases to do the lexical analysis anyway. In both cases, the academic definitions had focused on a particular extension, resulting in unwarranted exclusions. The allowed omission in Step 2 of the adopted method should therefore have an additional qualification "that has produced a definition by intension, not specific to any extension".

On the application of the method

Application of the chosen method has enabled clear non-normative definitions of the essence of the contested English language words strategy, leadership and management, as well as the compound term strategic management.

The definitions derived from lexical analysis was unchanged by the academic analysis for management and leadership. For strategy, logical analysis of the lexical input produced a definition that had little resemblance to any of the starting definitions, and the subsequent analysis of academic definitions modified this only slightly.

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Implications

The analysis highlighted the veracity of defining by intension rather than by extension whenever possible, as well as the advisability of articulating any silent or assumed qualifiers to avoid defining a phrase rather than a word, which can result in difficulties when using a term across different fields.

A common factor in the definitions of strategy and leadership was confusion between the subject of the (English grammatical) rules and the rules themselves, or to put it another way, between the use of the tool (or rule or artefact) and the tool itself, or to put it yet another way, between the English language process of defining a word and the content it signifies. McGrath and Whitty (2015) also found this to be the case for governance. In the case of strategy, this had resulted in attempts to find a common essence of a series of phrases, the futility of which is evident from the fact that the qualifying words are actually needed to describe something that is actually different.

Defining strategy highlighted definitional confusion between strategy and strategic management, similar to what McGrath and Whitty (2015) found between governance and corporate governance. The problem of treating and defining a general term within the boundary of a particular field appears to occur when authors in that field do not recognize their preoccupation with that field. This seems to lead to overlooking the grammatical rules of the English language game and creation of private language, specific to that particular field. This causes a problem when subsequent attempts are made to apply it generically outside that field.

Another trend observed was the tendency for simplicity of understanding and expression to become lost in confused complexity over time, such as occurred in strategic management where the 1978 definition of strategy was found to be closer to the essential meaning than any subsequent one.

Unnecessary confusion can occur when the meanings of particular words are not universally accepted. The process used in this paper can be likened to a pastry mangle, which takes a variety of inputs and produces a smooth uniform output. The starting blobs of inputs consist of the ways people use and interchange terms. The process applied here analyses these and resolves this to sort out the mess of conflicting meanings that people using the words are often unaware of.

The approach taken here also satisfies Popper's requirements for objective knowledge (Popper & Notturno 1994, p. 89). He points out that the scientific method can only falsify and that any theory is contestable and should provide a means by which it can be tested. The means of testing here is clear; if anyone can find a valid circumstance that the definition does not allow for, then it requires re-working to accommodate all the previous circumstances considered as well as the new circumstance identified.

Conclusions

This paper has developed clear definitions of the essence of several contested English language terms, namely leadership, strategy, management and strategic management. It has also resolved clearly the distinction between a strategy and a plan, removed problematic

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specific extensions from the definitions of leadership and management and proposed a resolution to long standing contest around the meaning of the term strategic management.

Adoption and use of these refined definitions can provide clarity of meaning, avert development of field specific and differing 'private language' and contribute to avoiding confusion and misunderstanding. This can benefit the community in general and practitioners and researchers in particular, saving time, resources and money. While it is not possible without speculation to estimate the savings that can result from widespread adoption of these definitions, continuation of the confusion around these concepts cannot possibly enhance productivity or reduce conflict. Successful application of the definitional refining method here indicates its potential suitability for application to other contested terms.

A key feature of the method used is its differentiation between the definitional process and the content (the material dealt with), facilitated through its non-normative and non-emotive approach to determining essence.

Two minor changes to the method are indicated as follows:
1. Step 2 should have an additional qualification at the end stating "that has produced a definition by intension, not specific to any extension."
2. Step 10 of the method should read "Report the ~~adopted~~ derived definition".

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Table 1a
Definitions of 'lead' (vt)

Dictionary	Definition of lead (All sourced on 9/6/2016 ex Macquarie 3/4/2018)
Business	Not defined
Cambridge	To show the way.
Collins	1. to show the way to (an individual or a group) by going with or ahead 2. to guide or be guided by
Concise Oxford	1. Conduct, guide, esp. by going in front
Dictionary.com	1. to go before or with to show the way; conduct or escort: 2. to conduct by holding and guiding: 3. to influence or induce; cause:
Longman	1. Take somebody somewhere by going in front of them 2. Go in front
Macmillan	– to show someone the way to a place by going there with them
Macquarie	1. to take or conduct on the way; go before or with to show the way.
Merriam-Webster	*1 a* : to guide on a way especially by going in advance
Oxford	1. cause (a person or animal) to go with one
The free dictionary	1. To show the way to by going in advance: 2. To guide or direct in a course:
Wiktionary	Not defined

Table 1b
Definitions of 'leader'

Dictionary	Definition of leader (All sourced on 9/6/2016 ex Macquarie 3/4/2018)
Business	A person or thing that holds a dominant or superior position within its field, and is able to exercise a high degree of control or influence over others.
Cambridge	– A person in control
Collins	1. a person who rules, guides or inspires others;
Concise Oxford	– Counsel who leads in case
Dictionary.com	1. a person or thing that leads.
Longman	1 the person who directs or controls
Macmillan	1. someone who is responsible for or in control of
Macquarie	1. someone or something that leads.
Merriam-Webster	*1* : something that leads:
Oxford	1. The person who leads or commands
The free dictionary	1. One that leads or guides. 2. One who is in charge or in command of others.
Wiktionary	Any person that leads or directs

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Table 1c
Definitions of 'leadership'

Dictionary	Definition of leadership (All sourced on 9/06/2016 ex Macquarie 3/4/2018)
Business	2. The activity of leading a group… or the ability to do this.
Cambridge	– The position or fact of being a leader: – The person or people in charge:
Collins	1. the position or function of a leader: 3. the ability to lead 4. the leaders as a group:
Concise Oxford	Not defined
Dictionary.com	1. the position or function of a leader, a person who guides or directs a group: 2. ability to lead:
Longman	1 the position of being the leader 4 the position of being in front of others in an activity or competition:
Macmillan	1. the position of being the leader or being in charge
Macquarie	1. the position, function, or guidance of a leader.
Merriam-Webster	*1* : the office or position of a leader *2* : capacity to lead
Oxford	The action of leading a group… or the ability to do this:
The free dictionary	1. The position or office of a leader: 2. Capacity or ability to lead: 3. A group of leaders: 4. Guidance; direction:
Wiktionary	1. the capacity of someone to lead

Table 2
Definitions of 'strategy'

Dictionary	Definition of strategy (All sourced on 12/1/14 ex Macquarie 3/4/2018)
Business	1. A method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem. 2. The art and science of planning and marshalling resources
Cambridge	a detailed plan for achieving success
Collins	2. a particular long-term plan for success
Concise Oxford	Generalship
Dictionary.com	4. a plan, method, or series of manoeuvres or stratagems for obtaining a specific goal or result
Longman	1 a planned series of actions for achieving something
Macmillan	1 a plan or method for achieving something, especially over a long period of time
Macquarie	1. a plan which is devised to achieve a particular outcome.
Merriam-Webster	: a careful plan or method for achieving a particular goal
Oxford	1a plan of action designed to achieve a long-term or overall aim
The free dictionary	2. A plan of action resulting from strategy or intended to accomplish a specific goal.
Wiktionary	2 A plan of action intended to accomplish a specific goal.

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Table 3a
Definitions of 'manage'

Dictionary	Definition of manage (All sourced on 13/06/2016 ex Macquarie 3/4/2018)
Business	1. To control
Cambridge	dealing with something, especially something difficult
Collins	1. to be in charge (of); 4. to exercise control or domination over
Concise Oxford	Handle, wield; conduct (undertaking); control (household, institution, State); take charge of
Dictionary.com	2. to take charge or care of: 4. to handle, direct, govern, or control in action or use:
Longman	1 to direct or control
Macmillan	3 organize and control
Macquarie	Not available
Merriam-Webster	• to have control of (something • to take care of and make decisions about • to handle or direct
Oxford	1 Be in charge of; run: 1.4 Maintain control over
The free dictionary	a. To have charge of; direct or administer: b. To exert control over; regulate or limit toward a desired end: c. To direct or supervise (employees or other staff):
Wiktionary	1. To direct or be in charge of. 2. To handle or control

Table 3b
Definitions of 'management'

Dictionary	Definition of management (All sourced on 13/06/2016 ex Macquarie 3/4/2018)
Business	The organization and coordination… to achieve defined objectives.
Cambridge	The control and organization of something:
Collins	3. the technique, practice, or science of managing, controlling or dealing with
Concise Oxford	governing body, board of directors, etc.
Dictionary.com	1. the act or manner of managing; handling, direction, or control.
Longman	**1** the activity of controlling and organizing the work
Macmillan	1 the control and operation of A) the people who control and operate 2 the process of controlling or managing something
Macquarie	Not available
Merriam-Webster	1 : the act or art of managing : the conducting or supervising of
Oxford	1 The process of dealing with or controlling things or people:
The free dictionary	1. The act, manner, or practice of managing; handling, supervision, or control:
Wiktionary	1. Administration; the process or practice of managing.

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Power defined - Part 1: Power and its exercise

Abstract

These two papers seek to remove definitional overlap and confusion from a group of terms concerning power. The first paper deals with the inadequacy of single term definitions and adopts an appropriate method for developing non-overlapping definitions for a group of power terms. The terms selected are: legitimacy, authority, power and influence in Paper 1 followed by direct, control, regulate and regulation in Paper 2. The selected terms are then arranged into a diagram which is fleshed out with other non-contested, non-overlapping terms into a model representing the machinery of power. Several thought experiments are then conducted on the model and means of driving it are then considered. The definitional approach taken is strictly non-normative, non-behavioural and non-institutional, thereby avoiding the issues of the morality, strategies and outcomes of exercising power. Consequently, no evaluation is offered of social or political theory; terms are simply defined and the implications of these definitions explored, resulting in an understanding of the consequent mechanics of power within an internally consistent definitional framework. It was then found that previous and contemporary power theories could be easily located within this framework.

Keywords: power, authority, influence, legitimacy (Paper 1), power, direct, direction, control, regulate, regulation (Paper 2)

Introduction

This research originated from the area of governance at the interface between organisations and their projects, where it became clear that an understanding of the exercise of power was necessary. A definition of power was sought and it soon became evident that there was no commonly accepted definition. A similar problem had previously been encountered regarding governance itself and a method had recently been successfully applied there to achieve definitional consistency. We therefore set out to determine if a purely definitional approach might resolve the contestability of definitions of power. A comprehensive definitional analysis was completed and it became evident that this definition of contested terms could be expanded to include many other non-contested terms. This developed into a comprehensive mapping of power terms into a model and it was found that previous and contemporary power theories could then be easily located within it.

Reporting both application of the method and developing the terminology mapping exceeded the normal paper length and separating these two tasks did not produce balanced length papers. Consequently two companion papers have been prepared. This first paper reviews the contested nature of power, points out the inadequacy of single term definitions, considers desirable attributes of any analysis method, outlines the philosophical approach taken, adopts an appropriate method then applies it to determine the group of power terms to be defined before proceeding to define legitimacy, authority, power and influence in non-overlapping terms. The second paper defines the remaining terms, namely direct, control, regulate and regulation, before arranging all the defined terms together with other non-contested terms into a diagram or model representing the machinery of power. Several thought experiments are conducted on the model before considering means of driving this machinery of power.

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The definitional approach taken is strictly non-normative, non-behavioural and non-institutional, thereby avoiding the issues of the morality, strategies and outcomes of exercising power. Consequently, this paper offers no evaluation of social or political theory; It simply defines and then attempts from these definitions to understand the consequent mechanics of power within an internally consistent definitional framework. We do survey the work of others, not to evaluate their theory or conclusions, but to cover the field sufficiently to ensure we have not excluded any view whose omission could potentially invalidate the derived definitions.

Definitional confusion regarding power terminology

Power is a term that is often used synonymously with authority and has also been defined differently within different fields of study. It has been considered by some to be an 'essentially contested concept' (Lukes 1974, p. 26; Sadan & Flantz 1997, p. 70); Lukes (2005, p. 30); (Nye 2011, p. 5; Dowding 2012, p. 119). Turner (2005, p. 5), while not explicitly mentioning these exact words, comes very close, noting 'we use the term in ordinary parlance confident that we know what it means until we are asked to define it', and reiterating the view of Fiske and Dépret (1996, p. 54) 'of endless difficulties in trying to define it.' Turner (2005) also notes that 'power and influence are not properly distinguished in standard theory' and that 'It has proved difficult to differentiate consistently (power) from related constructs of influence, compliance, control, dominance, authority, status and rank'. Fiske and Dépret (1996, p. 55) also paraphrased Lukes (1986, p. 17) as follows: 'every attempt at reaching a single definition of power has failed, and is likely to fail'. We will take the view that this may be so until one steps outside social theory, accepts that machines also have power and realises that the method of learning language does not serve as definition (Copi & Cohen 1990, p. 146).

Is power really an essentially contested concept?

The description of some concepts as essentially contested was developed by Gallie in his 1956 publication and he gave four tests for a concept to qualify as such. The first test requires that 'it must be appraisive in the sense that it signifies or accredits some kind of valued achievement' (Gallie 1956, p. 171). There is no achievement implied by the word power that makes any linguistic or grammatical sense. The word is not appraisive and so it fails to warrant proceeding to the other three tests, which all relate to this achievement (Gallie 1956, pp. 171,2). Furthermore, even if it did not fail this test, a claim to essential contestability can only be sustained if 'it is quite impossible to find a general principle for deciding which of two contestant uses of an essentially contested concept really "uses it best " ' (Gallie 1956, p. 189). We have developed such a general principle while reviewing academic definitions of power below. Therefore on these two grounds, power cannot be considered an 'essentially contested concept'. It has, of course, been contested and we attempt below to resolve that.

Why is definition of the word power important?

A concept is an idea held in the mind of an individual. Terms are written or spoken representations of concepts. A term can be either a word or a phrase, and the meaning of a phrase is determined by first defining the component words. In this paper we seek definitions that would not be disputed by anyone using a particular word. Our derived definitions do not have to be sufficient for everyone's purposes, just not in conflict with the basic intent of its

usage. We seek to maximise alignment between the general understanding of a concept and the meaning of the term (word or phrase) used to describe it.

Much can be denoted or signified by the word power; political power, biological power, personal power, mechanical power, the power of beautiful forms, and so on. There is no common meaning across these different types of power. But these terms are contingent upon having a common understanding of the word power. We contend that much of the contest around the meaning of the word power stems from desire to define the different types of power, such as political power or power-to or power-over, rather than just defining the word power itself. We seek to remove the confusion of defining a phrase with an assumed or silent qualifier. We describe a physically strong man as powerful and do not say we are talking about biological power. We describe a prime minister as powerful and do not say we are talking about political or social power. We say a car is powerful and do not say we are talking about mechanical power.

Any attempt to develop a conceptual definition that covers all the different types of power must be nebulous and not at all amenable to representation in any model. If the terms (words and phrases) used in describing the concepts involved in the various types of power were defined uniquely and unambiguously, it would then be possible to develop a representation or model by working through the implications of the definitions. This, in turn, would make it possible to map approaches to exercising power in particular circumstances, indicating gaps and alternative options. The way power is exercised can become an issue in itself, complicating resolution of conflict in circumstances ranging from personal to international. So the existence of such a model or mapping technique would facilitate dispassionate evaluation of conflict situations, providing a basis for separating out emotive issues.

While a definitional exercise alone can produce clarity, developing a representation of these definitions as their implications are explored adds to the effectiveness of the approach. Together they have the potential to reduce waste resulting from confusion and unnecessary and avoidable disagreement and to consequently increase productivity.

This paper defines the word power and terms related to it, analyses the implications of these definitions and develops a model that can be used to indicate other ways of exercising power that may not have been immediately apparent.

The ontology of definition

There are words commonly used in definition whose meaning is not disputed. Such words are:

- Concept = an abstract idea (Oxford).
- Term = a word or phrase used to describe a thing or to express a concept (Oxford).
- Meaning = What is meant by a word, text, concept or action (Oxford).
- Definition = A statement of the exact meaning of a word (Oxford).
- Process = A series of actions or steps taken in order to achieve a particular end (Oxford).

A further necessary term has been defined by McGrath (2018) as:

- Essence = A property or group of properties of something without which it would not be what it is.

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There is a further important term that, while not contested, can benefit from increased specificity and we will define it more closely:

- Content = [mass noun] The material dealt with in a speech, literary work etc. as distinct from its form or style (Oxford). This is a definition by genus and difference. The difference refers to particular, specific extensions, although inclusion of etc indicates possible wider applicability. We will make this clear by genericising and including additional extensions. We therefore define content as the material dealt with in a theory, representation, process, form or style.

A term (word or phrase) used to denote a concept is a written or linguistic representation of the meaning of that concept that applies to all its content areas. It is a model in words of the meaning of a concept. A concept exists in peoples' minds. The term representing it exists in sound waves or on a printed page. While using the same term to denote a concept, people can have different understandings or experiences of it.

The content that a term is applied to can have nuances, types, classifications and sub-classifications, all of which may have different value in different circumstances. For a concept to be universally understood, the definition of the term denoting it needs to accommodate all of these content areas without being dependent upon or hostage to any one of them. The definition of a concept must therefore be done in terms of the essence that all of its instantiations possess.

We define in words that represent the essence of a concept as closely as possible so that essence and definition become indistinguishable. If a definition does not express the essence of a concept or particularises it, then there is a discrepancy between the two requiring resolution.

Approach

McGrath and Whitty (2015) proposed a set of terms to remove confusion from governance terminology and in so doing demonstrated the pitfalls of defining contested conceptual terms within the bounds of one single field and in isolation from other terms. This also effectively demonstrated the difficulty in progressing from defining objects to defining concepts. As Heidegger (1962) noted 'It has long been known that ancient ontology works with 'Thing-concepts' and that there is a danger of "reifying consciousness" …. Why does this reifying always keep coming back to exercise its dominion?' Interestingly, as Stolorow et al. (n.d.) note, Heidegger himself later fell into this very same difficulty in hypostasizing his own concept of being.

Copi and Cohen (1990, p. 146) also note that 'The primary way of learning to use language is by observation and imitation, not by definition' and 'the process of frequently hearing the word when the object it denotes is present.' They go on to say 'But such a process would not be a definition at all … it would be the primitive, pre-definitional way of learning to use language.' Copi and Cohen (1990, p. 147) also comment on the difficulty presented by opinion in defining 'subjective connotative' definition which they state is

> The set of all attributes the speaker believes possessed by the objects denoted by that word. But this set plainly varies from individual to individual and even from time to time for the same individual – and thus cannot serve the purposes of definition.

Clegg (1989, p. 21) also notes 'In constructing, representing and making sense of a concept like power, we can never be free from the matter of words'. Clegg (1989, pp. 93, 4) also notes that

> Habermas … argues … that the search for consensus is inherent to community expressed through language, because such a speech-community can be built only on trust, not power… Power would act as a barrier to the free and unconstrained realisation of the human interest in achieving rational thought or enlightenment.

Dowding (2012, p. 133) also identifies the difficulty of normative argument as follows:

> We need to make our concepts as non-normative as possible so as not to conceal that normative disagreement within a conceptual one. To try to hide one's normative commitments by the conceptual mixing of the extensionality of a term and its normative connotations is an ideological sleight of hand. Such tricks might work for a while, but I am convinced that careful analysis will always reveal the trickster's games in the end. And we can all be exposed as tricksters if we are not careful.

Once a unique identifier is accepted for a physical object, confusion regarding its identification is removed. While the same can also apply for intellectual concepts, these require something more intellectually as there is no physical object to point at. Recognising and reaching agreement on the identification or existence of a concept is not the same thing as reaching agreement on what the concept itself actually is or what it means, especially within the context of other similar and possibly competing terms. Different people will have different opinions. Aside from random variation, opinions are also subject to the tendency of, or at least the possibility for, people to construe such concepts to advantage themselves, either deliberately or inadvertently. So the method of arriving at a commonly accepted definition for a conceptual term, and particularly for a contested one, must necessarily contain some additional processes to guard against this occurring.

Taking into account usage of a term across multiple fields provides some form of triangulation regarding commonality of meaning and usage. Defining terms as a group at least avoids doubling up or overlapping and thereby confusing meaning. Doing both can potentially remove past and prevent future confusion and conflict. Keeping definitions non-normative can reduce confusion by quarantining value-judgements and opinion to discussion of the various extensions of those concepts, rather than being inherent in their definitional intension. The adopted method includes these features.

The epistemology of the method chosen below is objectivist and uses a positivist theoretical perspective that seeks to define objective content, essence or intrinsic nature of the particular concept. However, we make no claim that the derived definitions describe anything existential as far as the concepts themselves are concerned. The definitional method used makes no provision for judgement of the content of the concept. We distinguish the content from the process of determining an acceptable meaning within the bounds of the 'language game' of English, in our case. This process does exist; it has sounds with energy that can be measured, heard and felt, forming words that have meaning to us. It simply seeks the essence of a concept that exists in peoples' minds, behind the range of definitions used and defines non-normatively using accepted English grammatical process to determine meaning. It proposes definitions which, if agreed and adopted, have the potential to remove unnecessary debate and confusion.

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This approach accepts the post-modernist view that truth is dynamic and that many forces (the meta-apparatus of society) will continually shape it, causing it to change over time. 'Where modernism played with the elements of reality … it did not challenge the concept of reality itself.' (Appleby 1996, p. 17). However, while there may be no absolute truth, if we are a society that wants to build transportation systems, education systems, health systems and so on, we need to construct a set of terms within our English language game that will direct the actions of people in a particular way that serves society best in these endeavours.

One of the ways to construct a particular truth is to agree upon certain terms and promulgate them through the various societal apparatuses to construct a discourse that leads to productivity. This means developing a discourse that all can participate in, with shared understanding of meaning, removing accidental and undetected differences. This position is therefore midway between (or partly both) realist and post-modernist, as this apparatus (ensuring consistency and universality of terminology), can satisfy people's need for order rather than disorder or chaos. It does this by removing unnecessary conflict, which, although it may be one (and only one) source of innovation, is also a significant inhibitor of productivity.

This paper therefore seeks to remove definitional overlap and confusion from a group of terms concerning power.

Method

The features outlined above are included in the method of developing consistent definitions for a group of terms that was developed by McGrath and Whitty (2015), who surveyed the literature and were unable to locate any previous such method. We will therefore adopt that method. It is set out below.

Group rules pre definition:

1. Select the group of terms to be defined.
2. Determine the order of definition as follows:
    a. Identify any inconsistencies within the group that may require one term to be defined before another.
    b. Where a compound term is to be defined, define the component terms first.
    c. Where a derivative term is to be defined, define the root term first.
    d. Where a term has a noun and a verb form, define the verb first.
3. Consider any terms that are likely to be used in definition that may themselves require prior definition.

Steps to determine a connotative (intensional) conventional definition of each term:

1. Define derivative or component terms using the root or component definitions that have previously been defined by this process or are clear and accepted in their meaning. (This obviates the need to proceed through the remaining definitional steps unless there is other reason to do so, such as confusion in the meaning of the compound or derivative term itself).
2. Survey lexical usage (This and the following two steps may be omitted if there is a known comprehensive academic review of definitions of the term).
3. Analyse this to determine the main contenders for inclusion in the definition (and show these and subsequent refined and other contributing in pale grey highlight).

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4. Develop a connotative (intensional) conventional definition. (This may be synonymous, operational or by genus and difference).
5. Report and analyse any known academic review of definitions of the term
6. Remove unwarranted inclusions.
7. Remove divergence of meaning resulting from mixing content and process by removing any reference to content (for generic conceptual terms).
8. Remove any remaining divergence of meaning and for operational definitions, consider the need for additional inclusions, by checking against the following, as appropriate to the particular term:
    a. Historical usage
    b. Field/ specialty usage - the definition most generic to as many fields as possible will be selected
    c. Practitioner usage (via practitioner literature, considering the influence of opinion and marketing)
    d. Competing concepts & frameworks (considering the influence of opinion and marketing)
9. Check any resulting definitions by genus & difference against the Copi and Cohen (1990) five rules and discard any which do not satisfy them.
10. Report the ~~adopted~~ derived definition. (Note; this change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word 'derived')

Group rules post definition:

1. Cross-check terms defined in this group for any inconsistency and resolve.
2. Cross-check any terms defined in this group known to be used interchangeably with other terms outside the group and resolve any inconsistency.

The five rules for checking a definition by genus and difference, sourced from Copi and Cohen (1990, pp. 151-5) are as follows:

1. States the essential attributes of the species
2. Avoids circularity
3. Neither too broad nor too narrow
4. Avoids ambiguous, obscure or figurative language
5. Affirmative rather than negative.

Lexical usage will be sourced from the following dictionary sources:

1. A range of dictionaries that have been well known for many years that were available (in 2013/ 14) online (Cambridge ; Collins ; Longman ; Macmillan ; Macquarie ; Merriam-Webster ; Oxford)
2. A range of various online dictionaries (BusinessDictionary.com ; Dictionary.com ; TheFreeDictionary ; Wiktionary) and
3. The Concise Oxford Dictionary (1964) - as a comparator for how these definitions may have changed over the last 50 years.

This method will now be applied to the power arena.

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Group rules pre definition

Group pre-definition rule 1 – Select the group of terms to be defined

Terms with contested or overlapping meaning commonly used in this area are: power, authority, influence, direct, control, regulate and regulation. The term legitimacy is also used in association with authority and although not contested in common parlance, it has been contested academically and so will be included in the group to be selected for definition. The terms compliance, dominance, status and rank do not have contested or overlapping meaning and so will not be included.

Group pre-definition rule 2 - Determine the order of definition

Rule 2 (a) – Identify group term inconsistencies

Authority and power are often used interchangeably. While it could be argued that this paper is all about power and so it should be defined first, lack of authority can prevent some forms of power from being exercised. For example, a political party in a democracy may be capable of exercising power, but will not get the opportunity to do so if not elected. Authority will therefore be defined before power. Influence is also used in a way that may affect the exercise of power, however it is less compelling and so will be defined after power.

Rule 2(b) - Compound terms

The group contains no compound terms.

Rule 2(c) - Derivative terms

Legitimacy and legitimate have the same stem 'legitim' with the suffixes '-ate' forming the adjective and '-acy' forming the noun. Legitimacy is usually used in the sense of denoting that something is legitimate and so the adjective legitimate will be defined before the noun legitimacy. The verb form of the adjective is the same as and dependent upon the adjective form and so will be ignored.

Regulate will be defined ahead of its derivative regulation.

Rule 2(d) - Define verb form of term before the noun form

Again, regulate will be defined before regulation.

Authority is related to legitimacy and so legitimate and legitimacy will be defined before authority. Influence can affect the use of power and the exercise of authority and so will be defined next and before the more procedural terms (direct and control) and the regulatory terms, which will be last as they are outputs of the other terms. Direct will be defined ahead of control as one needs to have a direction to control against. Thus the order of definition will be as follows: legitimate, legitimacy, authority, power, influence, direct, control, regulate, regulation.

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Group pre-definition rule 3 – Definitional terms requiring prior definition

There are no other terms outside this group that have multiple meanings and are commonly used in defining power.

Define 'legitimate' and 'legitimacy'

Step 1 Define derivative or component terms

Legitimate is the root term of legitimacy and so will first be defined first.

Step 2 Survey lexical usage

Lexical usage is surveyed in Tables 1a and 1b.

Step 3 Analyse lexical usage

We will consider the adverb form only as the verb form in most of the lexical sources is defined in terms of the adverb.

Many of the references are to law. However legitimacy is also conferred by things other than law, such as professional body rules, standards or examinations. Therefore no reference to law will be accepted, nor will reference to any other field such as theatre or religion, except for some generic reference to the source making the activity legitimate. Any reference to heredity, monarchy or wedlock will also be excluded as they are not generic. Similarly, any sources making the activity legitimate will be excluded (law, rule, standard, custom, code, behaviour, principles etc. Having excluded all of these, to make the definition complete, it will be necessary to include some generic reference to the deciding source that makes the activity legitimate as well as the target group it applies to, apart from saying what it actually is.

Words used to define the word legitimate in Table 1a are acceptable, recognised, genuine, valid, conforming, allowed, reasonable, sensible, proper, regular, in accordance with, normal, justified, sanctioned, authorised, fair, official and in compliance with.

The phrases in accordance or compliance with are unnecessarily formal and other words of the group express this more succinctly anyway. Authorised will not be selected as it does not cover the norms of acceptable group behaviour which may vary depending on the circumstance for which there may be no formal authority. Sanctioned will not be used because of similar connotations. Justified will not be selected as it has an association with accountability that is not present in all circumstances. Circumstances of unexpressed and emergent group norms are not official and so this word will not be selected. Reasonable, sensible, proper, regular and fair will not be selected as some group norms may not be any of these things, yet still be condoned by the group. Genuine has a wider sense and meaning than is applicable to being legitimate and one could be genuinely illegitimate as well, so it will not be used. Allowed has the connotation of something being prevented, which is not the case when something not legitimate occurs, and so it will be excluded. Valid is a term more relating to reason and one can have a valid reason for taking action that is not considered legitimate. Something can be normal and not be considered legitimate in some circumstances. This leaves three candidates; acceptable, recognised and conforming. Recognised is too formal and not everybody might recognise a particular action as having the same acceptability. Acceptable is more generic than conforming with something, and describes an

approach to an action rather than the action itself. This leaves acceptable as the only word remaining that is both specific and general enough for generic use.

Step 4 Develop a connotative (intensional) conventional definition

There is one other word that does not appear in Table 1a and that is condoned. This is similar to authorised and sanctioned which were both ruled out, however condoned does not have the connotation of formal authority which caused these two words to be ruled out. However condoned has the association of being approved of by somebody. The word accepted does not say whether the action is approved of. It may be just not objected to without being approved of and we need to consider the case of an action that is neither approved of nor disapproved. We contend that such an action could be considered not illegitimate but does not really carry the force or imprimatur that would actually justify it being labelled as legitimate and so the positive sense of being condoned will be selected.

Legitimacy will therefore be defined in terms of condoned. This requires the addition of by and over whom. A generic specification of by whom is those with authority, taking into account the distinction between power and authority as set out in the definitions derived below. A generic specification of over whom is their affected group. This covers organisational and parental use as well as influence. It also successfully rules out immoral or unethical actions of those in authority, as well as actions not sanctioned by them. It is a definition suitable for further testing.

Most of the lexical sources define legitimacy consequentially to the definition of legitimate, as the quality or state or fact of being legitimate. The choice is between three words; quality state and fact. We will avoid the word fact as it has a connotation of determinism. Quality is more general than state and so will be selected.

Legitimate will be tentatively defined as condoned by those with authority and accepted by their affected group and legitimacy will be consequentially defined as the quality of being legitimate, or the quality of being condoned by those with authority and accepted by their affected group.

Step 5 Report academic review of definitions

There has been significant academic debate over what legitimate and legitimacy actually mean and Suchman (1995, p. 571) 'synthesises the large but diverse literature on organisational legitimacy' and proposes 'Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions' Suchman (1995, p. 574). This definition is verbose and has the unfortunate iteration of having another 'definition' within it. It also includes much about the means of measurement which were specifically excluded from the proposed definition to make it generic. However it does not conflict with the proposed definition and so provides no reason to alter the proposed definition.

Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

Step 7 Remove mixed content/ process meanings

None present.

*Step 8 Reduce div*e*rgence/ consider additional inclusions*

No additional checks are required.

Step 9 Check against the five rules

The definitions are both synonymous and by genus and difference and satisfy Rules 1 to 5.

Step 10 Report the derived definition

The derived definitions are as follows:

- Legitimate = condoned by those with authority and accepted by their affected group.

- Legitimacy = the quality of being legitimate = the quality of being condoned by those with authority and accepted by their affected group.

Define 'Authority'

Step 1 Define derivative or component terms

This is not a derivative or compound term.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 2 in the appendix.

Step 3 Analyse lexical usage

The definitions included in Table 2 are for the uncountable form only. Countable forms such as 'an authority' or 'the authorities' will be taken to have consequential definitions; one who has or those who have authority. Some definitions indicate authority has been taken to be a particular type of or differentiation of power, while some say it is a type of right and others are ambivalent regarding which it is. Many of the definitions are judicial.

The Business Dictionary definition is appealing but verbose. The later Oxford definition is concise and encompasses many of the other definitions and so will be adopted with the omission of power, which unnecessarily introduces the confusion between power and authority mentioned in the definition of power. The Merriam-Webster definition includes the additional terms orders and decisions which are not covered by enforcing obedience and are legitimate inclusions. This leaves a definition that does not mention command and control, as numbers of the other definitions in Table 2 do, however these are implied by the terms used and so do not need to be explicitly mentioned. The ability to commit resources also does not need to be mentioned as this is a consequence of being in a position to give an order.

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Step 4 Develop a connotative (intensional) conventional definition

Authority will therefore be tentatively defined as 'The right to make decisions, give orders and enforce obedience'. This is a definition by genus and difference, with the differences being operational.

Step 5 Report academic review of definitions

There are reviews of the definition of this term within the field of organisational studies. These are considered below. The term has also been used interchangeably with power and those academic sources are canvassed there.

Casey (2008, p. 87) says 'Authority is a type of power that can be distinguished in particular by the presence and effect of legitimacy. Authority is exercised over others at the same time as its operation is accepted by those over whom it is exercised'. This does not actually define the word itself without a corresponding definition of power. We are seeking to define it independently. The tentative definition does include legitimacy through its use of the phrase 'the right to' and does not conflict with this encyclopaedic reference.

We are also concerned to ensure the definition of the English language word is as generic to as many fields as possible and so need to look outside organisational circumstances. It is possible to attribute authority to someone who is not actually an authority, and to follow (obey) their advice, judgements, decisions or opinions. This may be considered to be actually illegitimate, but the person following may be unaware of this, that is they may legitimately follow an illegitimate authority. However that is a matter of value judgement, which we are abstaining from. The point is that authority can be ascribed informally in people's heads as well as by formal organisational role statement. Our definition needs to allow for but not be drawn in by that issue, otherwise we end up in the normative area, evaluating questions such as rationality and irrationality, which are irrelevant to the actual meaning of the English language words. These questions are also addressed in depth by others and have no bearing upon the point we are making. The tentative definition covers both circumstances without presuming an organisational context.

Another area of consideration is the legal area and the concept of content independent reasons for action. This is overviewed by Gur (2007, p. 179) who refers to (H.L.A.)

> Hart's basic characterisation of this notion, as follows:
>
> Content-independence of commands lies in the fact that a commander may issue many different commands to the same or to different people and the actions commanded may have nothing in common, yet in the case of all of them the commander intends his expressions of intention to be taken as a reason for doing them. It is therefore intended to function as a reason independently of the nature or character of the actions to be done.
>
> Joseph Raz … provides a similar explanation…:
>
> A reason is content independent if there is no direct connection between the reason and the action for which it is a reason. The reason is the apparently "extraneous" fact that someone in authority has said so…

This sense of possible disconnection between reason and action is not precluded by the proposed definition and so provides no reason to alter it.

Power defined - Part 1: Power and its exercise

Step 6 Remove unwarranted inclusions

There are no unwarranted inclusions remaining.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Historical check (a) and field/ speciality usage (b) are the appropriate checks for this term.

Step 8(a) Consider historical usage

As described in Step 5 of the definition of power, authority and power have historically been used somewhat interchangeably. This interchangeability has persisted to the current day, as evidenced by the definitions in Table 2. Given the historical and current confusion or ambivalence, there is no compelling historical reason to not clear this up. Macfarlane (2014, pp. 174-5) points out that

> The constitutional position was reinforced by the Magna Carta in 1215 … England was a limited monarchy, based on the voluntary acquiescence of the people, and where the King himself was bound by the same laws as his countrymen. England was an association of free men held together by mutual contracts.

In other words, the King actually had some of his authority removed. While still acknowledged as the head of the country, authority was removed to the legal system and a parliament, which actually administered the country while the aristocracy and middle classes, in Britain at least, controlled the various means of production. So while the monarch was still at the top of the social pile, he or she no longer actually directly controlled anything much as the authority had been delegated. Ruling, for the monarch, therefore came to not include governing, with its associated direct control. This separation of powers was formally expounded by Locke (Locke & Macpherson 1980) in the eighteenth century. This is also reinforced by Russell (1938, p. 194) who points out that 'ownership' is not the same thing as 'control'.

Step 8(b) Consider field/ specialty usage

Note that this term applies only to living things and not to machines.

(i) Governance perspective – the question of legitimacy

This discussion presumes the definition of legitimacy derived above. French and Raven (1959) include legitimate power as one of their five bases of power. However Galinsky et al. (2015, p. 440) regard legitimacy as a moderator or qualifier of power, noting that 'legitimacy can refer to how power is acquired or how it is exercised.' Legitimacy has the connotation of being acknowledged or accepted. Power exercised with authority (as per our tentative definition), such as in governing of a country, can be considered legitimate. Power exercised without authority, such as invasion or coup cannot be considered legitimate, but does take over authority and so acquires legitimacy, as some form of civil administration has to continue. So legitimacy is associated with authority but not necessarily with power.

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The word 'right' in the derived definition implies legitimacy as well as a licence or permission to act. The word 'enforce' implies the use of force or some form of compulsion which could result in a person or persons doing something they do not want to do, or not doing something they do want to do. The use of 'right' and 'enforce' together mean legitimate (as distinct from illegitimate) exercise of power through force or compulsion. The degree and nature of that force is a normative matter outside the purview of this paper. Continued tenure of an incumbent in any position with authority derives from conformity with both the law and any organisational governance requirements that may exist. Contravention of these may affect the tenure of the occupant rather than the existence of the position itself, with results ranging from dismissal to dictatorship, dependent upon the opinions of other organisational participants.

Options open to any social action group seeking to achieve change include attempting to obtain or influence formal authority, attempting to have formerly unauthorised activity officially condoned, and attempting to make formerly illegitimate activity made legitimate. This again makes obvious the existence of a relationship between authority and legitimacy.

These considerations provide no reason to alter the derived definition.

(ii) Strategy

The policies, approaches, strategies and actions that people in positions of authority may choose to pursue, which are not subject to the regulation of law or organisational governance, may be ethical or not and may produce the desired outcome or not. However this deals with content rather than process and provides no reason to alter the derived definition.

(iii) Individual perspective

One can lack the formal authority to do something but do it anyway, as in exercising initiative. Authority can be self-given or offered by others, either tacitly or formally through some form of organisation. Offered authority is then either self-accepted or not. The derived definition accommodates all these circumstances.

(iv) Living things

Any authority beyond that which is self-given comes from another person or living thing. In the case of some animals, a pecking order is established based upon perceived and sometimes actual might. The lack of authority that a pecking order imposes on those lower in the order may not diminish their physical power, but does limit their social ability to exercise it, as documented by Mazur (1973). However a large, unconstrained, carnivorous, hungry wild animal will not give any man authority over it and will use its superior physical power to dominate (eat). A strong physical body with a weak mind may therefore gain authority within its environment by physical means. A weak body with a strong mind (such as man) may get authority to exercise substantial organisational power by intellectual means. Again, this consideration provides no reason to alter the derived definition.

(v) Law

Consider the legal field which is concerned with the law as well as the control, judgement and prohibition terms mentioned in Table 2. The derived definition does not conflict with any of these.

Step 9 Check against the five rules

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10 Report the derived definition

The derived definition is as follows:

- Authority = The right to make decisions, give orders and enforce obedience.

Define 'Power'

Step 1 Define derivative or component terms

This is not a derivative or compound term.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 3 in the appendix.

Step 3 Analyse lexical usage

Many of the definitions in Table 3 are specific to legal, political, governmental, religious or supernatural, familial, astrological, mathematical or specific technical areas, including optics and electricity. To arrive at a generic definition, all these will be excluded. The definitions in Table 3 also do not distinguish between power, authority, control or influence, which are all used liberally throughout. To keep the definition generic, any reference to these competing terms will also be excluded. These exclusions rule out practically all the Table 3 definitions, with one common exception that was mentioned in most dictionaries, namely the ability or capacity to do something or to act.

To act is to do something whether the activity be physical or mental (exerting influence). Furthermore, to act, one must be both capable of acting (having the energy and/ or skill and/ or knowledge required at the particular time) and have sufficient authority to do so, whether this be legitimate, assumed, usurped or imposed. Authority has been defined above. Capacity covers all of energy, skill and knowledge, whereas the latter terms do not include each other. Ability and capability are similar to capacity and while any one of these could be selected, capacity will be chosen as it is more generic, covering machines as well as living things.

To propose a general meaning, it is also necessary to separate content from process. It is a generic process that is being defined here which will then be applicable to many different content areas and so any reference to content will be excluded. Many such areas have been excluded above, however this also means excluding intentionality, so that the definition will be non-normative, covering both its proper (moral) and improper use (abuse).

Step 4 Develop a connotative (intensional) conventional definition

Power will therefore be tentatively defined as 'the capacity to act', whether that capacity be exercised through force, authority or influence.

Step 5 Report academic review of definitions

Database searches on 'power' returned thousands of items which were impractical to analyse. To exclude irrelevant items, all EBSCO databases were searched on 25/10/2015 for the terms 'power' and 'define' in the title. 223 were found, returning 124 unique items and none contained any such review. A similar search was done for 'definition of power' from 2010 onwards. 99 were found, returning 59 unique items and these were examined. Most either had no direct relationship between these two terms or were about defining power in particular circumstances rather than in defining the term generally. Four items were found. Two were academic peer reviewed papers; (Dowding 2012) surveying power definitions generally and (Salthe 2010) considered power from a thermodynamic perspective. Salthe (2010) used the (Merriam-Webster) definition from Table 3, which is referred to and dealt with in Section 8(b) below.

The third was Galinsky et al. (2015, p. 422) which defined social power as 'asymmetric control over valued resources in a social relationship'. Removing the specificity of this definition to social science leaves a definition of power itself as the asymmetric control of valued resources. This cannot be accepted as a generic definition as it confuses power with authority, does not apply in any complete sense to mechanical power and power exerted through influence does not actually control the resources influenced. Galinsky et al. (2015, p. 432) note that 'Power is often conceptualised as the capacity to influence others.' While this may not be incorrect, it is incomplete without mentioning authority, apart from not accommodating machine power.

The fourth item was a book by Nye (2011, pp. 5-6) who stated:

> Power is a contested concept. No one definition is accepted by all who use the word, and people's choice of definition reflects their interests and values. Some define power as the ability to make or resist change. Others say it is the ability to get what we want.

He then referred to

> The dictionary which tells us that power is the capacity to do things and in social situations to affect others to get the outcomes we want. Some people call this influence, and distinguish power from influence, but this is confusing because the dictionary defines the two terms as interchangeable.

This is not useful for our purpose. It does not mention which dictionary 'the' dictionary is and does not admit the possibility that common usage, as reflected in some dictionaries, may be inconsistent or confused and include mixed concepts. Nye (2011, pp. 8-18) notes that 'behavioural definitions judge power by outcomes that are determined after the action'. He considers defining power in terms of the resources that can produce outcomes, but does not pursue this as he identifies the paradox that this does not always produce the desired outcomes. This includes intentionality, which we are seeking to exclude. He also considers hard and soft power, along with other normative issues which we are seeking to avoid. He distinguishes between behavioural (relational) and resource based definitions and the three aspects of relational power: commanding change, controlling agendas and establishing preferences. We need to accommodate these views of power but they are not suitable for use in the definition. Once an adjective is used before any term, it becomes an extension of meaning rather than an intensional definition of the primary term.

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This leaves the general paper by Dowding (2012) to be examined. Dowding (2012, p. 119) says 'Power is a contested concept; of that there is no doubt.' He argues that definitions should be non-normative, noting that 'power is a somewhat morally neutral concept' and that 'I am opposing those who want to moralize concepts so that actions they consider justified are only described in a language with positive normative connotations'. He notes that 'explanation always entails prediction ... Explanation is about patterning the universe through descriptive or causal inferences. It follows, however, that prediction and therefore explanation are in themselves normative'. He does describe normative approaches to power, including conflictual versus consensual theory, zero-sum and positive-sum concepts as well as soft power versus hard power. However Dowding (2012) does not himself present a definition, adopting the view, in effect, that it is many things dependent upon the circumstances. He rather suggests 'elements that might be used in its definition, such as "resources", "intensions", "persuasion", "force", and so on.'

The selected method has a non-normative approach and we have also expressed essentially the same concept as intentionality, ensuring it is excluded from our definitions. We have noticed that this is much more difficult for concepts than it is for anything within the physical field of view. We therefore found nothing in this academic review that would present a conflict with the tentative definition of power derived above. We note, however that Dowding (2012, p. 126) goes on to say 'Any term that is used in our ordinary language is likely to carry normative implications that cannot simply be rendered irrelevant by some formal definition.' While acknowledging this view, we contend that we are simply proposing a non-normative definition of power that, if agreed and commonly used, could remove unnecessary debate around the concept.

We will now address his suggestions for inclusion in a definition of power. Intention and persuasion apply only to living subjects of the application of power and so cannot be included in its generic definition. Resources may be controlled by having the authority (legitimate or usurped) to do so, but control of resources is not a universal aspect of the application of all power and so cannot not form part of its definition. Force does form part of the mechanical definition of power, but is not part of intellectual power and so also cannot form part of its generic definition. So none of these suggestions can be included.

This concludes the review of EBSCO sources and we will proceed to other items located in the references of the above four items and from other general reading and searches.

Russell (1938, p. 25) wrote of the 'impulse to power, noting 'When a moderate degree of comfort is assured, both individuals and communities will pursue power rather than wealth' and referred to the presumption of economic motivation as 'This error in orthodox and Marxist economics'. His impulse to power has some similarities with Nietzsche's 'will to power', but his treatise is concerned with understanding the various forms of power', to propose means of 'taming' it. He was writing before the outbreak of the Second World War and defined power as 'the production of intended effects'. This definition is applicable to social science but is not fully appropriate for mechanical power and so cannot be adopted here. It also does not accommodate the eventuality that unintended effects may be produced.

Nietzsche and Kaufmann (1968, p. 550) declare 'This world is the will to power and nothing besides' presupposing, as Denneson (n.d.) notes, 'that humans are always attempting to inflict their wills upon others.' Again this view is limited to the human dimension, does not accommodate mechanical power and is too narrow for generic definitional use here. Nevertheless the derived definition does not conflict with this view.

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No contemporary discussion of power would be complete without consideration of the views of Michael Foucault. These are expressed in Foucault and Gordon (1980, p. 88). 'Power is that concrete power which every individual holds, and whose partial or total cession enables political power or sovereignty to be established…' This unfortunately defines power in terms of itself. He also says (Foucault & Gordon 1980, p. 89)

> What means are available to us if we seek to conduct a non-economic analysis of power? ... We have the assertion that power is neither given, nor exchanged, nor recovered, but rather exercised, and that it only exists in action.

In other words, individuals and institutions have power and this exists only through its exercise. That presents no difficulty to there being a conceptual difference between power and authority.

He also says (Foucault & Gordon 1980, p. 89) 'We have another assertion that power is … above all a relation of force. If power is to be exercised, what sort of exercise does it involve? In what does it consist? What is its mechanism?' He concludes 'power is essentially that which it represses. Power represses nature, the instincts, a class, individuals' and (Foucault & Gordon 1980, p. 90) '[If it's force] should we not analyse it in terms of struggle, conflict and war?' He also offers a third contention that it is a contest of strength (Foucault & Gordon 1980, p. 91) and a fourth view that it is 'production, accumulation, circulation and functioning of a discourse'(Foucault & Gordon 1980, p. 93). A fifth view offered is that 'The essential role of the theory of right, from mediaeval times onwards, was to fix the legitimacy of power' and that this 'translates and puts in motion relations that are not relations of sovereignty but of domination' (Foucault & Gordon 1980, pp. 95, 6). He also says it is 'the multiplicity of force relations immanent in the sphere in which they operate and which constitute their own organization' (Foucault 1978, p. 92). This is similar to his 'relation of force' above, but with his later conclusion that power was not necessarily repressive and could also be productive.

While we have taken Foucault's considerations into account in building a generic model of power in Figure 1, there are several difficulties with attempting to use any of the above statements in a formal definition.

Firstly, while expression of the intent of human power over other humans may be repression or prevention, mechanical power is not that which it represses. The power of machines is real physical power - the ability to act when provided with the right inputs or conditions (fuel, oil, water). While this can be used to develop implements of torture or destruction, their primary function is to provide a service to man by assisting in doing or building things that are required by man – whether for construction or destruction. The intent of creating machines with power is not repression - unless they are incorporated into weapons. Furthermore, there is atomic power that releases rather than suppresses nature. Of course, as Merquior (1985, pp. 109-11) notes, Foucault did change his focus from power in the negative terms of repression to considering that it also produces (Foucault & Gordon 1980, p. 97). However, we are seeking a generic definition to avoid any potential 'essential contestability' Gallie (1956, pp. 171, 2, 80) and so will need to exclude extensions that limit a definition of power to the human interaction realm.

Secondly the view of power as a circulating discourse does not accommodate well the biological reality that as one is fed and consequently grows up, one's personal biological power increases, without it flowing from other people – that is unless the food parents give their children is regarded as part of the circulating discourse. This becomes somewhat abstract and

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also does not apply to machines, unless one also takes the view that the components needed to make a machine all flow from people. However, as one grows, one's capacity to accept and exercise authority and influence (generally) increases. Authority and influence can circulate, however one has to be alive with a certain capacity (power) to be even in the game. Similarly a machine has to be assembled and fuelled to be ready to act.

Thirdly Foucault describes the concept of power exercised by individuals in a network influencing each other as being one of the 'relations of power'(Foucault & Gordon 1980, p. 93). He appears to have not always distinguished power from its circulation, at times seeming to regard power and authority synonymously, as is commonly done in everyday use today, as evidenced by the examination of lexical use in Table 3.

For any power to be useful, it needs to be harnessed or controlled or governed (as the governor on an engine) and so we contend that this is a different concept to power itself. Authority needs to be generated to allow or govern the exercise of power. Both authority and power are needed, and machines do not exist unless created and controlled (authorised) by man. So while Foucault's definitions cannot be used in our definition, they are extensions into the social realm which do not actually conflict with the tentative definition, which is by intension.

In 'standard' power theory as enumerated in French and Raven (1959), there are five types of power: reward, coercive, legitimate, expert and referent. Raven later added informational. All of these are relative to human agents only. Nevertheless the derived definition does not conflict as these five types denote pre-existence of different circumstances that provide some particular capacity for action to occur. The French and Raven approach can be regarded as symptomatic, observing manifestations or mechanisms, in other words, extensions which are not in conflict with the tentative definition by intension .

Sayer (2012, p. 179) says 'In English we use it both to refer to a capacity or potential that some thing, person or institution possesses, and sometimes to refer to the exercise of that capacity, perhaps 'over' something else'. He also argues causality is inherent in power:

> 'Power', in its broadest everyday sense, serves as a summarising term for situations where some change is made to happen, or perhaps prevented. It is also sometimes attributed to specific objects as a property or potential they possess that may or may not be exercised. It is not a thing. There is no such thing as power-as-such, just powers of concrete particulars (Harré and Madden 1975) … A cause is simply whatever produces change. It does not have to be material; it can be ideational, whether spoken or unspoken (Sayer 2012, p. 181).

Sayer (2012, p. 179) argues persuasively 'that students of power should embrace causality and normativity'. He considers:

> full acknowledgement of our sentience and consequent capacity for suffering and flourishing is inhibited by scientistic tendencies in accounts of social life which revel in a certain coldness and the academic cultural capital associated with a refusal of everyday language, whether through a positivistic suspicion of values, emotion and feeling, or a preference for reducing persons to bodies and as wholly reducible to products of subjectivation. The situation is made worse by the hegemony of positivist framings of the issue in terms of is-ought problem (Sayer 2012, p. 191).

We concur with this view, noting that our approach is deterministic only insofar as following grammatical 'oughts' facilitates understanding and productivity. Sayer alludes to the nature of power rather than directly defining it, but this does not result in any contradiction of the

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tentative definition. He also notes that Foucault did not acknowledge causality and was concerned with the how and not the why (Sayer 2012, pp. 181, 92). In this paper at the outset we focus on the 'what'.

Turner (2005) says 'The standard theory is that power is the capacity for influence'. While this again is appropriate for human actors only, it does not distinguish authority but nevertheless does not conflict with the derived definition. He also says

> The most general meaning of power found in the literature and everyday thinking is that it is the capacity to cause effects, to have an impact on or change things, to do 'work' either in the physical or social world. At this level of abstraction, power belongs to things as well as people and affects things as well as people.

He later says 'I shall term power as impact'. He also talks of 'Power to affect the world and power through people' which only 'emerges from human social relationships, from the capacity of people to organise themselves into groups, institutions and societies.' While the derived definition makes no mention of these things, it certainly does not preclude them, as organisation into a group is usually done for the purpose of enhancing the capacity to act.

Turner (2005) then reverses the standard theory which proposes that the control of resources produces power which produces influence which produces psychological group formation. His three-process theory places group formation at the start, which produces influence, producing power which then controls resources. He claims the power is generated from influence. However this is not true of machines and is also not true of conquest, where attempts to influence have not been made or failed. Nevertheless this reverse of the standard theory does not conflict with the derived definition which is free of both precondition and causality.

Sadan and Flantz (1997) also give a brief history of power theories while making 'no pretension to survey all the existing literature in the field'. They cover power as a factor of domination (Weber 1947), the extension of this to ruling elites by Dahl (1961), the Bachrach (1963) overt and covert dimensions and the addition of the latent dimension by Lukes (1974). Sadan and Flantz (1997) state 'Power is exercised by human agents' and so provide only instantiations to be accommodated within a definition of power, none of which conflict with the derived definition.

Lukes (2005, p. 12) notes 'unending disagreements about how to define it', then states 'Power is a capacity, not the exercise of that capacity (it may never be, and never need to be, exercised)'. This contains a key element of and is very close to the definition derived above. Lukes (1974), which is reproduced in his later publication, presents three views, which he labels dimensions of analysing power from a decision making perspective (Lukes 2005, pp. 17, 29). It is worth noting that McGrath and Whitty (2015) rejected decision making as a component of their definition of governance, relegating it to being only a component of what they defined as 'organisational governance arrangements'. In a similar vein, the definition of 'direct' below is concerned with the process only and not with the content. So while analysing decisions made (first dimension), considering background values and agendas (second dimension) and any latent conflicts that may impact (third dimension) can provide a framework or process for understanding and resolving conflict, they are actually to do with content and so deal with the exercise of power rather than its actual process and mechanics.

Clegg (1989, pp. 213 - 4) proposes another three dimensional model of power circulating as in an electric circuit board with three interacting circuits. He labels these episodic, dispositional and facilitative, with the first being considered micro and the latter two macro.

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This does not conflict with the derived definition as a capacity. See the notes under Figure 1 of Part 2 for details of how these relate to the model proposed after deriving definitions for the group of power terms. Clegg and Haugaard (2009, p. 2) note 'After World War II, the consensual view of power, as a capacity for action, as 'power to', came to the fore…' They note in contemporary perceptions of power there is 'the tendency for normative issues to intrude'. The definitional method is designed to exclude normative issues and the derived definition is virtually the same as the post-war consensus. Clegg et al. (2014, p. 16) note 'However in its most general sense power constitutes simply a capacity for action, which is *power to*.'

Morriss (2002, p. xxxii) regards power as ability, which does not conflict with our definition, although we have selected the more generic term capacity rather than ability to cover machines. Morriss (2002, p. 80) also distinguishes between the concepts of abitity and ableness, referring to ability as meaning one 'can' do something, and ableness as the 'all-in can', which 'combines the "can" of ability with the presence of an opportunity. Capacity covers both words, whether the opportunity is present or not.

Allen (1998) and Allen (1999) set out to 'develop a satisfactory feminist account of power' and achieves this in a non-normative way by defining three types of power as follows:

- 'power to' as 'the ability of an individual to attain an end or series of ends' (Allen 1998, p. 34; 1999, p. 126).
- 'power over' as 'the ability of an actor or a set of actors to constrain the choices available to another actor or set of actors in a nontrivial way' (Allen 1998, p. 33; 1999, p. 123) and
- 'power with' as 'the ability of a collectivity to act together for the attainment of a common or shared end or series of ends' (Allen 1998, p. 35; 1999, p. 127).

All of these definitions have a qualifier on the noun and so cannot serve as a definition of the word itself. They are types of power rather than the essence of power itself. However she does go on to give a broad definition of power encompassing all three types as follows: 'the ability or capacity of an actor or set of actors to act' (Allen 1998, p. 36; 1999, p. 127). Removing the aspects of this definition that restrict it to the human social dimension leaves a definition almost identical to the definition proposed above. She also notes 'the entomology of the term: "power" is derived from the Latin *potere* and the French *pouvoir*, both of which mean *to be able*.' (Allen 1998, p. 36; 1999, p. 127)

Pansardi (2012) ignores 'power with' and argues that 'power to' and 'power over' are 'two analytically distinguishable aspects of a single and unified concept of social power'. However to reach this conclusion, she resorts to 'reserving the specific use of the term *power* for what individuals are able to do in a social context' Pansardi (2012, p. 82). This cannot be accepted in a generic definition for public usage.

'Power with' also corresponds with the observations of Dowding (2003, p. 307) on revealed preference analysis when he says 'One cannot conclude that because a group of individuals do not promote some end x they have no interest in promoting x. They may simply face a collective action problem'. Again, this provides nothing we can use in a generic definition. We also concur with Dowding (2003) in rejecting the proposal of Barry (2002) to equate power with resources, but for a completely different reason; it is not sufficiently generic to cover inanimate objects and animals.

Pansardi (2012, p. 74) also refers to 'the classical definition proposed by Dahl, according to which 'A has power over B to the extent that he can get B to do something that B would not

otherwise do'. This definition works only for human social situations and so cannot be used as a generic definition. Dahl (1957, p. 203) himself says

> First let us agree that power is a relation, and that it is a relation among people. Although in common speech the term encompasses relations among people and other animate and inanimate objects, we shall have our hands full if we confine the relationship to human beings.

We would agree in terms of covering all the different power relationships there may be between people and in the world generally, but insofar as actually defining the meaning that captures the of a single English word, we completely disagree and reject this definition of power as a relation as it is not generic.

In Step 3 above it, the choice between ability, capability and capacity was discussed and capacity chosen as it is more generic, covering machines as well as living things.

Haugaard (2010) argues a Wittgensteinian 'family resemblance' concept, considering 'there is no single essence that unites all these usages' Haugaard (2010, p. 424). We contend that these usages refer to all the various types (extensions) of power and we make no attempt to find a common essence among these types. We simply define the minimum common ~~essence of the~~ English language meaning of a single word, power. The essences or 'substances' of the various types of power (such as gravitational power, electrical power, political power and mechanical power) are so completely different that attempting to 'distil' a common essence across them is most certainly futile. However, to do so would also be seeking the essence of a group of phrases rather than of a single word. It must be possible to determine a minimum common meaning that captures the essence represented by the noun 'power', as this is what enables its use across these various types. The evidence does point to this being insufficient for many fields without a qualifying adjective or suffix, but this does not invalidate the meaning of the noun. If it were to do so, we would end up with a dialect or private language game, which we are seeking to avoid and which Haugaard (2010, p. 427) himself describes as 'inherently meaningless'.

For the above reasons, we also contest 'The idea that power is a family resemblance concept entails that there can be no single best definition of power' (Haugaard 2010, p. 427). We contend that the family resemblance exists because of the common use of the noun power. We must be able to determine a definition representing the essence of the concept denoted by the English language word power for it to be so used.

Haugaard (2010, p. 422) further argues ' "essential contestedness" of power does not stem from observations of empirical reality … but … from their "moral and political perspectives" '. Thus, what is at issue is a normative debate concerning moral right and wrong. This accords with our endeavour to define non-normatively. However he also maintains there are 'language games' around various power theories and states:

> One of the greatest sources of confusion in the power debates arises from the all-too-prevalent tendency for social scientists to be unaware when they move concepts from one language game to the next. In the power debate, the most frequent confusion in this regard is between normative and analytical usages. Haugaard (2010, p. 427).

While we agree much confusion arises from this source, we do not describe the analytical and normative uses as two separate language games. They may be separate games, but we do not consider them separate language games; the within-fields or subfields jargon may be different, but there is a meta-language game also being played, and that is the common

tongue that is being used, which in our case is English. We consider it useful to distinguish by the type of content rather than its language, and to not invite confusion by conceptually mixing these two together under a single umbrella term ' language game'.

While concepts are not deterministic, the grammatical rules of the English language game are, and we either all either agree on the meaning of a word or we don't. The word game does exist; it has sound energy that can be measured. The rules already exist (English grammar) and we label the word game we are playing here simply as English.

So to use its existing grammatical rules, we would agree, as noted above, that a single denotative definition of power by extension is impossible, but a connotative, intensional definition as per the adopted method is quite possible and in fact essential. This is based upon Copi and Cohen (1990) and summarised in McGrath and Whitty (2015, pp. 761-2). We therefore contend that we are not playing separate language games across the various power fields; rather, we have different instantiations of content. But within any content area, although some terminology used may be unique, we all need to play the same English language game, abide by its grammatical rules and agree on the meaning of the words we use. If we don't do this, we are inventing private language and our confusion over terminology will never be resolved.

This review of academic literature therefore finds no reason to alter the definition derived above.

A common feature evident across the types or categories or characterisations or dimensions or means of exercise or effects of power is that they all rely upon using a sometimes unspoken qualifier with the term power, in other words, a phrase. Terms such as 'power-over', a phrase whose essence could be said to be domination, 'expert power', a phrase whose essence could be said to be knowledge, or 'political power' a phrase whose essence could be said to be social interaction, have no common meaning or essence. These phrases describe types or aspects of power rather than actually defining the meaning of the simple English language word power, albeit that Galinsky, Nye, Turner, Lukes and Sayer all came very close to this, as highlighted in grey above. Such categorising may be necessary for social theory, but we are not here seeking to evaluate such theory. We are simply concerned to get a simple, working, generic definition of a single English language word, for which such categorisation is counter-productive. For that word to be used across all of these phrases, it must have its own unique essence. It is this essence, of this single English language word 'power', that we are seeking to define, not the meaning within social science of the multitude of categorisations or characterisations of the word that are possible.

The practice of omitting the qualifier can legitimately occur when repeated use is necessary within any field or community of interest. But this can cause a problem if this abbreviated or encrypted usage of a word is taken outside, where it is not understood in the same way. If it is clarity of communication we are seeking, this sort of abbreviation or shorthand is a laxity that is unhelpful. It can also invite normative considerations to creep into our understanding of words, as well as generating avoidable contest between fields for their particular usage to prevail. If by simply avoiding this practice, we could reduce by any amount the confusion and conflict in the world, why would we not do so? It is a very simple rule that would seem almost elementary to apply in any practice purporting to have any scientific aspect to it, and it cannot possibly be productive to do otherwise. There may seem to be little point in stepping back to re-evaluate when one doesn't realise one needs to, when there is a desire to 'just get on with it'; but there is no sensible reason to add unnecessary contest over the meaning of the

words to legitimate contest over normative issues. The practice of omitting the qualifier of a concept is destructive to the productivity of the wider social machine.

In summary, there is support within the academic sources for the proposed definition and the discussion of all the types or categories or characterisations or dimensions or means of exercise or effects of power has found no reason to alter it.

Step 6 Remove unwarranted inclusions

There are no such inclusions of this term remaining.

Step 7 Remove mixed content/ process meanings

None present. As mentioned in Step 3 above, the definition has excluded intentionality (content), so that it (the process only) covers both its proper and improper use (abuse).

Step 8 Reduce divergence/ consider additional inclusions

Historical check (a) and field/ speciality use (b) are the appropriate checks for this term.

Step 8(a) Consider historical usage

In the fifth century BC (Sun & Cleary 1988, p. 132) claim 'Knowledge is power'. This is a synonymous definition. However we will see below from Hobbes (1996) that there are many other synonyms for power as well and so this cannot suffice as a generic definition. Knowledge can be regarded as one of a number of capacities that enable action.

In the early sixteenth century Machiavelli wrote *The Prince* (Machiavelli & Constantine 2009). This was the first modern treatise on political philosophy and was about the exercise of power. It was concerned with the rule of Princes or sovereigns, and with how a Prince might acquire and maintain his position. It contains no definition of power.

In the seventeenth century Hobbes (1996, p. 58) defined 'The power of a man' as 'his present means to obtain some future apparent good.' This is much too narrow a definition to suffice for our purposes. However insofar as 'to obtain' implies action and some capacity is required to achieve it, this is not in conflict with the derived definition. He also mentions natural power of body and mind, servants, friends, riches, reputation, popularity, success, affability, prudence, nobility, eloquence and form. These can be regarded as capacities and not in conflict with the derived definition.

Also in the seventeenth John Locke refuted Sir Robert Filmer's justification of the divine right of kings over the life and death of his subjects. Locke (1821, pp. 2-8) refers to this as 'absolute power' and 'royal authority' and attacks its basis of 'fatherly authority' supposedly handed down from Adam. At that time, Kings were considered to have both the power and the authority to execute subjects. This accords with Foucault's view of juridical power James (2011) and presents no difficulty for the derived definition.

In the eighteenth century Adam Smith was concerned with power, but principally with respect to the division of labour. He says (Smith & Butler-Bowden 2010, p. 49)

> Wealth, as Mr Hobbes says, is power. … the power of purchasing a certain command over all the labour, or over all the produce of labour which is then in the market … it enables him to purchase or command. The exchangeable value of everything must always be precisely equal to the extent of this power which it conveys to the owner.

Smith is concerned with a particular aspect of power and refers to it rather than defining it. This is too limiting to be useful here and the intensional definition covers Smith's extension anyway.

So there is no historical reason to alter the definition derived above.

Step 8(b) Consider field/ specialty usage

Table 3 contains definitions relevant to law, mechanics, politics, government, the military, mathematics, engineering, science, finance, energy, electricity, physics, religion, sociology, psychology, astrology and family. The derived definition does not conflict with any of the Table 3 definitions relative to these fields. Strength is another descriptor that was not selected as it is also compatible with the capacity to act. Power as the time rate of doing work or energy emitted or transmitted (Merriam-Webster) is still a measure of capacity to act.

This is compatible with the approach taken in sport and the fitness industry, as indicated by Ohtake (2012, p. 15),

> Power and work capacity are one … and are often used interchangeably. Work capacity is the amount of work that can be performed in a given period of time. The more work that can be done, the greater the work capacity (i.e. more power). Power provides the foundation for any type of fitness or sport.

So examination of usage in this wide range of fields does not indicate any need to change the derived definition.

Step 9 Check against the five rules

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10 Report the derived definition

The derived definition is as follows:

- Power = the capacity to act.

Define 'Influence'

Step 1 Define derivative or component terms

This is not a derivative or compound term.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 4 in the appendix.

Step 3 Analyse lexical usage

Many of the definitions in Table 4 use the word 'power' which has already been defined and so will be excluded to avoid circular definitions and mixing concepts.

Step 4 Develop a connotative (intensional) conventional definition

In line with Group Rule 2(d), the verb will be defined first and the noun then defined in terms of the verb.

Influence (verb):

There a group of synonyms in Table 4 that generally apply to people only. These include persuade, induce, motivate, drive (to action), impel, bias and sway. A person may be influenced by events that have no element of persuasion or inducement. Impel is appealing as it describes inciting a person to action as well as affecting internal motivation and it also includes the possibility of constraint or coercion, but with a moral connotation in some circumstances which is not completely generic. This group collectively covers various means and degrees of force, from gentle to substantial and from ethical to corrupt, avoiding intentionality, but individually, none are really fully inclusive of the others and none are fully applicable to inanimate objects such as planets and magnets.

There are two other synonyms from Table 4 that do apply to people, things and animals, namely to affect or have an effect upon. However a definition in these terms would be a little too short to be fully meaningful, calling for a qualification, such as opinions, thoughts, behaviour, conduct, decisions (all applying to people and animals, and none being inclusive of all the others), movement, actions (applying also to things, and action is inclusive of movement).

The Wiktionary definition 'to affect by gentle action' is appealing, however some action that influences is not gentle. Bullying influences people's behaviour and whether physical, emotional or mental, can hardly be said to be gentle, and the gravitational pull of the earth on a human body falling from a height towards it is quite powerful, with an outcome that cannot be described as gentle. So, while inclusion of a gentleness aspect is appealing we will pass over that definition and seek to include it by other means.

The Longman's definition 'to affect the way someone or something develops, behaves, thinks, etc. without directly forcing or ordering them' is also appealing, but a little too verbose. A shorter form that encapsulates this meaning will be proposed as follows: To affect the thoughts or actions of an entity.

This is a process definition, free of intentionality, covering all forms of action, whether operating with obvious force or without direct or apparent effect. It acknowledges that one can be emotionally affected by something without being compelled to act physically and whether affected emotionally or impelled to act, one has been influenced. It covers covert influence as well as that which is overtly and publicly exercised.

Influence that has no effect is not successful influence, but it is still influence. It may also have a completely opposite effect to that desired, turning the target away from the influencer's desired action. The proposed definition is independent of the outcome and accommodates this, as well as the circumstance of two magnet ends of the same polarity being placed together, influencing each other by repelling. It also covers the historical

ethereal, occult, spiritual and moral aspects mentioned in Table 4 as well, as all these things affect the way a person thinks and acts.

Note that affecting the outcome of a process involves affecting the thoughts or actions of the person carrying it out, or introducing some chemical, mechanical or animal intervention at a particular time, all of which require a person to initiate, design or act in some way. So the proposed definition covers this aspect.

Influence (noun):

Defining the noun in terms of the verb results in the following definition: The effect of one entity upon another. This covers range of intentionality – whether good, bad or neither, as well as living & inanimate entities including magnetic and gravitational. It covers action both sensibly and insensibly exercised, operating without any direct or apparent cause.

The tentative definition of influence will therefore be 'to affect the thoughts or actions of an entity' (v) and 'the effect of one entity upon another' (n).

Step 5 Report academic review of definitions

Not relevant where there is no significant or generally recognised contention regarding meaning.

Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Checks (a) and (b) are appropriate for this term.

Step 8(a) Consider historical usage

Historical usages appear in Table 4 and, as noted in Step 4, the proposed definitions accommodate these.

Step 8(b) Consider field/ specialty usage

Step 4 has dealt with astronomical, magnetic, spiritual, occult and moral perspectives of these terms, noting that the definition accommodates all of these.

Step 9 Check against the five rules

The definitions are operational rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, they do actually satisfy them.

These definitions are generic, satisfy Rules 1 to 5 and do not conflict with the above lexical usage.

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Step 10 Report the derived definition

The derived definitions are as follows:

- Influence = (v) to affect the thoughts or actions of an entity and (n) the effect of one entity upon another.

Summary of definitions

The derived definitions are as follows:

- Legitimate (a): condoned by those with authority and accepted by their affected group.

- Legitimacy (n): the quality of being legitimate, or the quality of being condoned by those with authority and accepted by their affected group.

- Authority: the right to make decisions, give orders and enforce obedience
- Power: the capacity to act (whether exercised through authority, force or influence)
- Influence: (v) to affect the thoughts or actions of an entity and (n) the effect of one entity upon another.

Analysis and conclusion

Due to space limitations, application of the selected method to the remaining terms is found in Part 2 of the paper and so analysis and conclusions of all definitions including the three definitions in this paper appear there. Part 2 also develops a diagrammatic view of the definitions, expanded to show the parts of the machinery of power, indicating its means of exercise, enablers, mechanisms and tools. These tools are then enumerated in a table showing for each tool the channels through which it may be applied.

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Appendix

Table 1a
Definitions of 'legitimate'

Dictionary	Definition of legitimate (All sourced on 6/9/2016 ex Macquarie on 24/4/2018)
Business	Acceptable or recognized as genuine, valid, or conforming to established codes, customs, rules, or standards of conduct.
Cambridge	**Adjective** Allowed by law Reasonable and acceptable **Verb** To make something legal or acceptable
Collins	*adj* **1.** born in lawful wedlock; enjoying full filial rights **2.** conforming to established standards of usage, behaviour, etc **3.** based on correct or acceptable principles of reasoning **4.** reasonable, sensible, or valid: **5.** (Law) authorized, sanctioned by, or in accordance with law **6.** (Government, Politics & Diplomacy) of, relating to, or ruling by hereditary right: **7.** (Theatre) of or relating to a body of famous long-established plays as distinct from films, television, vaudeville, etc: *vb* **8.** (*tr*) to make, pronounce, or show to be legitimate
Concise Oxford	**Adjective** Born in lawful wedlock; Lawful, proper, regular, conforming to standard type; (of sovereign's title) based on strict hereditary right; Logically admissible. **Verb** Make legitimate by decree, enactment or proof; Justify, serve as justification for.
Dictionary.com	**adjective** 1. according to law; lawful: 2. in accordance with established rules, principles, or standards. 3. born in wedlock or of legally married parents: 4. in accordance with the laws of reasoning; logically inferable; logical: 5. resting on or ruling by the principle of hereditary right: 6. not spurious or unjustified; genuine: 7. of the normal or regular type or kind. 8 Theatre. of or relating to professionally produced stage plays, as distinguished from burlesque, vaudeville, television, motion pictures, etc.: **verb** (used with object), legitimated, legitimating. 9. to make lawful or legal; pronounce or state as lawful: 10. to establish as lawfully born: 11. to show or declare to be legitimate or proper: 12. to justify; sanction or authorize:

	His behavior was legitimated by custom. **noun** 13. the legitimate, the legitimate theater or drama. 14. a person who is established as being legitimate.
Longman	**Adjective** 1 fair or reasonable: 2 acceptable or allowed by law: 3 a legitimate child is born to parents who are legally married to each other **Verb** the usual American form of LEGITIMIZE
Macmillan	1. fair and reasonable 2. allowed by the law, or correct according to the law 3. a legitimate child is born to parents who are legally married
Macquarie	**1.** according to law; lawful. **2.** in accordance with established rules, principles, or standards. **3.** of the normal or regular type or kind. **4.** in accordance with the laws of reasoning; logically inferable; logical: **5.** born in wedlock, or of parents legally married. **6.** resting on or ruling by the principle of hereditary right: **7.** genuine; not spurious. **8.** *Theatre* relating to or denoting plays or acting with a serious and literary purpose.
Merriam-Webster	: allowed according to rules or laws : real, accepted, or official : fair or reasonable
Oxford	ADJECTIVE 1. conforming to the law or to rules: 2. able to be defended with logic or justification; valid: 3. constituting or relating to serious drama as distinct from musical comedy, revue, etc.: VERB make lawful or justify:
The free dictionary	*adj.* **1.** **a.** Being in compliance with the law; lawful: **b.** Being in accordance with established or accepted rules and standards: **c.** Valid or justifiable: **d.** Based on logical reasoning: **2.** Born of legally married parents: **3.** Of, relating to, or ruling by hereditary right: **4.** Of or relating to drama of high professional quality that excludes burlesque, vaudeville, and some forms of musical comedy: *tr.v.* (-māt′) **le·git·i·mat·ed**, **le·git·i·mat·ing**, **le·git·i·mates** To make legitimate, as: **a.** To give legal force or status to; make lawful. **b.** To sanction formally or officially; authorize. **c.** To demonstrate or declare to be justified.

| Wiktionary | Adjective
1. In accordance with the law or established legal forms and requirements; lawful.
   2. Conforming to known principles, or established or accepted rules or standards; valid.
   3. Authentic, real, genuine.
4. Lawfully begotten, i.e., born to a legally married couple.
5. Relating to hereditary rights. |

Table 1b
Definitions of 'legitimacy'

Dictionary	Definition of legitimacy (All sourced on 6/9/2016 ex Macquarie on 24/4/2018)
Business	No definition given.
Cambridge	The quality of being legal The quality of being reasonable and acceptable
Collins	The quality or state of being legitimate
Concise Oxford	Not defined
Dictionary.com	The state or quality of being legitimate.
Longman	Not defined
Macmillan	1. the fact that something is legal 2. the fact that something is fair and reasonable
Macquarie	The state or fact of being legitimate
Merriam-Webster	The quality or state of being legitimate
Oxford	1. Conformity to the law or to rules: 1.1(With reference to a child) the quality of being legitimate: 2. Ability to be defended with logic or justification; validity:
The free dictionary	The quality or fact of being legitimate.
Wiktionary	The quality of being legitimate or valid; validity.

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Table 2
Definitions of 'authority'

Dictionary	Definition of authority (All sourced on 11/1/14 ex Macquarie 24/4/2018)
Business	1. Institutionalized and legal power inherent in a particular job, function, or position that is meant to enable its holder to successfully carry out his or her responsibilities. 2. Power that is delegated formally. It includes a right to command a situation, commit resources, give orders and expect them to be obeyed, it is always accompanied by an equal responsibility for one's actions or a failure to act.
Cambridge	The moral or legal right or ability to control
Collins	The power or right to control, judge, or prohibit the actions of others
Concise Oxford	The power or right to enforce obedience
Dictionary.com	The power to determine, adjudicate, or otherwise settle issues or disputes; jurisdiction; the right to control, command, or determine.
Longman	The power you have because of your official position, official position to do something
Macmillan	The power to make decisions or tell people what to do
Macquarie	The right to determine, adjudicate, or otherwise settle issues or disputes; the right to control, command, or determine.
Merriam-Webster	The power to give orders or make decisions : the power or right to direct or control someone or something power to influence or command thought, opinion, or behaviour
Oxford	The power or right to give orders, make decisions, and enforce obedience
The free dictionary	1 The power to enforce laws, exact obedience, command, determine, or judge. 2 Power assigned to another; authorization
Wiktionary	The power to enforce rules or give orders.

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Table 3
Definitions of 'power'

Dictionary	Definition of power (All sourced on 7/1/2014 ex Macquarie 24/4/2018)
Business	1. Ability to cause or prevent an action, make things happen; the discretion to act or not act. Opposite of disability, it differs from a right in that it has no accompanying duties. 2. Law: (1) An instrument transferring or vesting legal authorization. (2) The ability conferred on a person by law to determine and alter (by his or her own will) the rights, duties, liabilities, and other legal relations, of himself or others.
Cambridge	1. ability to control people and events: 2. the amount of political control a person or group has in a country:

Collins	1. ability or capacity to do something
	2. *(often plural)* a specific ability, capacity, or faculty
	3. political, financial, social, etc, force or influence
	4. control or dominion or a position of control, dominion, or authority
	5. a state or other political entity with political, industrial, or military strength
	6. a person who exercises control, influence, or authority
	7. a prerogative, privilege, or liberty
	8. 1 legal authority to act, esp in a specified capacity, for another
	   2 the document conferring such authority
	9. 1 a military force
	   2 military potential
	10. *(mathematics)*
	   1. the value of a number or quantity raised to some exponent
	   2. *another name for* exponent (sense 4)
	11. *(statistics)* the probability of rejecting the null hypothesis in a test when it is false. The power of a test of a given null depends on the particular alternative hypothesis against which it is tested
	12. *(physics*, *engineering)* a measure of the rate of doing work expressed as the work done per unit time. It is measured in watts, horsepower
	13. 1 the rate at which electrical energy is fed into or taken from a device or system. It is expressed, in a direct-current circuit, as the product of current and voltage and, in an alternating-current circuit, as the product of the effective values of the current and voltage and the cosine of the phase angle between them. It is measured in watts
	   2 *(as modifier)* ⇒ a power amplifier
	14. the ability to perform work

Concise Oxford	Ability to do or act, vigour, energy, active property, government influence, authority (over), authorisation, delegated authority, influential person, body or thing, deity, large number or amount, mechanical energy, capacity for exerting mechanical force.
Dictionary.com	1. ability to do or act; capability of doing or accomplishing something. 2. political or national strength. 3. great or marked ability to do or act; strength; might; force.

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	4. the <u>possession</u> of <u>control</u> or command over others; authority; ascendancy. 5. political ascendancy or control in the government of a country, state.
Longman	1 the ability or right to control people or events 2 the position of having political control of a country or government 3 the ability to influence people or give them strong feelings 4 the right or authority to do something: 5 a natural or special ability to do something 6 energy that can be used to make a machine work or to make electricity - nuclear/wind/solar etc power 7 the ability to earn money, buy things etc 8 the physical strength or effect of something

Macmillan	1 the ability to influence or control what people do or think
	  a.the ability to achieve something or to make something happen
	  b. a natural or unusual ability for doing something
	2 political control of a country or government
	  a. official or legal authority to do something
	  b. a country that is able to influence other countries because of its economic or military strength
	3 energy obtained from oil, coal, the sun etc, used for operating equipment and machines
	  a. the supply of electricity to your home, office, community etc
	4 physical force or strength
	5 the ability of a machine or vehicle to operate quickly and effectively

Macquarie	**1.** ability to do or act; capability of doing or effecting something. **2.** (*usually plural*) a particular faculty of body or mind. **3.** political or national strength: *the balance of power in Europe.* **4.** great or marked ability to do or act; strength; might; force. **5.** the possession of control or command over others; dominion; authority; ascendancy or influence. **6.** political ascendancy or control in the government of a country, etc.: *the party in power.* **7.** legal ability, capacity, or authority. **8.** delegated authority; authority vested in a person or persons in a particular capacity. **9.** a written statement, or document, conferring legal authority. **10.** someone or something that possesses or exercises authority or influence. **11.** a state or nation having international authority or influence: *the great powers of the world.* **12.** a military or naval force. **13.** (*often plural*) a deity or divinity. **14.** *Theology* a member of the sixth order of angels. See **angel** (def. 1). **15.** *Colloquial* a large number or amount. **16.** *Physics* the time rate of transferring or transforming energy; work done, or energy transferred, per unit of time. **17.** mechanical energy, as distinguished from hand labour. **18.** *Electricity* the rate, per unit of time, at which electrical energy is transferred by an electric circuit; the SI unit of power is the watt.

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	19. electric current, especially as supplied to domestic and commercial customers by an energy provider: *the power's off.* **20.** a particular form of energy: *nuclear power*; *electrical power.* **21.** *Mathematics* the product obtained by multiplying a quantity by itself one or more times: *4 is the second, 8 the third power of 2.* **22.** *Optics* the magnifying capacity of a microscope, telescope, etc., expressed as ratio of diameter of image to object. –*verb* (*t*) **23.** to supply with electricity or other means of power. **24.** (of an engine, etc.) to provide the force or motive power to operate (a machine): **his father gave him an ingenious toy boat. Cheap and simple, it was powered by steam.* –RODNEY HALL, 1987. –*verb* (*i*) **25.** to move with a surge of power: *to power past an opponent.* –*adjective* **26.** providing electricity: *power cord*; *power cable.* **27.** operated using a power source and mechanism, in addition to the usual manual labour, the source being electricity, compressed air, internal combustion engines or the like: *power tool*; *power saw*; *power drill.* **28.** associated with a managerial or executive style: *power dressing*; *power lunch.* –*phrase* **29. power down**, *Colloquial* to switch off a computer or peripheral device. **30. power one's way**, *Colloquial* to draw on reserves of strength and energy to gain a victory. **31. the power behind the throne**, the person who is really in control, although appearing to defer to someone else. **32. the powers that be**, those in authority. [*Phrase Origin:* from the New Testament (Romans 13:1): `Let every soul be subject unto the higher powers. For there is no power but of God: the powers that be are ordained of God.'] **33. power up**, *Colloquial* to switch on a computer or peripheral device.

Merriam-Webster	: the ability or right to control people or things
	 : political control of a country or area
	 : a person or organization that has a lot of control and influence over other people or organizations
	 Full Definition of *POWER*
	 1 *a (1)* **:** ability to act or produce an effect *(2)* **:** ability to get extra-base hits *(3)* **:** capacity for being acted upon or undergoing an effect
	  b **:** legal or official authority, capacity, or right
	 2 *a* **:** possession of control, authority, or influence over others
	  b **:** one having such power; *specifically* **:** a sovereign state
	  c **:** a controlling group.
	  d archaic **:** a force of armed men
	  e chiefly dialect **:** a large number or quantity
	 3 *a* **:** physical might
	  b **:** mental or moral efficacy
	  c **:** political control or influence
	 4 *plural* **:** an order of angels — see CELESTIAL HIERARCHY

Power defined - Part 1: Power and its exercise

	5 *a* : the number of times as indicated by an exponent that a number occurs as a factor in a product <5 to the third *power* is 125>; *also* : the product itself <8 is a *power* of 2>
	  b : CARDINAL NUMBER 2
	6 *a* : a source or means of supplying energy; *especially* : ELECTRICITY
	  b : MOTIVE POWER
	  c : the time rate at which work is done or energy emitted or transferred
	7 : MAGNIFICATION 2b

Oxford	1 the ability or capacity to do something or act in a particular way: 2 the capacity or ability to direct or influence the behaviour of others or the course of events: • political or social authority or control, especially that exercised by a government. • authority that is given or delegated to a person or body. • the military strength of a state. • a state or country, especially one viewed in terms of its international influence and military strength. • a person or organization that is strong or influential within a particular context. • a supernatural being, deity, or force. 3 physical strength and force exerted by something or someone. • capacity or performance of an engine or other device. • denoting a sports player, team, or style of play that makes use of power rather than finesse • the magnifying capacity of a lens. 4 energy that is produced by mechanical, electrical, or other means and used to operate a device. • electrical energy supplied to an area, building, etc. • *[as modifier]* driven by electrical energy. 5 *Physics* the rate of doing work, measured in watts or less frequently horse power.

The free dictionary	1. The ability or capacity to perform or act effectively.
	2. A specific capacity, faculty, or aptitude. Often used in the plural.
	3. Strength or force exerted or capable of being exerted; might.
	4. The ability or official capacity to exercise control; authority.
	5. A person, group, or nation having great influence or control over others.
	6. The might of a nation, political organization, or similar group.
	7. Forcefulness; effectiveness.
	8. *Chiefly Upper Southern U.S.* A large number or amount.
	9. a. The energy or motive force by which a physical system or machine is operated.
	  b. The capacity of a system or machine to operate.
	  c. Electrical or mechanical energy, especially as used to assist or replace human energy.
	  d. Electricity supplied to a home, building, or community.
	10. *Physics* The rate at which work is done, expressed as the amount of work per unit time and commonly measured in units such as the watt and horsepower.

Power defined - Part 1: Power and its exercise

Wiktionary	1. (*social*) Effectiveness.
	1. (*countable*) Capability or influence.
	2. Control, particularly legal or political (jurisdiction).
	3. (*chiefly in the plural*) The people in charge of legal or political power, the government.
	4. Influential nations, companies, or other such bodies.
	2. (*physical*, *uncountable*) Effectiveness.

Power defined - Part 1: Power and its exercise

Table 4
Definitions of 'influence'

Dictionary	Definition of influence (All sourced on 7/1/2014 ex Macquarie 24/4/2018)
Business	Effect of the fluctuation in the value of an independent (such as income) variable on the value of a dependent variable (such as consumption).
Cambridge	the power to have an effect on people or things, or a person or thing that is able to do this:

Collins	noun
	  1. an effect of one person or thing on another
	  2. the power of a person or thing to have such an effect
	  5. power or sway resulting from ability, wealth, position, etc
	  4. a person or thing having influence
	  5. an ethereal fluid or occult power regarded as emanating from the stars and affecting a person's actions, future, etc
	verb *(transitive)*
	  7. to persuade or induce
	  8. to have an effect upon (actions, events, etc); affect

Concise Oxford	Noun: Flowing from stars of etherial fluid affecting character and destiny of man, Action insensibly exercised [insensible = too small or gradual to be perceived Verb: Exert or have an effect upon
Dictionary.com	*noun* 1. the capacity or power of persons or things to be a compelling force on or produce effects on the actions, behavior, opinions, etc., of others: *He used family influence to get the contract.* 2. the action or process of producing effects on the actions, behavior, opinions, etc., of another or others: *Her mother's influence made her stay.* 3. a person or thing that exerts influence: *He is an influence for the good.* *verb (used with object),* in·flu·enced, in·flu·enc·ing. 7. to exercise influence on; affect; sway 8. to move or impel (a person) to some action
Longman	Noun 1 the power to affect the way someone or something develops, behaves, or thinks without using direct force or orders: 2 someone or something that has an influence on other people or things Verb [transitive] To affect the way someone or something develops, behaves, thinks etc without directly forcing or ordering them.
Macmillan	1. the effect that a person or thing has on someone's decisions, opinions, or behaviour or on the way something happens 2. a person or thing that has an effect on someone or something
Macquarie	1. invisible or insensible action exerted by one thing or person on another, especially by people in power. 2. power of producing effects by invisible or insensible means: *spheres of influence.*

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	3. a thing or person that exerts action by invisible or insensible means: *beneficial influences.* 4. *Astrology* a. the supposed radiation of an ethereal fluid from the stars, regarded in astrology as affecting human actions and destinies, etc. b. the exercise of occult power by the stars, or such power as exercised.

Merriam-Webster	: the power to change or affect someone or something : the power to cause changes without directly forcing them to happen
	: a person or thing that affects someone or something in an important way
	Full Definition of *INFLUENCE*
	1 *a* : an ethereal fluid held to flow from the stars and to affect the actions of humans
	  b : an emanation of occult power held to derive from stars
	2 : an emanation of spiritual or moral force
	3 *a* : the act or power of producing an effect without apparent exertion of force or direct exercise of command
	  b : corrupt interference with authority for personal gain
	4 : the power or capacity of causing an effect in indirect or intangible ways : SWAY
	5 : one that exerts influence

Oxford	*noun*
	  1 *[mass noun]* the capacity to have an effect on the character, development, or behaviour of someone or something, or the effect itself
	      • the power to shape policy or ensure favourable treatment from someone, especially through status, contacts, or wealth
	      • a person or thing with the capacity to have an influence on someone or something
	  2 *Physics*, *archaic* electrical or magnetic induction.
	verb have an influence on

The free dictionary	**1.** A power affecting a person, thing, or course of events, especially one that operates without any direct or apparent effort. **2.** Power to sway or affect based on prestige, wealth, ability, or position **3.** **a.** A person who exerts influence **b.** An effect or change produced by influence. **4.** **a.** A determining factor believed by some to affect individual tendencies and characteristics understood to be caused by the positions of the stars and planets at the time of one's birth. **b.** Factors believed to be caused by the changing positions of the stars and planets in relation to their positions at the time of one's birth. *tr.v.* in·flu·enced, in·flu·enc·ing, in·flu·enc·es **1.** To produce an effect on by imperceptible or intangible means; sway. **2.** To affect the nature, development, or condition of; modify.
Wiktionary	Noun

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	1. The power to affect, control or manipulate something or someone; the ability to change the development of fluctuating things such as conduct, thoughts or decisions. 2. An action exerted by a person or thing with such power on another to cause change. 3. A person or thing exerting such power or action. Verb 1. (*transitive*) To affect by gentle action; to exert an influence upon; to modify, bias, or sway; to persuade or induce. 2. (*intransitive*) To exert, make use of one's influence. 3. (*transitive*, *obsolete*) To cause to flow in or into; infuse; instill

Power defined - Part 2: Enablers, mechanisms, tools and channels of power

Abstract

These two papers seek to remove definitional overlap and confusion from a group of terms concerning power. The first paper deals with the inadequacy of single term definitions and selects an appropriate method for developing non-overlapping definitions for a group of power terms. The terms selected are: legitimacy, authority, power and influence in Paper 1 followed by direct, control, regulate and regulation in Paper 2. The selected terms are then arranged into a diagram which is fleshed out with other non-contested/ non-overlapping terms into a model representing the machinery of power. Several thought experiments are then conducted on the model and means of driving it are then considered. The definitional approach taken is strictly non-normative, non-behavioural and non-institutional, thereby avoiding the issues of the morality, strategies and outcomes of exercising power. Consequently, no evaluation is offered of social or political theory; terms are simply defined, and the implications of these definitions explored, resulting in an understanding of the consequent mechanics of power within an internally consistent definitional framework. It was then found that previous and contemporary power theories could be easily located within this framework.

Keywords**:** power, authority, influence, legitimacy (Paper 1), power, direct, direction, control, regulate, regulation (Paper 2)

Introduction

This paper follows the *Power defined - Part 1: Power and its exercise* paper, forming its second part dealing with the enablers, mechanisms, tools and channels of power. Part 1 provided the philosophical basis for the definitional process followed in both papers and it defined the terms authority, power and influence. The definitions derived were as follows:

- Legitimate (a): condoned by those with authority and accepted by their affected group.
- Legitimacy (n): the quality of being legitimate, or the quality of being condoned by those with authority and accepted by their affected group.
- Authority (n): the right to make decisions, give orders and enforce obedience
- Power (n): the capacity to act (whether exercised through authority or influence)
- Influence (v): to affect the thoughts or actions of an entity and (n) the effect of one entity upon another.

This Part 2 defines the remaining terms: direct, control, regulate and regulation before developing a diagrammatic view of the definitions, expanded to show the parts of the machinery of power, indicating its means of exercise, enablers, mechanisms and tools. These tools are then enumerated in a table showing for each tool the channels through which it may be applied. Several thought experiments are then conducted on this and

means of driving the machinery of power considered before determining the location of previous and contemporary power theories within this framework.

Note that the same dictionary sources are again employed as follows:

(1) A range of dictionaries that have been well known for many years that were available (in 2013/ 14) online (Cambridge ; Collins ; Longman ; Macmillan ; Macquarie ; Merriam-Webster ; Oxford)

(2) A range of various online dictionaries (BusinessDictionary.com ; Dictionary.com ; TheFreeDictionary ; Wiktionary) and

(3) The Concise Oxford Dictionary (1964) - as a comparator for how these definitions may have changed over the last 50 years.

Define 'Direct'

Step 1 Define derivative or component terms

This is not a derivative or compound term.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 5 in the appendix. Note that the Table numbering continues on from the *Power Defined Part 1* paper.

Step 3 Analyse lexical usage

Only the verb form will be considered as the noun form, as in being to the point, is uncontroversial. The derivative noun using the noun-forming suffix 'ion' will adopt the noun form of the derived verb. Words used in Table 5 above to define 'direct' include control, command, order, instructions, point and show. Command and order have some promise. Control will not be used as giving directions to get somewhere is not control. Direction will also not be used as it includes the term being defined. Being a director or giving a direction has the connotation of having formal authority. However leadership can be exercised without this. A manager may make procedural decisions, but these will often be subject to the approval of a director. To avoid potential confusion, management or operations will not be included. Leadership will also not be included as, while a leader may direct, he or she may also lead by other means, such as inspiring their followers. Both will be separately defined elsewhere.

Accountability will also be defined elsewhere and is linked to the director role and implies the requirement to make decisions. However accountability spans many roles and its inclusion would unnecessarily co-mingle concepts we are endeavouring to keep separate and define uniquely. There are also aspects of the unknown and of consequent risk in giving a direction, as well as in governing and so risk and uncertainty will not be included. Any reference to governing will also not be included as governance has already been defined in McGrath and Whitty (2015) in terms of directing. To keep the definition generic, any familial references will be rejected and any reference to geographic course, straight lines and pointing will be avoided in favour of more broad terms.

In practice, everyone at whatever level will have things they can direct themselves, and things they manage according to set rules. For example, a tradesman directs how he does his work, but usually does not direct the other building activity that goes on around him. Similarly, a director of a large infrastructure project who decides the order in which construction will proceed will have procurement rules he must follow. A

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company chairman leads a company in a particular direction but must still ensure ASIC rules are complied with. So the definition has to be applicable to any level. Strategic direction and goal setting will similarly not be included.

Common themes across Table 5 which do not have any of the above difficulties identified thus far are giving orders, commands or instructions. Including all of these in the definition covers nuances ranging from a military order to giving someone directions and would make the definition more generic. The term has the connotation of autonomy, of not needing to seek anyone's permission, however this is implied anyway by including the term command. It also has the connotation authority, however one cannot successfully give an order, command or instruction without the subject accepting one's authority, and so it does not need to be included.

Step 4 Develop a connotative (intensional) conventional definition
This leaves our definition of the verb 'direct' as 'to give orders, commands or instructions'. This is an acceptable operational definition.

Step 5 Report academic review of definitions
Not relevant where there is no significant or generally recognised contention regarding meaning.

Step 6 Remove unwarranted inclusions
There are no such inclusions of this term remaining.

Step 7 Remove mixed content/ process meanings
None present.

Step 8 Reduce divergence/ consider additional inclusions
None of the four checks are necessary for this term.

Step 9 Check against the five rules
The definition is operational rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, it does actually satisfy them.

Step 10 Report the derived definition
The derived definition is as follows:
- Direct (v) = to give orders, commands or instructions.
- Direction (n) = an order, command or instruction.

Define 'Control'

Step 1 Define derivative or component terms
This is not a derivative or compound term.

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Step 2 Survey lexical usage

Lexical usage is surveyed in Table 6 in the appendix.

Step 3 Analyse lexical usage

Words used in Table 6 above to define control include order, limit, rule, command, direct, check, curb, restrain, restrict, dominate, command, regulate and dictate or determine the behaviour of. In a sense, all of these words provide a definition of the term by extension, as none could be said to not be included by the term. However all of these have the connotation, as expressed in some of the above definitions, of making somebody or something do what you want or ensuring that action or function occurs in a particular way, so a definition by intension would have to be expressed in these terms. Several mention power to make decisions, which we will refer to as authority, as defined above. This aligns with 'dictate', as does the usage of the word 'direct' which we have also defined above as to give orders, commands or instructions. Again, these would be relevant to a definition of the term by extension but not by intension. Note that regulate is mentioned in several of the definitions in Table 6 as one means of control.

Step 4 Develop a connotative (intensional) conventional definition

To control can therefore be defined as 'to ensure that actions occur in a particular way'. This covers requiring people to act and/ or activities to be conducted in a particular way.

Step 5 Report academic review of definitions

Not relevant where there is no significant or generally recognised contention regarding meaning.

Step 6 Remove unwarranted inclusions

No such inclusions remain.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

Field/ specialty check (b) is the only check appropriate for this term.

Step 8(b) Consider field/ specialty usage

The definition is appropriate for people, animals and machines.

Step 9 Check against the five rules

The definition is operational rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, it does actually satisfy them.

Step 10 Report the derived definition

The derived definition is as follows:
- Control = to ensure that actions occur in a particular way.

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Define 'Regulate'

Step 1 Define derivative or component terms
This is not a derivative or compound term.

Step 2 Survey lexical usage
Lexical usage is surveyed in Table 7 in the appendix.

Step 3 Analyse lexical usage
Most of the definitions in Table 7 above are in the general form of a sub-set of control, namely control by some particular method. Words used in this Table to define regulate include control, maintain, set, adjust, direct or govern (the control words) by a rule, principle, law, restriction, method or as required or in a particular way (policy or method).
Control is the most common word used and the other terms maintain (in the sense it is used above), set and adjust are covered by the definition of control in the previous section. Also direct and govern have been separately defined and so the term control will be used in the first part of the definition.

Step 4 Develop a connotative (intensional) conventional definition
Table 6 also includes definitions that could be taken to be the purpose or intension of regulating something, that is, to bring order, method, or uniformity. However, as uniformity can be obtained by means other than regulating, such as armed force, or government undertaking activities directly (rather than by regulation), a definition by intension would result in too broad a definition here, and so the means of regulating need to be defined by extension.
To regulate will therefore be defined as 'control by rule, principle, law, restriction, policy or method'. This is a definition by genus and difference.

Step 5 Report academic review of definitions
Not relevant where there is no significant or generally recognised contention regarding meaning.

Step 6 Remove unwarranted inclusions
There are no such inclusions of this term remaining.

Step 7 Remove mixed content/ process meanings
None present.

Step 8 Reduce divergence/ consider additional inclusions
None of the four checks are necessary for this term.

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Step 9 Check against the five rules

This is a definition by genus and difference and satisfies Rules 1 to 5.

Step 10 Report the derived definition

The derived definition is as follows:
- Regulate = control by rule, principle, law, restriction, policy or method.

Define 'Regulation'

Step 1 Define derivative or component terms

Regulation is derived from the root word 'regulate' with the suffix '-ion' added. '-ion' is a noun forming abstract suffix. Abstract suffixes may denote 'act, state, quality, etc.' (Nesfield, p. 182). In this case, state or quality are inapplicable, without the qualification of a preceding adjective such as good or bad. Regulation can be defined as 'the act of regulating'. This does not seem complete but is satisfactory for the uncountable sense of the word, but not for the countable sense, referring to a particular regulation, such as act of parliament (using a different sense of the word act). Passing a regulation is only one way that a government may regulate activity or behaviour, so the countable form of the noun is more limited in scope than either the uncountable form or the verb and it would therefore be appropriate to select a sub-set of the attributes of the verb by a process of elimination. While establishing a guiding principle can regulate an activity, regulations are generally more detailed, specifying exactly what will or will not happen and so (countable) regulations are not really principles. Regulations may also say what will happen and so restriction will not be selected. It could be argued that regulations express or set policy, but policy is much broader than regulation and so will also not be selected. This leaves rule, law, and method, all of which do describe a particular government regulation. So the countable form could be defined as 'a rule, law or method'. However, given the above difficulty, an analysis of lexical usage will still be conducted.

Step 2 Survey lexical usage

Lexical usage is surveyed in Table 8 in the appendix.

Step 3 Analyse lexical usage

The lexical usage confirms the suitability of the above derivative definitions. Analysis of Table 8 shows use of the term 'process' could also be used for the uncountable sense and adding this would broaden the definition to include another common connotation of the term.

Step 4 Develop a connotative (intensional) conventional definition

The definition for the uncountable form then becomes 'the act or process of regulating'. This is an acceptable synonymous definition.
The definition of the countable form remains as as 'a rule, law or method'. This is an acceptable operational definition.

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Step 5 Report academic review of definitions

Not relevant where there is no significant or generally recognised contention regarding meaning.

Step 6 Remove unwarranted inclusions

There are no such inclusions of this term remaining.

Step 7 Remove mixed content/ process meanings

None present.

Step 8 Reduce divergence/ consider additional inclusions

As per the root term 'regulate', none of the four checks are necessary for this term.

Step 9 Check against the five rules

The definition is synonymous rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, it does actually satisfy them.

Step 10 Report the derived definition

- The derived definition is as follows: Regulation = a rule, law or method as well as the act or process of regulating.

Group rules post definition

Cross check 1 Consistency within group

The definitional method has not resulted in any inconsistency between terms in this group.

Cross check 2 Consistency with terms outside the group

There is no known overlap of meaning of any of the above group of terms with any other term outside the group that would prevent the definitions being accepted.

Summary of definitions

The derived definitions are as follows:
- Legitimate (a): condoned by those with authority and accepted by their affected group.
- Legitimacy (n): the quality of being legitimate, or the quality of being condoned by those with authority and accepted by their affected group.
- Authority: (n) the right to make decisions, give orders and enforce obedience
- Power: (n) the capacity to act (whether exercised through authority, force or influence)
- Influence: (v) to affect the thoughts or actions of an entity and (n) the effect of one entity upon another.
- Direct: (v) to give orders, commands or instructions
- Direction: (n) an order, command or instruction
- Control: (v) to ensure that actions occur in a particular way.

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- Regulate: (v) control by rule, principle, law, restriction, policy or method.
- Regulation: (n) a rule, law or method as well as the act or process of regulating.

Building the machine of power

Having defined all these terms, we are now in a position to draw a diagram showing the relationships between the terms. However, including only the terms defined above would give only a partial picture of the power arena. There are many terms used in association with power whose meaning is not contested, confused or commonly understood in contradictory ways, and these do not require the analysis we have engaged in above. We have therefore taken the additional step of including these grouped by their mechanism. This results in an extended diagram as shown in Figure 1.

Notes on the Figure 1 Model:

(1) Terms defined in this paper are shown in darker grey boxes and other uncontested terms are shown in lighter grey.

(2) The dotted boxes indicating governing and governance come from the McGrath and Whitty (2015) definitions.

(3) The view of Foucault (1978) as analysed in James (2011) is accommodated in the upper two dotted boxes in the right-most column. His 'right of death' is not mentioned but flows through to enforcement. His 'power over life' is accommodated by the top and bottom dotted boxes on the right-hand side, resolving the difficulty of considering this as not acting through formal institutions. Resistance is not specifically mentioned as it flows up the top of the diagram, in the same way as governmental power. Subversion is not mentioned as it flows through the bottom of the diagram. The model applies to both individuals and community and so no distinction is drawn between his two types of normative power, (self) discipline, which flows through to the subtraction dotted box, and his bio-political power or administration, which flows through to the top right-hand box. Individuals everywhere can flow through the top (authority) part of this diagram e.g. in parenthood. The opinion box accommodates his (and Locke's) view regarding matters that need to be governed and those which can be left to opinion.

(4) French and Raven (1959) theory is accommodated with expert and referent power being considered as capacities that increase power on the left and their other categories considered as tools, appearing in the bottom right, except for legitimate, which falls into the boxes above. Obligation has been added as it is not necessarily reward or coercive or corrupt and may result from circumstances such as family ties or normal business favours returned. Assertion and repetition have also been added as these are not necessarily coercive, such as existing belief or un-true myth, repeated and believed. Fun or enjoyment has also been added as it can also change opinion, and advice is not necessarily just information.

(5) The three power circuits of Clegg (1989, p. 214) are accommodated as follows: micro or episodic power corresponds with flow across the bottom of diagram through opinion; dispositional power with the subtraction elements of governance and facilitative power with the production element of governance. As Clegg (1989, p. 213) notes, power may exist in any or all of these.

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    (6) Nietzsche's 'will to power' (Nietzsche & Kaufmann 1968)(Nietzsche & Kaufmann 1968)(Nietzsche & Kaufmann 1968)(Nietzsche and Kaufmann 1968) is not shown as this provides motivation or intentionality to drive the machine of power, but does not describe its mechanisms.

    (7) Lukes' three dimensions do not appear in the model. We have excluded normative considerations and, as Clegg (1989, p. 93) notes, 'Lukes … endorses moral relativism'. We have, however used the three dimensions below as an investigative process in considering how to drive the machinery of power.

    (8) Authority is considered legitimate and no moral position is taken on the means of its acquisition or exercise, such as invasion or rigged elections. Similarly, no view is taken of groups that consider themselves to be oppressed by whatever factor – war, gender, age, ethnicity, sexual preference, social group or class. The model simply looks at what power is, how it is exercised, what its enablers are, and what its tools or mechanisms are.

    (9) The power to, over and with, as proposed in Allen (1998) and Allen (1999) is partially accommodated within the model. 'Creating' corresponds to 'power to' and regulating and enforcing corresponds to 'power over'. However the flow across the bottom from influence to reason and emotion does not exactly correspond with the collective action and solidarity aspects that motivated development of the 'power with' category. Nevertheless, it does not exclude it, but points to its incompleteness compared to the whole gamut of influence, and perhaps to its normative feminist intention. However, once organisation of a movement comes into play, this is actually 'power to' being exercised across the top of the diagram to the mechanism of creating. We also disagree with Pansardi (2012, p. 85) stating 'acts of resistance are undoubtedly cases of *power over*', as those resisting have no formal power. The 'power over' is being exercised by others. Resistance occurs in response to 'power over'. The subjects of oppression have two choices, to submit or to resist in some way by taking (creating) some form of action (resistance). Resistance is not explicitly mentioned either in Figure 1 or Table 9 as it is 'power to', exercised as an action of creating something, taken in response to enforcement or 'power over' exercised by another.

It is evident from the above notes that the model accommodates all theories of power surveyed. This confirms the observation on the disparate positions of many previous authors 'that all these perspectives all contain acute observations concerning significant aspects of power' Haugaard (2010, pp. 420-1).

Table 9 in the appendix expands Figure 1 by itemising channels through which each of the tools of power can be applied.

Notes on Table 9:
    (1) All tools can be used with ' good' or ' bad' intent and have ' good' or ' bad' outcomes.

    (2) No distinction is made between individuals and groups. Groups comprise individuals and this is a fractal application.

    (3) Channels may be individuals, groups, organisations, roles, functions, items, actions or base motivations

    (4) Governments must deal with all tools of power, whether taking direct action, regulating, or choosing not to intervene. Individuals in their own lives must similarly deal with all tools of power.

(5) Individual government departments as well as private and public companies must deal with all 'power tools' they have access to.

(6) Individuals must, in their personal lives, deal with all 'power tools', whether taking direct action, regulating, or choosing not to intervene

(7) Project, Program, Portfolio, Asset, Operations and General management are all categories of management, not tools of power.

(8) While project management aligns with creating and general management aligns with regulating and enforcing, any management (or strategy) is not a mechanism, tool or channel: Strategy and management are techniques for selecting mechanisms, tools and channels.

Testing the machinery of power

Applying the chosen method has covered the first three of the four Popper (1992) 'tightness' criteria for scientific theory (Popper 1992, pp. 32,3)(Popper 1992, pp. 32,3)(Popper 1992, pp. 32,3)(Popper 1992, pp. 32,33) as follows:

(1) Internal consistency through group rules pre and post definition

(2) Ensuring logical form without tautology through Step 6 Removing unwarranted inclusions, Step 7 Removing divergent meanings and Step 9 Checking against the Copi and Cohen (1990) five rules

(3) Comparison with other theories through checking term usage across multiple fields in Step 8.

Given that we have extended beyond definition into proposing what is, in effect, a new framework for dealing with power terminology, it is incumbent upon us to satisfy Popper's fourth requirement, namely to test this theory by way of empirical applications of the conclusions that can be derived from it. We will use the device of the thought experiment to do this. A number of thought experiments are conducted below. These are drawn from a range of circumstances across government, general management and project management, covering private and public companies as well as government departments.

Government

Political Parties

Within a democracy, in the absence of a coup, force is not an option for changing government, and so power is exercised only through the other two remaining ways - authority and influence. Politicians and their parties have their own organisational and personal power (capacity to act) to influence voters to give them authority via election. Success substantially increases their power as it vests control of the machinery of government for a term of office.

A political party seeking a democratic term of office does not have access to all mechanisms of power. Any new regulation or enforcement measures have no way of being approved in a neutralised caretaker period and no new proposal can be initiated (actually created). So the party must use the portion of the creation mechanism that is available to it, namely creating a campaign, and attempting to sway the electorate with the other two available mechanisms - emotion and reason, and may use whatever tools and channels they wish within those mechanisms.

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Advocacy

Similarly, an advocate seeking to promote a particular social cause, whether in an election period or not, does not have regulation and enforcement available and must use the same three mechanisms as a political party, create a campaign and appeal to emotion and reason.

Political party leadership

We will also briefly consider leadership changes in Australian politics in recent years, and in particular the circumstances surrounding the downfalls of Prime Ministers Kevin Rudd, Julia Gillard and Tony Abbott. All had the authority of office but reached the point where they did not succeed in influencing a sufficient number of their colleagues and/ or voters to their view of the world, resulting in their authority being removed and them suffering a consequent reduction in their capacity to act (power).

Government Ministers and department heads

Government ministers have the enablers of power at their disposal – the machinery of their government department, the authority to govern it, make decisions, and drive the governance system, directing and controlling as they see fit. They also have the attention of the media which can be utilised in any attempt to change community perceptions, behaviour or attitudes. They also have all five mechanisms of power legitimately available and cannot avoid pressure to make decisions on any one of them and will have all five of them at their disposal. Similarly a government department head, at the direction of the minister, has access to all five mechanisms.

This short analysis of government has found no difficulty in mapping the instances considered to the means of exercise of power outlined in Figure 1, providing no reason to reject it.

General management

Private and public companies

Private and public companies operate within a regulatory and enforcement framework they do not control, and so these mechanisms are not available to them externally. This is the case even if the company provides security or enforcement services. Companies may navigate creatively though the legislative environments they operate within, exploiting loopholes, creating competitive advantage and seeking market domination where they can, however they can still be gazumped by government action. Internally, the only form of regulation and enforcement they can control is their own governance. Within their external environment, these companies have only three mechanisms available: they create by providing products or services to customers, and may seek to influence these customers, as well as regulators, using reason and emotion.

Company chair and CEO

A company chair has all five mechanisms legitimately available internally and three externally, as mentioned above. All available mechanisms will need to used or addressed in some way.

This short analysis of general management provides no reason to reject the model.

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Project Management

Project managers also operate within a regulatory and enforcement framework they do not control and so, as outlined for general management above, have all five mechanisms legitimately available internally and only three externally, as mentioned above. All available mechanisms will need to used or addressed in some way.

This short analysis of project management provides no reason to reject the model. Having found no negation of the model from any of the above thought experiments, we will proceed to consider how the machine of power might be driven.

Driving the machinery of power

Figure 1 shows the machinery of power with its five mechanisms of transmitting power as follows:
  (1) Creating
  (2) Regulating
  (3) Enforcing
  (4) Reason
  (5) Emotion

The model shows only the components of the machinery of power and does not deal with the various ways in which the machine of power may be operated. This depends upon what it is operated to achieve. Metaphorically, it gives a picture of car, without instructions on how to drive it.

Transmitting power via any of these mechanisms requires work to be done and energy to be expended. So we will rearrange these in an economy of effort, as required of an individual, which we will call the order of ease, or the order of laziness. We do this by asking the question 'Why would I bother using any other power tool requiring more effort if this one already gets me what I want?' This results in the following order:
  (1) Enforcing
  (2) Regulating
  (3) Emotion
  (4) Reason
  (5) Creating

This gives a hierarchy of power mechanisms. It implies that, given a choice and assuming availability of all mechanisms, in the absence of any other reason to act otherwise, an individual is likely to first determine if they have sufficient capacity to enforce or regulate the particular circumstance, then determine whether emotion or reason or is needed or whether they actually have to go to the trouble of creating something. More than one mechanism may be used for good measure, and there is also a loop from the re-arranged 5 back to 1.

The choice of power mechanisms and tools, the 'power use strategy', the chance of breaking out of the order of laziness and choosing the mechanisms and tools most likely to be effective for the task at hand, will be affected by factors such as:
  (1) What we perceived worked in younger life
  (2) Attempting to get what was previously desired and denied ('righting' an earlier perceived 'wrong')
  (3) Conditioning or habit
  (4) Values, beliefs and standard of proof
  (5) Awareness and learning, as well as

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    (6) The mechanisms and tools that are actually available at the time and

    (7) One's skill at using them.

Any of these can, and the first four almost certainly will, skew us away from choosing mechanisms and tools that are likely to work in our power use strategy. The first four can easily draw us into considering only our needs i.e. what will advantage us. So we need a strategy that enables us to get past personal considerations.

An effective change strategy needs to target using mechanisms and tools that will advantage whoever else is involved in whatever it is we are attempting to achieve or change. So we first have to determine who or what is involved, then understand what their positions are before we can select the power tools that may work on or for them. The machine of power is driven to compete or achieve or change something. Whether the desired outcome is domination or construction, there will be some form of dissent and resistance. Lukes (2005, pp. 37, 8) states that the liberal, the reformist and the radical all apply 'want regarding' principles, viewing people as 'relating their interests to what they want or prefer', with the reformist considering 'that not everyone's wants are given equal weight' and the radical considering the system works against some people, and so adding the proviso 'were they able to make a choice'.

The person or group in both pro-active and reactive positions will have made or will have to make a choice of tools to progress their cause or purpose. For either group, a way to determine how to drive the machine can be obtained from Lukes (2005, pp. 16-9), applied not as separate liberal, reformist and radical views or dimensions but as an investigative process, expanded slightly with a front and back end added as follows:

    (1) Determine the stakeholders

    (2) Analyse the decisions made and who they favour

    (3) Investigate background values and agendas

    (4) Investigate latent conflict and allegiances

    (5) Determine the power mechanisms and tools to use to effect the desired change

    (6) Develop one's skills in their use.

We regard power as a holistic concept, encompassing everything, as everything that exists has some power that forms the basis of its existence. We also consider it fractal, so make no distinction between groups and individuals down to the level of the tools. We also contend that for any circumstance, all available mechanisms must be used or addressed in some way, on the simple basis that ignoring or attempting to exclude any one of them will be akin to pulling a random part out of a machine and still expecting it to function properly.

While we have stated that governments must address all of the tools of power categorised under the five mechanisms, there are many life and organisational circumstances where the choice of tools within any particular mechanism will be optional, as will the choice of channels for applying them. Government represents the whole of society within a geographical area and so must deal with all, whereas any particular individual or group does not represent the whole of society, does not have access to all of the mechanisms and tools and so can only deal in those it has access to. We contend that ignoring any mechanism or tool that an individual or group has access to, is likely to diminish the outcome achieved. We further contend that, in the same way that a government or society must deal with all the mechanisms and all their associated tools within their geographic area, an individual must similarly address all mechanisms

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and tools within the ambit of their individual lives, something over which we all have individual dominion. We further extrapolate this to describe 'progress' of societies, and self- development or self-improvement or personal growth of individuals, as increasing skill in using and choosing the various mechanisms and their associated tools of power.

We do not propose to enter into normative discussion about the exercise of power, except insofar as to propose that approaching normative issues using the above model may well result in some disagreements disappearing. Mapping the tools and channels that are possible to use in a particular circumstance and then mapping the tools that are actually being used would enable identification of other options that are not being used, without the need for moralising, proselytising, inquisitions or crusades. It would not presume the existence of any Platonic optimum or 'right' universal answer. Such optimum may not exist at all or there may be only a general optimum varying within a range for any particular circumstance considered. It is also possible that the law of equi-finality may apply in some cases.

Analysis and conclusion

Following the chosen method has enabled separation of the concepts of power, authority, influence, direction and control and has clearly distinguished between them. Exploring the implications of these definitions has in turn enabled a representation of the machinery of power in Figure 1, extended in Table 9, that has included categorisation of many terms other than the ones defined. The prior lack of differentiation between key terms may well have previously prevented such a structured approach.

The process followed extended beyond the chosen method, satisfying all four of the Popper (1992) tightness criteria for scientific knowledge; three are covered by the method selected and the thought experiment and test drive constitute the fourth.

Successful application of the selected method here supports the potential for it to be similarly applied as a means of reducing the number of 'radically confused' or 'essentially contested' concepts, to use the terminology of Gallie (1956, pp. 171, 2, 80). It is worth noting that an object that physically exists can't be 'essentially contested'; only a concept can be.

It became evident that many of the definitions of power were actually definitions of phrases that contained the word power. A strong recommendation of this work is that silent qualifiers should be articulated to avoid misunderstanding when using terms across different fields. Another way to express this is to say that definitions of concepts should be done where possible by intension, as per the method adopted here, rather than by extension, which leads to unnecessary contest, confusion and consequent waste of productive capacity (power). Yet another way to say this is to separate content and process and first ensure the basics of process (simple grammatical rules) are followed before getting bound up in the complexities of content.

Adoption and use of the definitions developed in this paper can contribute to:
- producing power terminology that:
  - removes the confusion between power, authority and influence

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- o removes the confusion between power itself and the various types of power
- o separates the process of determining the meaning of a word from the content (types of power), which is where intentionality, morality and ethics – considerations of 'good' versus 'bad' - actually belong.
- removing power from the arena of essentially contested concepts
- moving debate from whether or not a methodology for developing a consistent, generic group of terms should be applied, to whether the derivation:
  - o omits any necessary terms from the group
  - o omits any fields from consideration
  - o contains any flawed reasoning.

This work may present a challenge to any normative work on power which has not distinguished between authority and power. This distinction derived here is difficult to accept and the temptation to use these terms interchangeably is difficult to resist, even for the authors, as the interchangeability of these terms is so entrenched in common usage.

We have also observed that not distinguishing between process and content has been a problem in other areas including engineering, ICT, accounting, governance, project management as well as power.

The diagrammatic model of power developed here has built upon previous work by many others in a way that identified gaps and perhaps indicates the dangers of Platonic reasoning without experimentation. However it has not invalidated any previous theories, but rather shown how they fit together.

This work can assist in identifying and avoiding both under-utilisation and inappropriate use of tools and channels of power, potentially saving organisational time, resources and consequently, money. It could also therefore usefully contribute to resolving or avoiding political or domestic conflict in some circumstances by enumerating the many possible alternative ways of exercising power that participants may not have considered or explored.

There are other terms that have a relationship with the governance and power arenas that are the subject of similar definitional confusion, such as ethics and strategy, together with other terms that overlap with general management, such as stakeholders, responsibility and accountability. These also warrant detailed consideration beyond the space limitations of this paper.

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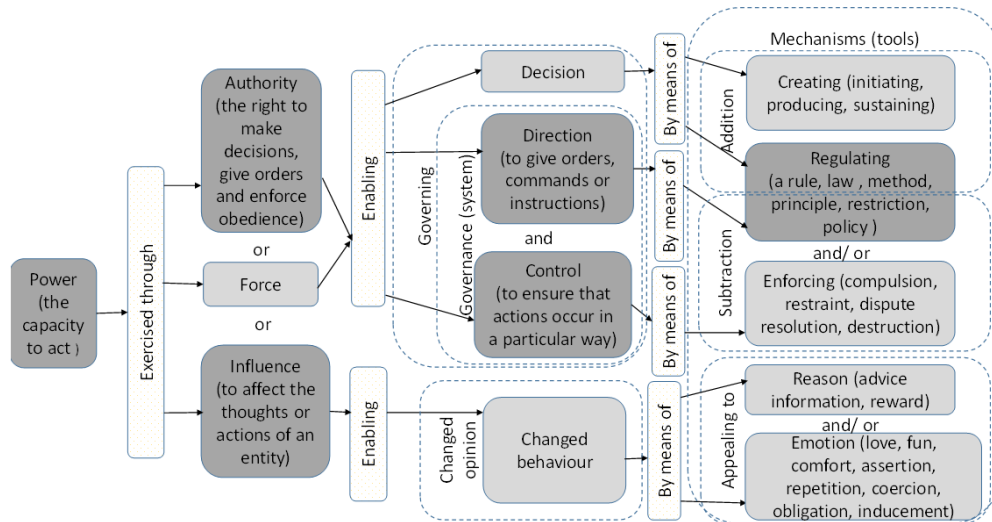
Figure 1. The Machinery of Power.

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Appendix

Table 5:
Definitions of 'direct'

Dictionary	Definition of the verb 'direct' (All sourced on 8/1/2014 ex Macquarie on 24/4/2018)
Business	None
Cambridge	1. going in a straight line towards somewhere or someone without stopping or changing direction 2. without anyone or anything else being involved or between

Collins	verb *(mainly transitive)*
	1. to regulate, conduct, or control the affairs of
	2. *(also intransitive)* to give commands or orders with authority to (a person or group)
	3. to tell or show (someone) the way to a place
	4. to aim, point, or cause to move towards a goal
	5. to address (a letter, parcel, etc)
	6. to address (remarks, words, etc) to someone
	7. *(also intransitive)* to provide guidance to (actors, cameramen, etc) in the rehearsal of a play or the filming of a motion picture
	8. *(also intransitive)*
	   1. to conduct (a piece of music or musicians), usually while performing oneself
	   2. *another word (esp US) for* conduct

Concise Oxford	Address, control, govern the movements of, turn, tell the way, guide, give orders
Dictionary.com	*verb (used with object)* 1. to manage or guide by advice, helpful information, instruction, etc 2. to regulate the course of; control 3. to administer; manage; supervise 4. to give authoritative instructions to; command; order or ordain 5. to serve as a director in the production or performance of (a musical work, play, motion picture, etc.). 6. to guide, tell, or show (a person) the way to a place 7. to point, aim, or send toward a place or object 8. to channel or focus toward a given result, object, or end (often followed by *to* or *toward*) 9. to address (words, a speech, a written report, etc.) to a person or persons 10. to address (a letter, package, etc.) to an intended recipient. *verb (used without object)* 11. to act as a guide. 12. to give commands or orders. 13. to serve as the director of a play, film, orchestra, etc
Longman	1 [transitive always + adverb/preposition] to aim something in a particular direction or at a particular person, group etc 2 [transitive] to be in charge of something or control it

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	3 [intransitive and transitive] to give the actors in a play, film, or television programme instructions about what they should do 4 [transitive] *formal* to tell someone how to get to a place 5 [transitive] *formal* to tell someone what they should do [= order]
Macmillan	1 going straight to a place and not stopping or changing direction on the way there 2 involving only the two people or things mentioned and with no one or nothing else coming in between 3 exact 4 direct heat or light comes straight at a person or object and is not reflected or reduced in strength 5 saying what you really think in a very clear and honest way 6 related through your parents, grandparents etc and not through other relatives such as uncles or aunts
Macquarie	**1.** to guide with advice; regulate the course of; conduct; manage; control. **2.** to give authoritative instructions to: **3.** to command; order or ordain: **4.** to tell or show (a person) the way to a place, etc. **5.** to organise and supervise the artistic production of (a play or film). **6.** to point or aim towards a place or an object; cause to move, act, or work towards a certain object or end. **7.** to address (words, etc.) to a person. **8.** to mark (a letter, etc.) as intended for or sent to a particular person. –*verb* (*i*) **9.** to act as a guide or director. **10.** to give commands or orders. –*adjective* **11.** proceeding in a straight line or by the shortest course; straight; undeviating; not oblique. **12.** proceeding in an unbroken line of descent; lineal, not collateral. **13.** following the natural order, as in mathematics. **14.** without intervening agency; immediate; personal. **15.** going straight to the point; straightforward; downright.
Merriam-Webster	: to cause (someone or something) to turn, move, or point in a particular way : to cause (someone's attention, thoughts, emotions, etc.) to relate to a particular person, thing, goal, etc. : to say (something) to a particular person or group Full Definition of *DIRECT* transitive verb 1 *a obsolete* **:** to write (a letter) to a person *b* **:** to mark with the name and address of the intended recipient *c* **:** to impart orally *d* **:** to adapt in expression so as to have particular applicability <arguments *directed* at the emotions> 2 *a* **:** to regulate the activities or course of

	b **:** to carry out the organizing, energizing, and supervising of <*direct* a project>
	c **:** to dominate and determine the course of
	d **:** to train and lead performances of <*direct* a movie>
	3**:** to cause to turn, move, or point undeviatingly or to follow a straight course
	4**:** to point, extend, or project in a specified line or course <*direct* the nozzle down>
	5**:** to request or enjoin with authority <the judge *directed* the jury to acquit>
	6**:** to show or point out the way for <signs *directing* us to the entrance>
	intransitive verb
	1**:** to point out, prescribe, or determine a course or procedure
	2**:** to act as director
Oxford	1 control the operations of; manage or govern
	• supervise and control
	• train or conduct
	2 *[with object and adverbial of direction]* aim (something) in a particular direction or at a particular person
	• tell or show (someone) how to get somewhere
	• address or give instructions for the delivery of (a letter or parcel
	• focus (one's thoughts) on or address (one's efforts) towards something.
	• *archaic* guide or advise in a course or decision
The free dictionary	*v.tr.*
	1. To manage or conduct the affairs of; regulate.
	2. To have or take charge of; control.
	3. To give authoritative instructions to.
	4. To cause to move toward a goal; aim.
	5. To show or indicate the way for.
	6. To cause to move in or follow a straight course
	7. To indicate the intended recipient on (a letter, for example).
	8. To address or adapt (remarks, for example) to a specific person, audience, or purpose.
	9. a. To give guidance and instruction to (actors or musicians, for example) in the rehearsal and performance of a work.
	b. To supervise the performance of.
	v.intr.
	1. To give commands or directions.
	2. To conduct a performance or rehearsal.
Wiktionary	1. To manage, control, steer.
	2. To aim (something) at (something else).
	3. To point out or show to (somebody) the right course or way; to guide, as by pointing out the way.
	4. To point out to with authority; to instruct as a superior; to order.

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	5. (*dated*) To put a direction or address upon; to mark with the name and residence of the person to whom anything is sent.

Table 6:

Definitions of 'control'

Dictionary	Definition of 'control' (All sourced on 4/3/2013 ex Macquarie on 24/4/2018)
Business	Manufacturing: Device or mechanism installed or instituted to guide or regulate the activities or operation of an apparatus, machine, person, or system.
Cambridge	to order, limit, or rule something, or someone's actions or behaviour

Collins	1. to command, direct, or rule
	2. to check, limit, curb, or regulate; restrain
	3. to regulate or operate (a machine)
	4. to verify (a scientific experiment) by conducting a parallel experiment in which the variable being investigated is held constant or is compared with a standard
	5.
	    1. to regulate (financial affairs)
	    2. to examine and verify (financial accounts)
	6. to restrict or regulate the authorized supply of (certain substances, such as drugs)

Concise Oxford	Dominate, command; hold in check; check, verify; regulate
Dictionary.com	1. to exercise restraint or direction over; dominate; command. 2. to hold in check; curb. 3. to test or verify (a scientific experiment) by a parallel experiment or other standard of comparison. 4. to eliminate or prevent the flourishing or spread of. 5. *Obsolete* to check or regulate (transactions), originally by means of a duplicate register.
Longman	1 to have the power to make the decisions about how a country, place, company etc is organized or what it does: 2 to limit the amount or growth of something, especially something that is dangerous: 3 Make somebody/ something do what you want, or make something happen in the way that you want: 4 if you control your emotions, your voice, your expression etc, you succeed in behaving calmly and sensibly, even though you feel angry, upset, or excited: 5 to make a machine, process, or system work in a particular way: 6 to make sure that something is done correctly:
Macmillan	1. power to make decisions 2. power over machine etc 3. law limiting something 4. ability to stop problem

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	5. ability to remain calm 6. switch on machine 7. in scientific test 8. computer key 9. check rules are applied
Macquarie	*verb* (*t*) (**controlled**, **controlling**) **1.** to exercise restraint or direction over; dominate; command. **2.** to hold in check; curb. **3.** to test or verify (a scientific experiment) by a parallel experiment or other standard of comparison. *–noun* **4.** the act or power of controlling; regulation; domination or command. **5.** check or restraint. **6.** something that serves to control; a check; a standard of comparison in scientific experimentation. **7.** a person who acts as a check; a controller. **8.** (*plural*) a coordinated arrangement of devices for regulating and guiding a machine, as a motor, aeroplane, etc. **9.** *Motor Racing*, *etc.* an appointed place at or from which officials time contestants, check conformity and required conditions, and in general, regulate a race. **10.** → **control centre**. **11.** (in spiritualism) an agency believed to assist the medium at a seance. **12.** *Philately* an authenticating letter or number printed on the selvage of a sheet of stamps to indicate the plate or cylinder from which the stamps were printed, or the series to which they belong. *–adjective* **13.** characterised by the desire to dominate and exert control:

Merriam-Webster	: to direct the behavior of (a person or animal) : to cause (a person or animal) to do what you want
	: to have power over (something)
	: to direct the actions or function of (something) : to cause (something) to act or function in a certain way
	Full Definition
	transitive verb
	1 *a archaic* **:** to check, test, or verify by evidence or experiments
	  b **:** to incorporate suitable controls in
	2 *a* **:** to exercise restraining or directing influence over
	: REGULATE
	  b **:** to have power over **:** RULE
	  c **:** to reduce the incidence or severity of, especially to innocuous levels

Oxford	1 Determine the behaviour or supervise the running of: 1.1 Maintain influence or authority over: 1.2 Limit the level, intensity, or numbers of: 1.3 Remain calm and reasonable despite provocation: 1.4 Regulate (a mechanical or scientific process):

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The free dictionary	1. To exercise authoritative or dominating influence over; direct.
	2. To adjust to a requirement; regulate:
	3. To hold in restraint; check:
	4. To reduce or prevent the spread of:
	5. a. To verify or regulate (a scientific experiment) by conducting a parallel experiment or by comparing with another standard.
	b. To verify (an account, for example) by using a duplicate register for comparison.
Wiktionary	To exercise influence over, to suggest or dictate the behavior of, oversight.

Table 7:

Definitions of 'regulate'

Dictionary	**Definition of 'regulate'** (All sourced on 4/3/2013 ex Macquarie on 24/4/2018)
Business	None given
Cambridge	to control something, especially by making it work in a particular way
Collins	1. to adjust (the amount of heat, sound, etc, of something) as required; control
	2. to adjust (an instrument or appliance) so that it operates correctly
	3. to bring into conformity with a rule, principle, or usage
Concise Oxford	Control by rule, subject to restrictions, moderate, adapt to requirements; adjust (machine, clock) so that it may work accurately
Dictionary.com	1. to control or direct by a rule, principle, method, etc.
	2. to adjust to some standard or requirement, as amount, degree, etc.
	3. to adjust so as to ensure accuracy of operation.
	4. to put in good order.
Longman	1 to control an activity or process, especially by rules:
	2 to make a machine or your body work at a particular speed, temperature etc:
Macmillan	1 to control an activity, process, or industry officially by using rules
	2 to control a machine so that it works effectively
	a. to control something so that it produces the results that you want
	b.to control the way your body works
Macquarie	**1.** to control or direct by rule, principle, method, etc.
	2. to adjust to some standard or requirement, as amount, degree, etc.: *to regulate the temperature.*
	3. to adjust so as to ensure accuracy of operation: *to regulate a watch.*
	4. to put in good order: *to regulate the digestion.*

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Merriam-Webster	: to set or adjust the amount, degree, or rate of (something) : to bring (something) under the control of authority : to make rules or laws that control (something) Full definition 1 *a* **:** to govern or direct according to rule *b (1)* **:** to bring under the control of law or constituted authority *(2)* **:** to make regulations for or concerning **:** to bring order, method, or uniformity to 3**:** to fix or adjust the time, amount, degree, or rate of
Oxford	1 Control or maintain the rate or speed of (a machine or process) so that it operates properly 1.1 Control (something, especially a business activity) by means of rules and regulations 1.2 Set (a clock or other apparatus) according to an external standard
The free dictionary	1. To control or direct according to rule, principle, or law. 2. To adjust to a particular specification or requirement: 3. To adjust (a mechanism) for accurate and proper functioning. 4. To put or maintain in order:
Wiktionary	1. To dictate policy. 2. To control or direct according to rule, principle, or law. 3. To adjust to a particular specification or requirement temperature. 4. To adjust (a mechanism) for accurate and proper functioning. 5. To put or maintain in order:

Table 8:

Definitions of 'regulation'

Dictionary	Definition of regulation (All sourced on 4/3/2013 ex Macquarie on 24/4/2018)
Business	Principle or rule (with or without the coercive power of law) employed in controlling, directing, or managing an activity, organization, or system.
Cambridge	an official rule or the act of controlling something
Collins	1. the act or process of regulating 2. a rule, principle, or condition that governs procedure or behaviour 3. a governmental or ministerial order having the force of law
Concise Oxford	Regulating or being regulated; prescribed rule, authoritative direction
Dictionary.com	**1.** a law, rule, or other order prescribed by authority, especially to regulate conduct. **2.** the act of regulating or the state of being regulated. **3.** *Machinery*. The percentage difference in some quantity related to the operation of an apparatus or machine, as the voltage output of a transformer or the speed of a motor, between the value of the quantity at no-load operation and its value at full-load operation.

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Longman	1 [countable] an official rule or order: 2 [uncountable] control over something, especially by rules
Macmillan	1[COUNTABLE] an official rule that controls the way that things are done 2[UNCOUNTABLE] control of an activity, process, or industry by official rules
Macquarie	**1.** a rule or order, as for conduct, prescribed by authority; a governing direction or law. **2.** the act of regulating. **3.** the state of being regulated.

Merriam-Webster	: an official rule or law that says how something should be done
	: the act of regulating something
	Full definition
	1 ꞉ the act of regulating ꞉ the state of being regulated
	2 *a* ꞉ an authoritative rule dealing with details or procedure
	  b ꞉ a rule or order issued by an executive authority or regulatory agency of a government and having the force of law
	3 *a* ꞉ the process of redistributing material (as in an embryo) to restore a damaged or lost part independent of new tissue growth
	  b ꞉ the mechanism by which an early embryo maintains normal development

Oxford	1 A rule or directive made and maintained by an authority: 1.1 *[as modifier]* In accordance with regulations; of the correct type: 1.2 *[as modifier]* • *informal* Of a familiar or predictable type; formulaic: 2 *[mass noun]* The action or process of regulating or being regulated:
The free dictionary	**1.** The act of regulating or the state of being regulated. **2.** A principle, rule, or law designed to control or govern conduct. **3.** A governmental order having the force of law.
Wiktionary	1. (*uncountable*) The act of regulating or the condition of being regulated. 2. (*countable*) A law or administrative rule, issued by an organization, used to guide or prescribe the conduct of members of that organization.

Power defined - Part 2: Enablers, mechanisms, tools and channels of power

Table 9.

Mechanisms, tools and channels of power.

Mechanisms	Tools	Channels
Creating – Constructive action	Initiation	Taking action Appointing, engaging, enlisting or securing an agent(s) Policy development Strategy Planning Communication Finance Establishing a new or changing an existing organisation or structure Taking over an existing organisation or position Leading, taking or accepting responsibility Asserting a position on a matter Resisting a person or organisation
	Production	Construction or improvement of assets (physical, electronic, intellectual) Extraction and use of resources Manufacture and supply of products Agricultural production and distribution of food or bio-energy Provision of services (including sport) Team formation, partnerships and marriage Contracts Finance
	Sustainment	Operation of assets Maintenance of assets Health care (physical and mental) Life growth and amenity care Veterinary care Environmental care Education, learning, training, teaching, coaching, lecturing, mentoring Emergency services Finance Respect, esteem Exercise, fitness, strength, mind and body conditioning and training
Regulating	Rule	Organisational governance
	Law	Parliamentary Bills - Acts and Regulations
	Method	Standards Prescriptive processes Industry methodologies 'Best practice'
	Principle	Values, ethics, morals Beliefs Intuition Self-discipline

Power defined - Part 2: Enablers, mechanisms, tools and channels of power

	Restriction	Individual Codes of Conduct
		Parliamentary Bills - Acts and Regulations
		Gravity
		Polarity
	Policy	Deciding and documenting preferred ways of handling circumstances
Enforcing	Compulsion	Military
		Police
		Customs
		Prisons or detention institutions
		Punishment
		Torture (violence)
		Abuse (physical, mental or verbal) (violence)
		Parents
		Organisational management positions
	Restraint	Behaviour review panels, tribunals and mechanisms
		Standards review panels, tribunals and mechanisms
		Licencing
		Parents
		Auditors and auditing
		Withholding desired things
		Setting boundaries
		Disapproving, shaming, embarrassing
	Dispute Resolution or Judgement or interpretation of rules	Courts
		Appeal panels, tribunals and mechanisms
		Referees, adjudicators, arbitrators, mediators
		Contract Principal's Representatives
		Selection panels
		Parents
		Teachers or coaches of any kind who evaluate students, sports people or performers
	Destruction	Taking the life of citizens, including self-defence (violence)
		Killing enemies in war or conflict (violence)
		Dismissing an employee or ending a relationship
		Pest eradication
		Noxious plant eradication
		Demolition
Reason	Advice	Suggesting action, approach or viewpoint
	Information (true and false)	Public Relations
		Education
		Deception
	Reward	Pay
		Election promises
Emotion	Love	Relationship(s)
		Sex, intimacy, affection
		Action taken in the best interests of another
	Fun or Enjoyment	Relationship(s)

Power defined - Part 2: Enablers, mechanisms, tools and channels of power

		Infatuation Sex, intimacy, affection Play, movement and dance Sounds – speech, music The Arts, beauty, looks, appearances, proportions, form Matching energy, pace, rhythm or interests (compatibility) Community fellowship or belonging
	Comfort	Religion Emotional support
	Assertion	Advertising Symbols
	Repetition	Propaganda Pestering Story telling Advertising
	Coercion	Threat or fear
	Obligation	Guilt
	Inducement	Greed

Power (the capacity to act)

Exercised through

Influence (to affect the thoughts or actions of an entity)

or

Force

or

Authority (the right to make decisions, give orders and enforce obedience)

Enabling

Enabling

Governing

Governance (system)

Changed opinion

Changed behaviour

Control (to ensure that actions occur in a particular way)

and

Direction (to give orders, commands or instructions)

Decision

By means of

By means of

By means of

By means of

Appealing to

Subtraction

Addition

Reason (advice information, reward)

and/ or

Emotion (love, fun, comfort, assertion, repetition, coercion, obligation, inducement)

Enforcing (compulsion, restraint, dispute resolution, destruction)

and/ or

Regulating (a rule, law, method, principle, restriction, policy)

Creating (initiating, producing, sustaining)

Mechanisms (tools)

Blank

Ethics Defined

Preface
This paper applies the definitional refining method developed Paper 2 of Part 2 to a group of related ethical terms, namely ethics, values, morals, principles and beliefs. This produces mutually consistent, non-overlapping definitions, suggesting the possibility of reducing confusion in discussion of these terms. It regards lack of transparency in the way we approach resolving the meaning of contested conceptual terms as an ethical issue.

Keywords: ethics, values, morals, principles, beliefs.

1. Introduction

Definitional confusion has been recognised as a source of difficulty for millennia, dating back to the time of Socrates. Yet the meaning of words can seem so obvious to us in our own heads that it is difficult to pause long enough to even consider this. Our language treats all words as parts of speech, whether they label uncertain abstract concepts or physical objects about which there is little doubt. The urge to 'just get on with it' when discussing abstract concepts, without first ensuring that we have common understanding of them (which process is unnecessary for physical objects) is difficult to perceive, let alone resist. However conceptual terms can have different meanings to different people and this may be undetected, somewhat contested or even fiercely or essentially contested (Gallie 1956). Here I am not concerned with labelling according to how fierce or widely known the contest may be, or whether the confusion has reached the stage of being labelled 'essentially contested' or not. Rather I am concerned with conceptual terms around which there is some amount of contention and therefore lack of agreed meaning. I refer to these as contested terms.

There is a lack of transparency in the way we come to agree the meaning of conceptual terms, as evidenced by the fact that McGrath and Whitty (2015) could not find a pre-existing method for refining the meanings of a group of related terms and so then developed such a method themselves. Lack of transparency in terminology seems to be quite generally, happily tolerated, whereas lack of transparency in corporate governance is not. The wasted effort and monetary loss resulting from the former is hidden or at least opaque. This is an ethical issue of unquantifiable and therefore unknown proportions. Support for this position comes from Thomas Hobbes in Leviathan IV.13 'For the errors of definitions multiply themselves, according as the reckoning proceeds, and lead men into absurdities, which at last they see, but cannot avoid, without reckoning anew from the beginning; in which lies the foundation of their errors' (Hobbes 1996: 24).

McGrath and Whitty (2015) clearly distinguished between government, governing, governance, strategy and ethics. They also pointed to the prior intermingling between ethics and governance and the need for a similar definitional exercise on the word ethics. The purpose of this paper is to carry out such an exercise for ethics and a group of related terms, namely values, morals, principles and beliefs. The method used to do this is the same as that used to untangle the terminology surrounding organisational governance. The method is non-

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normative (i.e. not containing any value judgement), non-behavioural and non-institutional, avoiding the need to adopt any particular moral perspective or set of beliefs.

2.   Definitional confusion regarding ethics

Smith (2014) notes "The definition was an important matter for Plato", "Concern with answering the question "What is so-and-so?" are at the centre of the majority of Plato's dialogues" and "Aristotle himself traces the quest for definitions back to Socrates". John Locke said:

> considered, and carefully examined, whether the greatest part of the disputes in the world are not merely verbal, and … if the terms they are made in were defined, and reduced in their signification (as they must be where they signify anything) to determined collections of the simple ideas they do or should stand for, those disputes would not end of themselves, and immediately vanish" (Locke 1690: 502).

This is supported by (Copi and Cohen 1990: 128) who noted that "definitions, by exposing and eliminating ambiguities, can effectively resolve disputes that are merely verbal". Hobbs also recognised this was not some mere theoretical exercise, setting out the purpose of resolving definitional confusion as follows: "by exact definitions first snuffed, and purged from ambiguity; reason is the pace; increase of science, the way; and the benefit of mankind, the end" (Hobbes 1996: 32).

In pointing out the need to separate ethics from governance as well as to the need to properly define ethics, McGrath and Whitty (2015) noted the usefulness of distinguishing between process and content in the management concept of governance; by separating what was being done from how it is being done. This highlighted the danger of taking the meaning of a term used by one particular group (auditors) for purposes appropriate to their environment (joint-stock companies), as having general or 'universal' application in other circumstances (e.g. government). This had the effect of promoting the interests of that group while causing confusion for other groups and eventually for the initial beneficiary group itself.

Difficulty with the concept of ethics has been noted by others as well. Wittgenstein (2007) noted: 'if I contemplate what Ethics really would have to be if there were such a science, this result seems to me quite obvious. It seems to me obvious that nothing we could ever think or say should be the thing.' Robinson and Garratt (2013: 129) in asking 'Why has ethics become a mess?' noted:

> According to McIntyre, this kind of Greek moral certainty has been eroded by sceptics like Hume and Ayer. Kant made morality a cold and unsympathetic exercise in reason, and the utilitarians reduced it to a set of pseudo-scientific calculations that don't work. All such doctrines, whether "Enlightenment " or "Victorian", are also wrong to think that their particular brand of ethics is "objective", when they are peculiarly "local" (Robinson and Garratt 2013: 129).

They then noted 'this has led to a society empty of moral values in which people are sometimes utilitarians, sometimes Kantians, sometimes Platonists, and mostly utterly confused' (Robinson and Garratt 2013: 129).

In proposing a taxonomy of ethical theories, Hare (1997) said:

> I am not for a moment denying the importance of using rational argument to decide on substantial moral principles. That is the ambition of all serious moral philosophers. But there is a prior task: that of finding the rules governing the argument. Without these rules, anything goes. … an ontological dispute like the supposed dispute

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> between realists and anti-realists, if it is a genuine dispute at all, turns fairly rapidly
> into a dispute which is not ontological but conceptual, and that there is no way of
> clearly formulating this supposed dispute … without translating it into a dispute about
> how moral words get their meaning (Hare 1997: 44,45).

He followed this with a discussion of grammar and syntax which could equally apply to any
subject matter, not just to his 'moral words' mentioned above. In this paper, I am not
intending to delve into or pass comment upon Hare's taxonomy or any other ethical theory. I
simply seek to define so that we can proceed to debate these theories and to have corporate
and personal discussions where we can all have the same meaning in our heads about what it
is we are actually talking about.

Apart from the contention mentioned above regarding ethics, there are a number of terms
associated with it whose usage overlaps, such as ethics and morals in civil and religious
contexts. Hare (1997: 45), for example, says of the various ethical theories that 'They all
reveal different parts of the truth about morality' and so appears to not differentiate between
the terms ethics and morality. Other terms apart from ethics and morals are principles, values
and beliefs. This paper develops non-overlapping definitions of these terms.

While an unconstrained language formation process can have some local utility, it can also
produce haphazard and conflicting meanings in different groups. If such inconsistency is
identified, it is as well to address this as part of the ongoing language formation process to
avoid future confusion and misunderstanding. This accords with John Stuart Mill who stated:

> In order that we may possess a language perfectly suitable for the investigation and
> expression of general truths, there are two principal, and several minor, requisites.
> The first is, that every general name should have a meaning, steadily fixed, and
> precisely determined. … and the second …, is that we should possess a name
> wherever one is needed; wherever there is anything to be designated by it, which it is
> of importance to express (Mill 1874: 467) (Book IV Chapter IV §1).

He notes that names in common use have often a loose connotation, giving the examples of
civilization and gentleman. He continues:

> It would, however, be a complete misunderstanding … to think that because a name
> has not at present an ascertained connotation, it is competent to anyone to give it such
> a connotation at his own choice. The meaning of a term actually in use is not an
> arbitrary quantity to be fixed, but an unknown quantity to be sought.
> … To fix the connotation of a concrete name, or the denotation of the corresponding
> abstract, is to define the name. When this can be done without rendering any received
> assertions inadmissible, the name can be defined in accordance with its received use,
> which is vulgarly called defining not the name but the thing. What is meant by the
> improper expression of defining a thing … is to define the name, subject to the
> condition that it shall denote those things (Mill 1874: 469,470).

The method adopted below approaches any term as being an agreed representation of the
concept that it denotes in words, and requires that no received assertions be rendered
inadmissible.

This also accords with the views of Karl Popper:

> We live in a kind of intellectual prison … formed by the structural rules of our
> language … it is an odd prison as we are normally unaware of being imprisoned. We
> may become aware of it through culture clash. But then, this very awareness allows

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us to break out of the prison. If we try hard enough, we can transcend our prison by studying the new language and by comparing it with our own. Admittedly, the result will be a new prison. But it will be a much larger and wider prison. And again, we will not suffer from it. Or rather, whenever we do suffer from it, we are free to examine it critically, and thus to break out again into a still wider prison. The prisons are the frameworks (Popper and Notturno 1994: 52).

The method adopted below addresses this culture clash by triangulating across various areas of usage.

3. Approach

In their discussion of governance, McGrath and Whitty (2015) demonstrated the pitfalls of defining single intellectual conceptual terms within the bounds of one single field and in isolation from other terms. They developed a method of refining the definitions contested terms, noting that they only did so because of the absence of a pre-existing method. This paper will apply this same method to the definition of ethics and associated terms, testing the veracity of the method and exploring the outcome of applying it to the field of ethics.

This approach has objectivist epistemology with a positivist theoretical perspective that seeks to define objective content without claiming that the derived definitions describe anything existential. It simply defines concepts non-normatively, producing definitions which, if agreed and adopted, have the potential to remove unnecessary debate and confusion. It takes the view that, while there may be no absolute truth, to be productive as a society, a discourse that removes confusion is necessary, one that all can participate in, with shared understanding of meaning, removing accidental and undetected differences. This position is therefore midway between (or partly both) realist and post-modernist, as this apparatus (ensuring consistency and universality of terminology), can replace chaos with order.

This paper is, in effect a further test of the application of their method to see if it can remove confusion from the term ethics and associated overlapping terms.

4. Method

The method is fully set out in McGrath and Whitty (2015). The structure followed in the text below reproduces that method, which first considers the group of terms to be defined before proceeding to define individual terms and concluding with a group consistency check.

Note that for ease of reading, derived definitions and subsequent refined and other contributing definitions are shown in pale grey highlight in the text. Similarly, the main contenders for inclusion in the derived definition are also shown in pale grey highlight in the Tables in the Appendix surveying lexical usage.

Lexical usage is surveyed from the following dictionary sources:
1. A range of dictionaries that have been well known for many years that were available (in 2013/ 14) online (Cambridge ; Collins ; Longman ; Macmillan ; Macquarie ; Merriam-Webster ; Oxford)
2. A range of various online dictionaries (BusinessDictionary.com ; Dictionary.com ; TheFreeDictionary ; Wiktionary) and

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3. The Concise Oxford Dictionary (1964) - as a comparator for how these definitions may have changed over the last 50 years.

5. Group rules pre definition

5.1. Group pre-definition rule 1 – Select the group of terms to be defined

As discussed above, terms to be included in this group are ethics, principles, values, beliefs and morals. Discussion of these terms inevitably lead to consideration of the terms good and bad, right and wrong. Right and wrong will not be considered as they imply absolute value judgements which the selected method specifically excludes. No separate definitional exercise will be carried out on the terms good and bad as a brief glance at dictionary definitions indicates a multitude of definitions by extension and a dearth of definition by intention. I will therefore fall back to Spinoza's definitions by intention of good as "that which we certainly know to be useful to us", and bad as "that which we certainly know will prevent us from partaking any good" (Spinoza et al. 1959: 144). I will accept these but will update them to contemporary wording and define 'good' as that which we consider to be useful and 'bad' as that which we consider to be a hinderance.

The group of terms to be selected for definition will therefore be ethics, morals, principles, values and beliefs. The qualification of who or what any particular action may be good or bad for will not be addressed, nor will the degree of personal restraint that may be considered desirable.

5.2. Group pre-definition rule 2 - Determine the order of definition

5.2.1. Rule 2 (a) – Identify group term inconsistencies

None present, although usage of several of the terms can overlep.

5.2.2. Rule 2(b) - Compound terms

None present.

5.2.3. Rule 2(c) – Root of Derivative terms

Principle, value, belief and moral will also be defined, but not ethic, which is rarely used in singular form. These will be defined before the plural forms.

5.2.4. Rule 2(d) - Define verb form of term before the noun form

All terms are adjectives or nouns.

Applying these rules is insufficient to provide a full definitional order. Beliefs may be based on principles and so beliefs will be defined after principles but before morals, which can be based on beliefs. To determine the full order, a choice will therefore be made on the basis of non-normativity, which is a feature of the method. The term that has least normative association, namely principles, will be defined first, followed by values, then ethics, then beliefs then morals. This produces an order satisfying the above requirement of defining

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beliefs after principles but before morals. The order of definition will therefore be principle, principles, value, values, ethics, belief, beliefs, moral and morals.

5.3. Group pre-definition rule 3 – Definitional terms requiring prior definition

There are no other terms outside this group that have multiple meanings and are commonly used in defining these terms.

6. Define principles

6.1. Step 1 Define derivative or component terms
Principles are the plural form of principle and both will be defined.

6.2. Step 2 Survey lexical usage
Lexical usage is surveyed in Tables 1a and 1b in the Appendix.

6.3. Step 3 Analyse lexical usage
Any reference to values or morals will be avoided as these will be defined below. To remain non-normative, any religious meanings or references to good and bad will not be considered. Truth will also not be selected as an assumption or a proposition that is untrue can serve as a principle. Source or origin is less specific than other terms and so will not be used. Common terms in Table 1 are rule and law. Rule will be selected as it avoids the ambiguity of whether the law referred to is legal or a law of nature. The latter also implies a need for scientific rigour in determining that it is actually a law and principles can exist without scientific rigor. Furthermore, any such scientific laws may just be the best representation or framework available at the time. They may be superseded or found to be incomplete or inaccurate in some circumstances, such as Newtonian mechanics in the face of Einstein's theory of relativity. The other terms used in Table 1 will be examined to see if they are as generic as rule.

The term principle has the connotation of providing guidance. The terms source, origin, basic idea, (fundamental) essence, proposition, assumption, essential quality or element all may or may not have such connotations and they are all less generic or less specific than a rule. A principle can be a basic or guiding belief, theory, idea, maxim, concept, standard, or code but it does not have to be so. An assumption can be a principle and so these terms are less generic and will not be selected. A principle can be a basis for action but providing a basis has an association of being less compelling and is also less specific than the term rule. This exhausts the options in Table 1 and so rule will be accepted.

6.4. Step 4 Develop a connotative (intensional) conventional definition
Principle will be defined as a rule guiding something. Principles will be defined as a set of rules guiding something. The options from Table 1 regarding what is being guided are conduct, behaviour, action, management and prediction. Management is not a term that is commonly used in relation to determining one's actions and is not generic so will not be used. Prediction is one form of action that may be guided by a principle but excludes other types of action and so will not be used. Conduct and behaviour exclude prediction and have

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an association with value judgement. Both are covered by the term action which is neutral. A principle will therefore be defined as a rule guiding action.

6.5. Step 5 Report academic review of definitions

All EBSCO databases were searched on 15/11/2016 for the terms "principles" and "define" in the title. 82 were found of which 50 were non-identical. None contained any such review. All dealt with defining principles in particular circumstances rather than defining the term itself. A similar search was conducted for "definition" and "principles" and 248 were found of which 166 were non-identical. Again none contained any such review. All dealt with defining principles in particular circumstances rather than defining the term itself. One item on the principles of definition is relevant to the general question of definition of all terms. This was by John Stuart Mill and has been mentioned under definitional confusion regarding ethics above.

6.6. Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

6.7. Step 7 Remove mixed content/ process meanings

None present.

6.8. Step 8 Reduce divergence/ consider additional inclusions

No further checks are necessary beyond what has been covered in Steps 3 and 4.

6.9. Step 9 Check against the five rules

The definitions are by genus and difference and satisfy Rules 1 to 5.

6.10.   Step 10 Report the derived definition

The derived definitions are as follows:
- Principle = (n) a rule guiding action.
- Principles = (n) a set of rules guiding action.

7.   Define values

7.1. Step 1 Define derivative or component terms

While the term values is a plural noun derived from the adjective value by adding an s, both can have slightly different meanings and both will be defined. The verb form to value is not contested and will be ignored.

7.2. Step 2 Survey lexical usage

Lexical usage is surveyed in Tables 2a and 2b in the Appendix.

7.3. Step 3 Analyse lexical usage

Definition specific to any field such as commerce will not be selected. Analysis of Table 2a indicates something is of value when it has worth, usefulness (utility), importance,

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desirability or merit, whether the purpose is exchange or not. Quality affects value but is not, on its own, the essence of value itself. Similarly 'the regard that something is held to deserve' well expresses the non-economic aspect of value but does not really accommodate use of the term commercially. The value of something to a particular person may be an individual matter and so any absolute 'value judgement' will be avoided as normative and/ or tautological. This leads to rejecting most of the definitions of the plural term 'values' as principles or standards in favour of a definition that simply indicates it is a preference. I may value (prefer) ice cream over protein at a particular time and while there may be a health dimension to these relative values, there is no underlying principle, standard or moral dimension. I may value sport highly at some times and relaxation at others; I may also value things that others may perceive as moral or ethical or I may simply not give them quite as high a value as somebody else, without actually devaluing them. So evaluation of subjective individual choices is best handled without the complication of moral judgement hijacking emotions off to some doubtful or contestable conclusion. Arbitrary introduction of 'moral' judgement unnecessarily complicates matters by producing multiple overlapping definitions and this does not assist in resolving overlap between terms. Any question of morality will therefore be left to the definition of morals below. A definition of values that accommodates preference or importance will be developed.

7.4. Step 4 Develop a connotative (intensional) conventional definition

The options not yet ruled out from Table 2a are worth, usefulness (utility), importance, desirability or merit. An ornament may have high worth though being emotionally important while also being practically both useless and unimportant. It may be desirable and have great merit, but I may prefer someone else kept it as it may be useless and inconvenient to me, even though I may recognise its value. Alternatively I may consider something to be a work of art and want to invest in it. This short discussion indicates the difficulty of defining value using any of these terms other than worth, which is independent of all the ways in which value can be determined, albeit that worth currently does have a heavier connotation of having a price than value does. Value will therefore be tentatively defined synonymously as worth. This is a definition of the uncountable sense of the term.

The plural term 'values' has connotations beyond worth which introduces preferences and actions. Personal and corporate values can include things such as perseverance or discipline. A value such as discipline may not be as important for a creative, artistic person as it may be for a scientist, but could apply only in those individual's work lives and not in other areas of their lives. Values such as diligence, integrity, sustainability, excellence, innovation, open mindedness, learning, growth, creativity and positivity are desirable but secular rather than moral, as are family and work-life balance. Self-interest and making a profit are also values – as in things that motivate people and organisations to take particular actions. The definition also needs to accommodate circumstance where we are not conscious of what is really driving us, which requires experience, awareness or instruments such as revealed preference surveys to elucidate. Values will therefore be tentatively defined as preferences guiding the actions of an entity. The countable singular sense of this term will be taken to mean a particular preference guiding the action of an entity. As this actually defines a phrase, 'a value', it will not be listed as a separate definition.

7.5. Step 5 Report academic review of definitions

All EBSCO databases were searched on 14/11/2016 for the terms "values" and "define" in the title. 337 were found of which 200 were non-identical and none contained any such

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review. Many dealt with the defining numerical values of particular variables or with values that define x, rather than actually defining values. A similar search was conducted for "definition" and "values" and 629 were found of which 409 were non-identical. Most were medical dealing with values of variables used as predictors for various conditions. There was no review of definitions and only four that dealt with the definition of value. These were by Urban, Perry, Sheldon and Sebek, who will be considered in chronological order.

Urban (1907) discusses value from a psychological perspective, seeking to determine the thought process used to determine the worth of an object to a particular subject. He does this by 'study of the grammar of worth consciousness' to 'find both the nature of the processes through which these funded meanings are acquired and the basis of their classification' (Urban 1907: 3). He says 'Worths are said to be subjective or objective, real or ideal, actual or imputed, intrinsic or instrumental' (Urban 1907: 3) and proceeds to analyse these. He notes the process of, for any object, 'its actual value arising from its capacity to satisfy separate desires' (Urban 1907: 5). (Note: This is quite close to the academic definition derived below). He notes that 'worth judgments express not attributes of objects apart from the subject (even when the value is described as actual and objective) but rather functions of the relation of subject to object' (Urban 1907: 5-6). He classifies worth objects into three groups; beauty of grace or form; sensory and perceptual activities of consumption; and over-individual (or group) (Urban 1907: 9-10).

He discusses whether desire or feeling constitute the worth experience and concludes in favour of feeling rather than desire. 'Desire is determined by feeling or feeling dispositions. But we have already seen that worth cannot, in every case be identified with actual desire, but only with the capacity of being desired, desirability' (Urban 1907: 18).

> The essence of desire is the feeling of lack or want. We *'feel* the need' of something. What further qualifies desire is the kinaesthetic sensations which are irrelevant accompaniments from the standpoint of the essential worth moment. But it is by no means in the same sense true that every worth experience involves explicit desire. We may actually feel the worth of an absent friend without the slightest trace of that qualification of our feeling which we describe as actual desire, although of course a conative disposition is presupposed and may become explicit under suitable conditions. The same is true of aesthetic and mystical states of repose where actual desire is in abeyance. … In so far, therefore, as our definition is concerned with the desire moment, we must enlarge it to read — an object has worth in so far as it is either desired or has the capacity of calling out desire, has, in other words desirability. This definition includes the mystical and aesthetic states of repose already referred to, for no object can become the object of such feelings which has not been desired and may not under some circumstances be again desired (Urban 1907: 19).

This purported definition may be a rigorous, meticulous and insightful description of the worth experience and how it arises, but it is an articulation of that process, not a definition of the word 'value'. He also notes 'my appreciation of the worth of an object does not necessarily, and in every case, rest upon such explicit judgment of existence, but at most upon a primary undisturbed *presumption* of reality' (Urban 1907: 23). This reflects the fact that we act on what we think is true, but it may not actually be so.

Our definition does not need to <u>include</u> all of these considerations. It simply needs to <u>not preclude</u> any of them. All are aspects of the worth experience and so are not excluded from the above proposed synonymous definition of value as worth. The academic definition

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derived below from Perry, who referred to Urban in his work, also does not preclude any of these considerations, so this source provides no reason to change either definition.

Perry (1914) in effect surveys definitions and comes very close to, but actually stops short of giving a complete definition. However he does give sufficient to enable a definition to be constructed from his work. He first despatches the arguments that the term is indefinable, then the view that value consists in the relation of harmony or fitness as well as the view that it consists in the good or best of its kind. He points out that all three views ignore bias or interest and 'The belief that this fact, or its characteristic relation, is value has most commonly found expression in the pleasure theory or hedonism' (Perry 1914: 148). He identifies the shortcomings in this ancient view, considering good and evil, pleasure and pain before concluding:

> It is held at the present day with something approaching unanimity that value in the generic sense has to do with a certain constant that we may call bias or interest. We have found that efforts to define value in other terms, and even the argument for its indefinability, point unmistakably to this constant. The justification of this view lies in the fact that bias or interest, with its manifold varieties, conditions, and relations affords the best means of systematically describing that region of our world which the value sciences and the value vocabulary roughly denote. In any case it will doubtless appear that most of our differences of opinion will lie within this view (Perry 1914: 149).

In addressing definition, he says:

> It is one thing to assert that the fulfilment of interest is essential to value and another thing to say that it constitutes a sufficient definition. In other words it is possible to maintain that satisfaction of interest as such is value, or to maintain that value is a qualified satisfaction of interest (Perry 1914: 149).

He finds inconsistencies in the former and rejects it on grounds including that 'The judgment cannot be its own object' (Perry 1914: 154). He then deals with the latter and explores the sense of where 'a particular liking is not in itself a guarantee of value' (Perry 1914: 156). However in an attempt to generalise, he heads into an unsuccessful attempt to deal with quantification, which leads him into universals and absolutes, clouding the issue and perhaps causing him to not proffer an actual definition, even though he clearly favours something based upon 'a qualified satisfaction of interest' that accommodates the fact that there might be a scale or norm independent of the individual that determines it.

I will attempt to resolve that conundrum by drawing upon elements of his earlier discussion of satisfaction of interest concerning having versus getting. I can satisfy an acquisition interest in something by acquiring it (getting it). I can then take pleasure in seeing it or using it (having it), satisfying whatever desire that having it enables me to do. I may find that desire and satisfaction is maintained, increases or even diminishes to the point where I no longer desire it. In that latter case, its emotional and/ or functional value to me diminishes even though it may still have potential interest to others, giving it an economic value to me on a scale judged by others. In circumstances of acquisition, it is therefore the potential to fulfil a future interest (whether it is currently satisfying that interest or not) that gives anything its value to me and therefore is value for me. The thing that no longer satisfies my current interest for now and the future may well fulfil someone else's current interest for now and the future.

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Substituting this into the above latter definition of Perry (1914: 149) derives the following definition of value: the potential satisfaction of interest. However this could be considered incomplete in social interactions where some people may be considered to add value in particular circumstances, such as through conversation or performance, and some not. It would not be reasonable to contend that such an experience being enjoyed now does not provide value now because it is being experienced now rather than having the potential to do so. This leads to the definition needing to cover both circumstances, producing a definition of value as the actual or potential satisfaction of interest. However we may then ask whether it is actually necessary to include the two qualifiers. The need to qualify seemed to arise from seeking an external scale to judge against:

> But there is perhaps one fundamental motive after all: the desire, namely, to discover a criterion by which superiority or inferiority shall be assigned to values themselves ... It seems to be necessary to provide for a scale or hierarchy in which inclination shall be subordinated to duty, impulse to a "norm," or enjoyment to an ideal (Perry 1914: 156).

However this overlooks the fact that something can be of great value to me that is of little or no value for the same purpose on any objective scale or to anyone else, such as my very comfortable but worn-out old clothes that I may still wear! Omission of the qualifiers avoids the need to specify actual or potential and to thereby rule out interests that may only be imagined. The derived definition is therefore simply satisfaction of interest.

This does not constrain the interest to being only that of the individual. It does allow for the interests of others to be a determinant on some external scale. However it includes no sense of scale. I may consider someone has given me good or poor value, but this is qualified by my understanding of what good means to me in that particular circumstance. Defining exclusive of the silent qualifiers 'good' or 'poor' requires reference to the existence of some sort of scale without actually specifying what that is. So the definition will be modified to be the degree to which an interest is satisfied. However the term degree has other meanings and so would be best replaced with a different word denoting scale. Quantity, quantum and amount are possible options. Quantity will be selected as quantum has a particular meaning in physics not implied here and amount can imply money. This leaves the derived definition as the quantity of satisfaction of an interest.

This chain of reasoning comes full circle to satisfying the desire in Perry (1914: 156) above for a scale qualifying interest, but without accepting universals or absolute judgements.

Sheldon (1914: 113) states 'it seems impossible to give an account of value which has the slightest prospect of general acceptance' and then heads down a similar path to Perry to 'treat value as a concrete "universal" ' (Sheldon 1914: 114). His six classes of objects considered valuable overlap with each other and to not include things such as scientific discoveries, the bones of ancient creatures or natural resources. The paper purports to but does not actually define value. It merely gives various allegories such as

> Do values then exist? Yes, if they are felt; just as much as gravitation, pressure, collisions exist. They may be physical tendencies, or any other kind; so long as they are verifiable as aiding or hindering other tendencies of any kind whatsoever. There is no gulf between value and fact' (Sheldon 1914: 123),

'A perfect value, or a perfect being, consequently, must be actual', and 'The fundamental axioms of all knowledge constitute a special case' (Sheldon 1914: 124). None of these

provide anything to add to the definition derived from Perry, albeit that none of them are precluded by it.

Sebek (1973: 258) notes that values 'are an important factor in decision-making and selective behaviour'. He refers to those with regulative influence as directive and those relating to the quality of objects as gratificational. He surveys dimensions of values but these all serve to sub-classify, requiring more extensions to a definition, rather than revealing the essence of the single word, leaving the proposed definition unchanged.

The review of academic sources produced a definition of value by genus and difference as the quantity of satisfaction of an interest. The synonymous definition derived from analysis of lexical usage was worth. A choice needs to be made. Worth has a heavier colloquial connotation of a sum of currency than the term value actually has. This gives an inclination towards the academic definition. Defining synonymously also just replaces one difficult to define term with another, rather than actually defining what it actually is. Worth was the best synonym to describe value but the analysis of academic sources does provide a definition of what it actually is and for that reason will be taken forward as the new tentative definition.

7.6. Step 6 Remove unwarranted inclusions
There are no such inclusions remaining.

7.7. Step 7 Remove mixed content/ process meanings
None present.

7.8. Step 8 Reduce divergence/ consider additional inclusions
No further checks are required necessary beyond what has been covered in Steps 3 and 4.

7.9. Step 9 Check against the five rules
The definition of value is by genus and difference and satisfies the five rules. The definition of values is by genus and difference and satisfies the five rules.

7.10.   Step 10 Report the derived definition
The derived definitions are as follows:
- Value = (n) the quantity of satisfaction of an interest.
- Values = (n) (pl) preferences guiding the actions of an entity.

8. Define Ethics

8.1. Step 1 Define derivative or component terms

Although this term has ethic as its stem and is a plural noun formed by addition of an s, the stem is not commonly used and so does not need to be separately defined. Usage of the term is primarily in the plural form and some dictionaries define both singular and plural forms together and some do not distinguish between them. Here the plural form will be defined.

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8.2. Step 2 Survey lexical usage

Lexical usage is surveyed in Table 3 in the Appendix. Unless otherwise noted, it is the plural form that the particular dictionary has defined. The references to usage with singular and plural verbs in Dictionary.com and The free dictionary have not been included.

8.3. Step 3 Analyse lexical usage

There are two predominating sets of definitions in Table 3; one concerned with individual behaviour and the other with the study of it. Only the definitions of individual behaviour have been shaded grey, as the study of it is generally consequential. There is general agreement throughout the definitions in Table 3 in referring to principles, rules and standards. Principles are less specific than rules or standards and the nature of many ethical questions is not deterministic, so explicit rules or standards may not exist. When referring colloquially to a 'standard of behaviour', this has a generic intent and implies being a principle anyway.

There are also many references to morals in Table 3, however these will not be selected as principles of behaviour can come from sources other than morals. For example, rigour of definition is an important principle and while this may potentially contribute to reducing conflict in the world, and it would be useful if it came to be considered as a standard requirement of ethical discourse, it can hardly be considered to be derived from morality. It just evolves from seeking functionality and finding that first accommodating what is good for the whole group enables better outcomes to be achieved more quickly and with less effort. Avoiding reference to morals also avoids using a term that has not yet been defined.

8.4. Step 4 Develop a connotative (intensional) conventional definition

Ethics will therefore be tentatively defined as "principles of behaviour". The question of whether those principles are true or valid or moral will not be addressed.

8.5. Step 5 Report academic review of definitions

All EBSCO databases were searched on 31/03/2016 for the terms "ethics" and "define" in the title. 20 were found and none contained any such review. All dealt with defining ethics in particular circumstances rather than defining the term itself. One actually included the following words in its title 'If you ask 20 people you pass in the hall to define ethics or ethical behaviour, you will more than likely get 20 different answers'. A similar search was conducted for "definition" and "ethics" and none were found.

This leaves us to look at other sources. The Oxford On-line dictionary gives the following summary of schools of ethics:

> Schools of ethics in Western philosophy can be divided, very roughly, into three sorts. The first, drawing on the work of Aristotle, holds that the virtues (such as justice, charity, and generosity) are dispositions to act in ways that benefit both the person possessing them and that person's society. The second, defended particularly by Kant, makes the concept of duty central to morality: humans are bound, from a knowledge of their duty as rational beings, to obey the categorical imperative to respect other rational beings. Thirdly, utilitarianism asserts that the guiding principle of conduct should be the greatest happiness or benefit of the greatest number.

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McNutt (2010) noted:
> Mandeville's spokesman, Cleomenes (In *Fable of the Bees*), in discussing whether
> men are naturally good, encapsulates the theme:
> Horatio: But are there no Persons in the World that are good by Choice?
> Cleomenes: Yes, but then they are directed in that Choice by Reason and Experience,
> but not by nature, I mean, not by untaught Nature.

This points to the need to learn 'goodness' rather than being innately 'good', and learning can take much time, given the large range of circumstances that present during life. It also points to utility of approaches, rather than innate or absolute value, as well as indicating cooperation, deferred gratification and wisdom. These elements will be explored below.

While no academic review of definitions of ethics was located, one recent source was located that overviews the field of ethics from Plato to the present time. This was Robinson and Garratt (2013) and will be referenced heavily.

Aristotle advocates a middle or mean between excess and deficiency: 'temperance and courage, then are destroyed by excess and defect, and are preserved by the mean' (Aristotle and Ross 1999: 22). Robinson and Garratt (2013: 42) consider 'Aristotle's ideal is essentially a dull middle-aged sensible Athenian male citizen who is calm and rational, avoids extremes and knows how to behave from experience.' They also note that 'Aristotle's views seem strange because nowadays we don't confuse morality with self-fulfillment. … In a post-Romantic age that celebrates individualism and personal choice, many of us would also reject the idea that "good citizenship" is the ideal to aim for' (Robinson and Garratt 2013: 43).

McNutt (2010) noted 'Kant's rule-based ethics is independent of the consequences, his morality is not the same as self-interest and one is acting morally when one performs one's duty' and that there are 'moral laws that clearly define what is right and what is wrong'.

Robinson and Garratt (2013: 83) similarly note that 'Morality for Kant is a serious business. It involves choosing **duties** not wants; motives and not consequences are the central distinguishing feature of a moral action. Morality is not about **doing** what comes naturally, but **resisting** what comes naturally.' They also note that 'By using our reason and the "Universability test", we have indirectly discovered a compulsory rule or **"categorical imperative"**' (Robinson and Garratt 2013: 84). They point out:
> Kant's system of compulsory rules seems monolithic and incredible because it doesn't
> allow for exceptions. It also doesn't help us choose **between** moral rules. Sometimes
> it is just not possible to keep a promise and to tell the truth at the same time (Robinson
> and Garratt 2013: 85).

Robinson and Garratt (2013: 73) note that 'In certain rare situations … utilitarians are allowed to break traditional moral rules if by so doing they produce a balance of happiness over misery.' They further note:
> a moral philosophy that lets you break traditional moral rules "on occasion" is rather
> disturbing. Would you like to share a raft with a utilitarian? Furthermore, is it true that
> Utilitarianism can make ethics "scientific"? Mill tries to do this by a kind of semantic
> acrobatics – by declaring that the concept "good" means the "greatest happiness of the
> greatest number." But what the majority want isn't always good (Robinson and
> Garratt 2013: 79).

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McNutt (2010) recommends applying Kant's approach within governance, however this cannot be satisfactorily applied to the non-corporate behaviour of individuals. It is evident that all three views have difficulties in addressing the question 'What should I do in this particular circumstance?' This difficulty arises from which interests are to be served by the possible actions and on what time-scale. However, this is a normative question, not one concerning the definition of a word. A better question to ask may perhaps be 'What will the best course of action be to give me what I want with minimal adverse consequences to others?'

Interesting as these considerations are, they have no bearing upon the actual definition of the meaning of the single word ethics.

8.6. Step 6 Remove unwarranted inclusions

The adopted method is non-normative and so any reference to good or evil, right or wrong, will be avoided. Consequently it will not be presumed that ethics must be 'good'. While ethics may be relatively so for particular groups, whether hegemonic or disadvantaged, this will be regarded as not necessarily absolutely or existentially so. This may result in difficulty, due to the colloquial usage of the term 'ethical' as meaning 'good' and 'unethical' meaning 'bad'. However we will draw on other definitional work of Author Witheld (Under submission) applying this method to other terms which has identified the difficulty that arises when taking language from one field to another without articulating the assumed, silent qualifier. In this case, referring to ethics as good will be regarded as just omitting the silent qualifier (good) of a word that is neutral (ethics) to produce something that is satisfactory for colloquial use within a particular community but requiring more specificity when taken outside that community. Interestingly, this also accords with the use of the term ethics as a field of study - which considers all aspects of what might be considered good and bad as well as what works.

8.7. Step 7 Remove mixed content/ process meanings

Further consideration of 'good' is therefore warranted, particularly concerning its relative versus absolute usage. Bonner (2014: 5) writes '"We never know what we are talking about," cautioned English philosopher Karl Popper. … But … Wittgenstein had an answer for him: then shut up'. This retort, for all its pithy brilliance, was perhaps a little disingenuous as Wittgenstein himself had previously come to a similar conclusion about ethics. He quotes Professor Moore's *Principia Ethica* thus: 'Ethics is the general enquiry into what is good' (Wittgenstein 2007). He then puts forward various synonyms including 'the enquiry into what is good', 'the enquiry into what is valuable', 'the enquiry into what is really important', along with several others that are more normative. He noted that all of his suggested expressions are used in an absolute sense: None contain any relativity to a pre-determined standard or goal. He points out that 'the word good in the relative sense simply means coming up to a predetermined standard'(Wittgenstein 2007) He points out that 'this is not how ethics uses them (his synonyms).' He concludes that every statement of relative value is a statement of fact, contending that no statement of fact can ever be a judgement of absolute value. He reminds us of Hamlet's words 'Nothing is either good or bad, but thinking makes it so'. He then says: 'if I contemplate what Ethics really would have to be if there were such a science, this result seems to me quite obvious. It seems to me obvious that nothing we could ever think or say should be the thing' (Wittgenstein 2007). He claims that 'Ethics, if it is anything, is supernatural and our words will only express facts'. He concludes that 'Ethics … is no science'. Popper (1992: 32-33), with his scepticism regarding induction and his four

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tests of scientific knowledge, which none of the ethical schools of thought would pass, would agree. The general thrust of Wittgenstein (2007) therefore supports the tentative definition not containing any statement of absolute value, i.e. ethics not necessarily being considered to be only 'good'.

David Hume has a similar view, noting that 'belief is nothing but a peculiar feeling, different from the simple conception' (Hume and Mossner 1969: 672). In a similar vein, Robinson and Garratt (2013: 89) note:

> The one big rule of deductive logic is that no one is allowed to magic extra information from a premises into a conclusion. If you do this then your argument isn't valid. … You can't prove moral beliefs using logic, which means you can't prove moral propositions by just piling up facts.

Robinson and Garratt (2013: 95) also summarises the similar emotivist argument of A.J. Ayer thus:

> In Ayer's view, all "moral philosophy" had been some kind of linguistic and logical error. There is no such thing as moral "knowledge" or certainty, and there can be no moral experts who can tell us what is right or wrong.

They also point out that Ayer's emotivism ignores any idea of community or communal values (Robinson and Garratt 2013: 129) and that Satre's existentialist view that every individual is unique 'means that moral philosophy cannot be derived from a definition of "human nature"' (Robinson and Garratt 2013: 98). In describing the evils of modernism in totalitarian states, they observe that 'it was precisely because these societies had a firmly held belief in the **objectivity** of their utopian visions that they were so absolutist and coercive' (Robinson and Garratt 2013: 119).

The difficulty of the absolute view is further exemplified in the moral conundrum that so troubled Darwin - how a beneficent God could allow such cruelty in the natural world, as exemplified by the female wasp that anaesthetises its prey to keep it alive and fresh while it is being consumed, with 'the larvae of ichneumonidae feeding within the live bodies of caterpillars' (Darwin and Beer 2008: 181). What is good for the ichneumonidae is not good for the caterpillar. There is no absolute 'good' here, unless one makes a value judgement on which entity has the greater value. As he points out, 'natural selection works solely by and for the good of each being' (Darwin and Beer 2008: 360). As such, natural selection works on self-interest, not on morality or value judgement.

A similar view emerges from Blackmore (1999: 191) who noted:

> Although the instruction to 'love thy neighbour as thyself' is commonly taken to mean 'love everyone', in the tribal context in which it was first written it may have been meant more literally - in other words love your own tribe, and your own family, but not everybody else (Hartung 1995). Even the admonition not to kill may originally have applied only to the in-group. Hartung points out that the rabbis of the Talmud used to hold an Israelite guilty of murder if he intentionally killed another Israelite, but killing other people did not count.

Belief in absolute 'good' requires full knowledge of content, and acceptance of a precedence or 'pecking order' of the worth of beings, whereas relative 'good' denotes a process of comparing or measuring against something, and so is independent of belief, content, value judgements and prejudice.

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Something which is 'good' for a particular person or entity is generally associated with bringing them some benefit, which for Wittgenstein (2007) is a statement of fact, as it is a relative measure, gauged against whatever the entity had previously. The word 'good' will therefore only be used in its relative sense of 'good for entity x', meaning it provides some benefit to x, as accepted in Spinoza's definitions of good and bad in Group Rule 1.

This discussion supports the proposed definition excluding the presumption or implication that ethics must be 'good' along with any consideration of absolute 'good', correct or moral value.

8.8. Step 8 Reduce divergence/ consider additional inclusions

Checks (a) Historical usage and (b) Field/ speciality usage are the appropriate check for this term.

8.8.1. Step 8 (a) Historical usage

The Ten Commandments and the list of seven deadly sins have endured for millennia and have provided man with principles of behaviour. They qualify as ethics under the proposed definition.

The reference from Wittgenstein (2007) in Step 7 above to ethics as being supernatural, appears, from his context, to refer to God and religion, which has been the principal custodian of principles of interpersonal conduct. Wittgenstein (2007) goes on to say that 'Now I want to impress on you that a certain characteristic misuse of our language runs through all ethical and religious expressions. All these expressions seem, prima facie, to be just similes.' Further to this point, it is worth noting that Spinoza wrote a whole book about ethics without defining it, even though he defined many other terms. I will accept Wittgenstein's view on the history of ethical thought.

8.8.2. Step 8 (b) Field/ speciality usage – governance considerations

Ethics and governance are often enmeshed but the governance model presented by McGrath and Whitty (2015) draws a clear distinction between governance and ethics. They do not define ethics, but do define governance as the system by which an entity is controlled. An organisation can make any rules (policies, procedures, codes of conduct etc.) on any subject. These may contain any level of variation between self-interest and the interests of others and strike some balance between competitive and cooperative behaviour. An organisation's governance arrangements will commonly contain aspects of behaviour that are considered ethical or moral. These arrangements may be evaluated on the basis of whether they contain moral elements or not. But governance arrangements may or may not include measures dealing with ethics and morality; the governance arrangements themselves are simply the vehicle or means or process through which ethics can be expressed, if an organisation chooses to do so. The existence of rules or processes is not the same thing as their content. Where a company develops a code of ethical practice (CoEP) similar to that in the UK Financial Services Authority (FSA) handbook (McNutt 2010), this would address typical moral conundrums that employees in that particular company are likely to face, providing a deterministic way of dealing with them that suits the rule based nature of organisational governance arrangements, and would simply become a change in or addition to its pre-existing organisational governance arrangements.

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This indicates no difficulty with the proposed definition.

8.9. Step 9 Check against the five rules

This is a definition by genus and difference and satisfies Rules 1 to 5.

8.10.   Step 10 Report the derived definition

The derived definition is as follows:
- Ethics = principles of behaviour.

9. Define beliefs

9.1. Step 1 Define derivative or component terms
Principles are the plural form of principle and both will be defined.

9.2. Step 2 Survey lexical usage
Lexical usage is surveyed in Tables 4a and 4b in the Appendix.

9.3. Step 3 Analyse lexical usage
Most of the dictionaries listed in Table 4b did not define the plural form and so by default regard it as having the same meaning as the singular form. Only one explicitly stated this. The few that did give separate definitions gave definitions that were effectively the same as the singular form. One defined the plural form and not the singular form. Here the commonality of the definitions of singular and plural forms will be accepted and Tables 4a and 4b will be considered as providing potential definitions of both forms.

Review of these tables indicates that there are three elements of definition required; whatever it is, by whom it is held, and the fact that validity is accepted with the level of required proof not being specified.

9.3.1.   What is it?

Belief may commonly be associated with religion, involving accepting the reality of some being, phenomenon and/ or precepts. But beliefs can be held on matters other than religion and so any directly religious reference will be avoided, as will related terms such as faith and moral conviction. Similarly good and right will not be used as some beliefs may not involve these; for example, I may have formed a belief from my knowledge of person x that in a certain circumstance they will do y. A belief can be strongly and passionately held, or felt or may be just something believed on the balance of probability. Consequently the degree of certainty or strength of conviction will be avoided. This leads to rejection of the following terms; mental acceptance, strong, firmly held, certainty, being sure, confidence.

The remaining options from Tables 4a and 4b regarding what it is are: something, proposition, state or habit of mind, feeling, idea, view, opinion, mental act, condition of,

claim, assumption, assertion and conviction. While a belief can be any one of these things, many of them detail the circumstances that a belief can arise from and so constitute definition by extension. This rules out idea, claim, assumption, assertion and conviction, leaving; something, proposition, feeling, view, opinion, mental act and condition of and state or habit of mind. Mental act and condition of denote state of mind and a belief can be independent of this. A belief in God would generally not be regarded as a state of mind, rather it would be a conclusion from some process of thinking, as would a belief based on some weight of scientific evidence. Feelings/ emotions can arise without being associated with a belief; I may have strong instantaneous feelings for another person without believing or even knowing anything about them at all. Furthermore, non-normative definition is being sought, independent of emotions. A belief may also have no emotion or feeling associated with it at all, such as 'I believe 1 + 1 =2'. The term something is non-normative but does not exclude all non-mental somethings and so is too generic. View is the less desirable than opinion as it needs to be used in a phrase such as 'formed a view' to distinguish it from like and dislike as well as from simply viewing or seeing something. This leaves the terms proposition and opinion. Opinion has the connotation of having made a judgement. Use of opinion would provide a single word synonymous definition but religious people could argue that belief is a sub-set of opinion, namely 'indisputable' propositions and strength of belief and emotion have already been ruled out above. This points to a need for a definition by genus and difference, saying what the term actually means rather than referring to another conceptual term with debatable meaning. It may be useful to consider a contractual analogy, where there must be both offer and acceptance. For a belief to occur, there must have been some proposition coming from somewhere that has been accepted. So the term proposition will therefore be selected and the questions of acceptance and validity addressed below.

The definition of belief has to cover a very wide range of circumstances from say, person x loves me, to the sun will come up tomorrow morning or 1+1=2. It is not possible for any 'essential substance' to cover the concept of belief across these physical and mental realms, and a definition does not have to satisfy all of everybody's purposes; it just has to be a mental construct not inconsistent with any reasonable usage. Use of the word proposition satisfies these requirements.

9.3.2. *Who holds it/ where is it held?*

Beliefs are individual. Institutions such as a church or a political party may prescribe beliefs for their adherents. Each individual has to decide their level of commitment to the required beliefs. The group will therefore have tenets it declares to be essential for membership, but it is still dependent upon the belief in and collective commitment of its members or adherents to it. So while a group can be said to have a set of beliefs, these are more required of group members than held collectively in some group consciousness. It would therefore seem desirable to limit the term to individuals. However doing so has an impractical consequence. The mechanics of how particular beliefs or doctrines may wax and wane through percentages of adherents coming to an alternate view is not the province of definition. It is unlikely that anyone would dispute the suitability of a statement of the type 'Church x believes z' and so the definition is best to refer to an entity, thus covering both groups and individuals.

9.3.3. *Validity and relation to truth*

A particular belief may or may not be true. Believing in something that turns out to be non-existent or false does not mean it was not a belief. But the truth of a particular belief is also

not the province of definition, ruling out any reference to absolute truth, actuality and reality. Terms that deal with likelihood of truth or reality are; considered to exist or be true, held to be true, likely true, accepted as true or real. However a person may hold a belief that they find useful even though they may know at the time it isn't true. Self- development affirmations to get to an attainable state is one case in point – 'fake it 'till you make it'. Another is acceptance of (or belief in) Newtonian mechanics is still useful in day to day application even though it has been expanded by Einstein's theory of relativity. Such beliefs are nevertheless valuable. Other beliefs could be considered by some to be not valuable because of their consequences, such as various religions' desires of world domination in various different ages. This indicates value should be avoided in the definition. Validity accommodates these various circumstances without having to specify them and is a better choice than any phrase indicating acceptance of truth. The remaining options from Tables 4a and 4b accommodating proof not being specified are: faith, trust, placing trust or confidence in another, without proof, trust or confidence placed in some person or thing. These all describe ways in which an individual may come to accept a particular belief. They therefore constitute definition by extension and will be rejected in favour of 'considers valid' which is generic and by intension.

9.4. Step 4 Develop a connotative (intensional) conventional definition

The definition resulting from the above analysis is therefore a proposition an entity considers valid.

9.5. Step 5 Report academic review of definitions

All EBSCO databases were searched on 19/12/2016 for the terms "define" and "beliefs" in the title. 6 were found. None contained any such review. All dealt with defining beliefs in particular circumstances rather than defining the term itself. A similar search was conducted for "definition" and "beliefs" and 63 were found of which 32 were non-identical. Only two actually dealt with an actual definition of the word; by Stephenson (1965) and by Campbell (1967). The remainder dealt with defining beliefs in particular circumstances rather than defining the term itself.

Stephenson considers the definitions of opinion, attitude and belief. He offers a formal definition of opinion as 'a *self-referent* statements held … on grounds short of proof'(Stephenson 1965: 284). He does not actually offer formal definitions of the other two terms, but discusses them in relation to opinion. He notes that all three can have unlimited range between momentary and permanent. He quotes McNemer in saying:

> No one has ever seen an attitude; an attitude, however real to its possessor, is an abstraction, the existence of which is inferred from nonverbal overt behaviour, or from verbal or symbolic behaviour. The term opinion is frequently defined as the verbal expression of an attitude. (McNemar, 1948, p.289) (Stephenson 1965: 282).

He notes that an attitude has 'drive value' (Stephenson 1965: 282) whereas a habit does not. He observes:

> A person with … a belief must, on occasion, run through his mind all the opinions he holds, as well as others he denies … What has to be modelled is a large number of opinions, resulting in a few different attitudes, stemming perhaps from only one belief (Stephenson 1965: 284).

He concludes:

> Opinions are apt to be about trivial matters. Beliefs are based either on evidence or on grounds of faith, dogma, trust, upbringing, authority or the like. In the former case,

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there is little emotional or ego involvement … Belief, in our use of the term, has reference to ego-involving conditions … Attitudes, instead, have references to self (Stephenson 1965: 287).

Limiting a definition to ego-involving conditions excludes evidence based beliefs that are held independent of ego. This reflects the author's framework of psychological interest and cannot be accepted for generic definitional purposes. Nevertheless neither of these two aspects are excluded by the proposed definition. The discussion highlights the need to include definitions of opinion and attitude. As these no longer appear contentious, I will unless otherwise corrected, not undertake a full definitional exercise on them and accept the Oxford Dictionary definitions as follows:

- Opinion = A view or judgement formed about something, not necessarily based on fact or knowledge. Note this is essentially the same as Stephenson's definition above.
- Attitude = A settled way of thinking about something.

Campbell (1967) discussed episodic and dispositional, absolute and qualified belief but also did not actually define belief itself. He notes:

For the practical purposes of everyday life, the ambiguity we have been noting in the ordinary usage of 'belief' is not of great moment. When a man says " I believe X to be the case" even though what he absolutely believes is only that X is very probably the case, his thought and action in relation to X will not as a rule be significantly different from what they would be if he absolutely believed that X *is* the case. It is seldom therefore that his ambiguous language will be seriously misleading. But the ambiguity may be unfortunate if it is imported into philosophical controversy about the nature of belief. Failure to give the double usage of 'belief' explicit recognition can lead to dangerous confusions. Disputants are liable to make confident pronouncements about the nature of belief which they support by examples drawn from *one* usage, while equally confident pronouncements to the contrary are made by those who have taken notice only of the *other* usage.

A distinction in verbal form is obviously desirable to represent the distinction in meaning. In contexts where the use of 'belief' *simplicitor* might occasion misunderstanding, therefore, I shall speak of "absolute belief" where the believer is in no kind of doubt about the truth of the proposition said to be "believed", and of "qualified belief" where believer would admit to at least a measure of doubt (Campbell 1967: 207-208) .

Note this adds a qualifier to the word belief and so defines two phrases rather than a single word. He then distinguishes between strength of belief and emotion.

It is common usage to talk of some of our beliefs as being stronger than others. …The notion of "degrees of strength" in belief is meaningless save in respect of qualified belief. … Some absolute beliefs, admittedly, have livelier emotional accompaniments than others. Where the propositional content of an absolute belief is intimately associated with central human interests - with morals or religion, for example - it naturally tends to carry an especially high emotive charge. There is a "fervour" in the religious man's belief in God that is absent from his belief that 2 plus 2 equals 4. But the difference in strength of these emotional excitements that may attend belief is not to be confused with differences in strength between the beliefs themselves. *Qua*

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belief, a belief which is absolute is in every case all that a belief *can* be in the way of strength. Obviously it is otherwise with qualified beliefs (Campbell 1967: 208-209).

Consideration of the degree of doubt does not alter his definition of the two phrases. He further distinguishes judgement from statement, where judgement is internal and mental whereas statement is the public assertion and there may be a discrepancy between the two (Campbell 1967: 210). Again, this does not alter his definition. He says 'whenever one judges p one also believes p' (Campbell 1967: 211). He then considers the relationship between judging and believing before concluding that a definition 'per genus et differentiam seems not to be possible'. He then gives a definition:

Formally stated, our ostensive definition in these terms would read: 'Belief, in its basic sense of episodic, absolute belief, is the mental attitude of favour felt by a person *qua* person towards a proposition when and in so far as that proposition is mentally asserted or judged by him to be true (Campbell 1967: 217).

This is still a qualified definition of a sub-classification of the word with qualifiers i.e. a phrase, rather than a definition of a single word. In acknowledging the weakness of his definition, he asks 'Is the ostensive definition formulated above merely *an* ostensive definition, or is it *the* ostensive definition?' (Campbell 1967: 217). He concludes: 'For to the question "What other strong candidates are there for the role of "sufficient condition" for the occurrence of belief?" it seems to me that the correct, if surprising, answer is that there just aren't any' (Campbell 1967: 218). This is a reasonable question if we are looking to understand how belief occurs but is not a valid question regarding the definition of a word, albeit that one way of determining such 'essence' could come through understanding this. It is also proof by induction rather than deduction, which Hume and Popper have shown to be invalid. This is further confirmed by the definitional process used in this paper having developed a proposed definition above by genus and difference.

He then concludes:

While emotion is manifestly operative in determining belief, its function is only to *incline*, never to *necessitate*; that even to incline it must function indirectly - "going round", as were, "by way of the intellect". What directly determines a man's belief about p is his appraisal of the evidence about p as he sees it; and appraisal of evidence, whether that evidence is or is not distorted by emotive bias, can be a function only of the intelligence. Despite the superficially strong claims of the emotive life, then, I can find no good reason to deem it capable of providing any ostensive definition of belief. Nor can I find elsewhere a plausible alternative to the ostensive definition in terms of judgement (Campbell 1967: 219-220).

The definitional issues Campbell raises have been addressed in the lexical analysis above. The proposed definition contains all of the elements of Campbell's definition, but refined of unnecessary inclusions and expressed succinctly in a way that does not limit its generality.

This analysis of academic sources therefore provides no reason to change the proposed definition.

9.6. Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

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9.7. Step 7 Remove mixed content/ process meanings

None present.

9.8. Step 8 Reduce divergence/ consider additional inclusions

No further checks are necessary beyond what has been covered in Steps 3 and 4.

9.9. Step 9 Check against the five rules

The definitions are by genus and difference and satisfy Rules 1 to 5.

9.10.   Step 10 Report the derived definition

The derived definitions are as follows:
- Belief = (n) a proposition an entity considers valid.
- Beliefs = (n) propositions an entity considers valid.

Note that this definition does not exclude principles from the ambit of beliefs.

10. Define Morals

10.1.   Step 1 Define derivative or component terms

The term morals is a plural noun derived from the adjective moral by adding an s and both can have slightly different meanings so the adjective moral will be defined before the plural noun morals. The singular noun moral as in the moral of a story is not contested and will not be analysed.

10.2.   Step 2 Survey lexical usage

Lexical usage is surveyed in Tables 4a and 4b in the Appendix.

10.3.   Step 3 Analyse lexical usage

The singular noun form of moral, as in the moral of a story, is not contested as so will not be considered further. The Oxford Dictionary definition of moral as 'a lesson that can be derived from a story or experience' will be accepted. It is the adjective and the plural noun formed from it whose definition overlaps with other words that will be analysed.

Any definitions in terms of morals in terms of ethics will not be selected to avoid such overlap. The most common definitions in Table 5a are in terms of good and bad, right and wrong. However a definition in terms of principles or standards of right and wrong behaviour leads to the question 'What is absolute good?' In religious or international conflict, murder of members of the opposing group becomes moral, requiring a value judgement regarding which side may be entitled to be considered 'good'. This is best avoided and so definitions will be sought that accommodate these terms without actually using them. The quasi-religious connotations of this word noted by the Business Dictionary will be addressed by seeking a secular definition that also covers religious usage, so that it will be consistent with but not dependent upon the set of circumstances and beliefs that may have led to this occurring. The key factor not referred to in Tables 4a and 4b is that is that morals tend to be proscriptive rather than prescriptive. Even though they may be expressed in terms such as what one ought

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to do, this is generally distinct from what one might actually like to do, and so serve as restraint on individual behaviour for a greater good or higher purpose. Several definitions in Table 5a reference the voluntary aspect of morality rather than legal compulsion and this also needs to be accommodated in the definition. Vague expressions such as 'of or concerned with', 'founded on' or 'relating to' will be ignored.

10.4. Step 4 Develop a connotative (intensional) conventional definition

Mutually consistent definitions of these two words that accommodate the above considerations are:

Moral (a): = in accordance with a belief restraining individual behaviour for a higher purpose. This definition is equivalent to what an individual may think is right and good, and to what may be considered right and good by most people, without actually using those normative terms. The use of 'higher purpose' accommodates personal development, religious belief and benefit to a group that an individual belongs to or considers important. It side-steps the issue of 'absolute' good and of what is good for whom. It also excludes beliefs about matters which induce rather than restrain individual behaviour, such as the believed health benefits of particular foods, chemicals or products.

Morals (n): = a set of beliefs restraining individual behavioural for a higher purpose.

10.5. Step 5 Report academic review of definitions

All EBSCO databases were searched on 14/11/2016 for the terms "moral" and "define" in the title. 17 were found and none contained any such review. A similar search was conducted for "definition" and "moral". 82 were indicated of which 54 were non-identical items. None contained any such review. Many dealt with moral or other definitions rather than definition of the word moral. Only one actually purported to deal with the definition of morality. Closer examination found that it dealt principally with moral weakness and R.M. Hare's concept of 'overridingness', rather than a definition of morality itself. The only definitional comment in it was 'The problem with defining morality is not that of distinguishing the moral from the *immoral* but that of distinguishing the moral from the *non*moral' Frankena P780. This comments on degrees of not being moral, as distinct from being moral, which by implication is considered 'good'. This does not assist non-normative definition.

It is worth noting that another academic source located while searching supports avoiding use of the term law in the definition of morality. Leslie Green in his introduction to Hart (2012: xxxviii-xxxix) says 'Hart allows that while moral principles are not necessarily a source of law, they could be, provided they were so authorized by things that are a source of law'.

10.6. Step 6 Remove unwarranted inclusions

There are no such inclusions remaining.

10.7. Step 7 Remove mixed content/ process meanings

None present.

10.8. Step 8 Reduce divergence/ consider additional inclusions

No further such checks required beyond what is included in Step 3.

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10.9. Step 9 Check against the five rules

The definition of moral is operational rather than by genus and difference and so a check against the 5 rules is not appropriate. Nevertheless, it does actually satisfy them.
The definition of morals is by genus and difference and satisfies Rules 1 to 5.

10.10. Step 10 Report the derived definition

The derived definitions are as follows:
- Moral = (n) in accordance with a belief that restrains individual behaviour for a higher purpose.
- Morals = (n) (pl) a set of beliefs restraining individual behavioural for a higher purpose.

11. Group rules post definition

11.1. Cross check 1 Consistency within group

There is overlap remaining in the definitions of ethics and morals which needs to be removed. The definitions derived above are:
- Ethics = principles of behaviour
- Moral = (n) in accordance with a belief that restrains individual behaviour for a higher purpose.
- Morals = (n) (pl) a set of beliefs restraining individual behaviour for a higher purpose.

Both words have the connotation of restraint for the common or greater good but this is not mentioned in one of the definitions. The concept of restraint for a higher purpose will therefore be added to the definition of ethics.

This brings the definitions into similar format and wording that reflects common usage, however it raises the issue of how they would be distinguished? A separate and distinct locus of application therefore needs to be determined for both words. Morals are more usually associated with matters relating to sexual conduct, however this is not exclusively so. The Ten Commandments command 'Thou shalt not kill', so it could be said that morals have more to do with religion than sexual conduct per se. But religion has to do with more than that, dealing also with how we conduct ourselves generally in our interpersonal relationships and relationship with god rather than how we conduct civic matters. Ethics is used generally in a civic sense whereas morality is used in relation to interpersonal conduct. Interpersonal behaviour is not the sole province of any one religion or even of religion in general as cultural factors also come into play and referring to it accommodates these. That then enables a clear distinction between the two. How we conduct some civic matters may well be determined by a minimum standard of how the state should humanely relate to individuals and so civil ethics may be based upon some minimum moral principles, but although morals may thus drive some ethics, neither is actually a subset of the other.

Note also the similarly with beliefs, which may or may not be based on principles, so principles are not a sub-set of beliefs.

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There is the remaining difficulty of referring to principles in one definition and beliefs in the other. This is somewhat loose, perhaps resulting from the association of morals with religious beliefs, which has now been corrected above, allowing substitution of the word principles for beliefs in the definition of morals. This provides a symmetry between the two definitions which now become:

- Ethics = principles of civic behaviour that restrain individual behaviour for a higher purpose
- Morals = principles of interpersonal behaviour that restrain individual behaviour for a higher purpose.

11.2. *Cross check 2 Consistency with terms outside the group*

There is no known overlap of meaning of any of the above group of terms with any other term outside the group that would prevent the definitions being accepted.

12. Summary of definitions

The accepted definitions are:
- Good = that which we consider to be useful.
- Bad = that which we consider to be a hinderance.
- Opinion = a view or judgement formed about something, not necessarily based on fact or knowledge.
- Attitude = a settled way of thinking about something.

The derived definitions are as follows:
- Principle (n) = a rule guiding action.
- Principles (n) = a set of rules guiding action.
- Value (n) = the quantity of satisfaction of an interest.
- Values (n) = preferences guiding the actions of an entity.
- Ethics = principles of civic behaviour that restrain individual behaviour for a higher purpose.
- Belief (n) = a proposition an entity considers valid.
- Beliefs (n) = propositions an entity considers valid.
- Moral = (n) in accordance with a principle of interpersonal behaviour that restrains individual behaviour for a higher purpose.
- Morals (n) = principles of interpersonal behaviour that restrain individual behaviour for a higher purpose.

13. Observations on the refining method and its application

13.1. *On the refining method*

Analysis of the method indicated that Step 10 the word 'adopted' should be 'derived'. This change corrects what appears to have been a typographical error in the source paper, in which all applications of the method used the word derived.

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In the Steps to determine a connotative (intensional) conventional definition of each term, No 4 should have an additional sentence so it reads "Develop a connotative (intensional) conventional definition. (This may be synonymous, operational or by genus and difference). (Note this and subsequent refined and other contributing definitions will also be shown in pale grey highlight)."

13.2.   On the application of the refining method

Application of the chosen definitional refining method has enabled clear non-normative and non-emotive definitions of the essence of the contested English language words ethics, values, morals, principles and beliefs. McGrath and Whitty (2015)

13.3.   Implications

In essence, these definitions state that principles are rules, values are preferences, beliefs are something an individual or entity considers valid and ethics and morals are principles restraining individual behaviour in the civic and individual behaviour domains respectively.

Any particular morals, principles, ethics and beliefs may be considered true or false and no attempt is made here to judge that. A person could be considered within their own society to be moral yet be judged immoral by another society. For example, the German people before World War II accepted the superiority of the Aryan race and took the consequent difficult 'moral' (for them) action of exterminating Jews, which belief other societies considered completely immoral. These definitions can accommodate this and are therefore free of value judgement.

The non-normative definition of ethics here raises the question of what to call normative writing on 'good' ethical strategies. Labels such as 'life strategy' or 'communication and conflict resolution strategies' would avoid usage of the silent qualifier 'good'.

14. Conclusions

This definitional refining process used in this paper has developed clear, non-overlapping definitions of the essence of the English language words ethics, values, morals, principles and beliefs. This has provided the means of addressing the ethical issue of lack of transparency in the way we come to agree the meaning of and use these particular conceptual terms. The method used to do this is the same as that used to untangle the terminology surrounding organisational governance, which clearly distinguished between government, governing, governance, strategy and ethics. This papers confirms a definition of ethics separate to governance. The aspect of restraint in ethics has perhaps tempted confusion with the directing and controlling aspects of governance. But governance (= directing and controlling) measures are required to enforce any set of ethics reflecting any standard of morality, whether considered good or bad by external parties. Ethics are an input to governance, not governance itself.

A key feature of the definitional refining method used was its differentiation between the definitional process and the content matter being addressed, facilitated through its non-normative and non-emotive approach to determining essence of meaning of the word used to label the concept.

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Adoption and use of the refined definitions developed in this paper can provide clarity of meaning, avert development of field specific and differing 'private language' and contribute to avoiding confusion and misunderstanding. This can benefit the community in general and individuals, practitioners and researchers in particular, saving time, resources and money.

Successful application of the definitional refining method here indicates its potential suitability for application to other contested terms.

There appears to have been a typographical error in the source paper and Step 10 of the method should read "Report the ~~adopted~~ derived definition".

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16. Appendix

Table 1a
Definitions of 'principle' (n)

Dictionary	Definition of 'principle' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	(s) Elementary assumption, concept, doctrine, maxim, or proposition generally held to be fundamental or true for a body of knowledge, conduct, procedure, or system of reasoning, and used as a basis for prediction and action. (pl) Fundamental norms, rules, or values that represent what is desirable and positive for a person, group, organization, or community, and help it in determining the rightfulness or wrongfulness of its actions. Principles are more basic than policy and objectives, and are meant to govern both.

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Cambridge	C1 a basic idea or rule that explains or controls how something happens or works: C2 APPROVING a moral rule or standard of good behaviour:
Collins	1. a standard or rule of personal conduct 2. (*often plural*) a set of such moral rules 3. adherence to such a moral code; morality 4. a fundamental or general truth or law 5. the essence of something 6. a source or fundamental cause; origin 7. a rule or law concerning a natural phenomenon or the behaviour of a system 8. an underlying or guiding theory or belief 9. *chemistry* a constituent of a substance that gives the substance its characteristics and behaviour.
Concise Oxford	1. Fundamental source, primary element 2. Fundamental truth as basis for reasoning; General law as a guide to action
Dictionary.com	1. an accepted or professed rule of action or conduct: 2. a fundamental, primary, or general law or truth from which others are derived: 3. a fundamental doctrine or tenet; a distinctive ruling opinion: 4. **principles,** a personal or specific basis of conduct or management: 5. guiding sense of the requirements and obligations of right conduct: 6. an adopted rule or method for application in action: 7. a rule or law exemplified in natural phenomena, theconstruction or o peration of a machine, the working of a system, or the like:
Longman	**1** MORAL RULE [countable, uncountable] a moral rule or belief about what is right and wrong, that influences how you behave **2** IDEA BEHIND SOMETHING [countable] the basic idea that a plan or system is based on **3** in principle **4** RULES OF A PROCESS [countable] a rule which explains the way something such as a machine works, or which explains a natural force in the universe.
Macmillan	1 [COUNTABLE] a basic belief, theory, or rule that has a major influence on the way in which something is done. [OFTEN PLURAL] one of the major ideas or theories that a system of beliefs is based on, for example in religion or politics 2 [COUNTABLE] [USUALLY PLURAL] a basic rule or belief about what is right and morally good, that influences the way that you behave and the way that you treat other people a. [UNCOUNTABLE] morally correct behaviour 3[COUNTABLE] a scientific theory or basic natural law that explains the way in which something works
Macquarie	**1.** an accepted or professed rule of action or conduct: **2.** a fundamental, primary, or general truth, on which other truths depend: **3.** a fundamental doctrine or tenet; a distinctive ruling opinion: **4.** (*plural*) right rules of conduct.

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	5. guiding sense of the requirements and obligations of right conduct: **6.** fixed rule or adopted method as to action. **7.** a rule or law exemplified in natural phenomena, in the construction or operation of a machine, the working of a system, or the like: **8.** the method of formation, operation, or procedure exhibited in a given case: **9.** a determining characteristic of something; essential quality of character. **10.** an originating or actuating agency or force. **11.** an actuating agency in the mind or character, as an instinct, faculty, or natural tendency. **12.** *Chemistry* a constituent of a substance, especially one giving to it some distinctive quality or effect. **13.** *Obsolete* beginning or commencement.
Merriam-Webster	Simple Definition : a moral rule or belief that helps you know what is right and wrong and that influences your actions : a basic truth or theory : an idea that forms the basis of something : a law or fact of nature that explains how something works or why something happens Full Definition *1a* : a comprehensive and fundamental law, doctrine, or assumption *b (1)* : a rule or code of conduct *(2)* *c* : the laws or facts of nature underlying the working of an artificial device *2* : a primary source : origin *3a* : an underlying faculty or endowment *b* : an ingredient (as a chemical) that exhibits or imparts a characteristic quality
Oxford	1. a fundamental truth or proposition that serves as the foundation for a system of belief or behaviour or for a chain of reasoning: **synonyms:** truth · proposition · concept · idea · theory · postulate **1.1** A rule or belief governing one's behaviour. **1.2** *[mass noun]* Morally correct behaviour and attitudes. 2. a general scientific theorem or law that has numerous special applications across a wide field or a natural law forming the basis for the construction or working of a machine: 3. a fundamental source or basis of something:
The free dictionary	**1.** A basic truth, law, or assumption. **2.** **a.** A rule or standard, especially of good behavior. **b.** The collectivity of moral or ethical standards or judgments. **3.** A fixed or predetermined policy or mode of action. **4.** A basic or essential quality or element determining intrinsic nature or characteristic behavior.

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	5. A rule or law concerning the functioning of natural phenomena or mechanical processes. **6.** *Chemistry* One of the elements that compose a substance, especially one that gives some special quality or effect. **7.** A basic source.
Wiktionary	1. A fundamental assumption or guiding belief. 2. A rule used to choose among solutions to a problem. 3. (*sometimes pluralized*) Moral rule or aspect. 4. (*physics*) A rule or law of nature, or the basic idea on how the laws of nature are applied. 5. A fundamental essence, particularly one producing a given quality. 6. (*obsolete*) A beginning. 7. A source, or origin; that from which anything proceeds; fundamental substance or energy; primordial substance; ultimate element, or cause. 8. An original faculty or endowment.

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Table 1b
Definitions of 'principles' (n)(pl)

Dictionary	Definition of 'principles' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	(pl) Fundamental norms, rules, or values that represent what is desirable and positive for a person, group, organization, or community, and help it in determining the rightfulness or wrongfulness of its actions. Principles are more basic than policy and objectives, and are meant to govern both.
Cambridge	No definition.
Collins	(*often plural*) a set of such moral rules
Concise Oxford	No definition.
Dictionary.com	a personal or specific basis of conduct or management:
Longman	No definition.
Macmillan	[OFTEN PLURAL] one of the major ideas or theories that a system of beliefs is based on, for example in religion or politics
Macquarie	No definition.
Merriam-Webster	the laws or facts of nature underlying the working of an artificial device
Oxford	*[mass noun]* Morally correct behaviour and attitudes.
The free dictionary	The collectivity of moral or ethical standards or judgments.
Wiktionary	(*sometimes pluralized*) Moral rule or aspect.

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Table 2a
Definitions of 'value' (n)

Dictionary	Definition of 'value' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	1. Accounting: The monetary worth of an asset, business entity, good sold, service rendered, or liability or obligation acquired. 2. Economics: The worth of all the benefits and rights arising from ownership. Two types of economic value are (1) the utility of a good or service, and (2) power of a good or service to command other goods, services, or money, in voluntary exchange. 3. Marketing: The extent to which a good or service is perceived by its customer to meet his or her needs or wants, measured by customer's willingness to pay for it. It commonly depends more on the customer's perception of the worth of the product than on its intrinsic value. 4. Mathematics: A magnitude or quantity represented by numbers.
Cambridge	B1 the amount of money that can be received for something: the importance or worth of something for someone: how useful or important something is:
Collins	1. the desirability of a thing, often in respect of some property such as usefulness or exchangeability; worth, merit, or importance 2. an amount, esp a material or monetary one, considered to be a fair exchange in return for a thing; assigned valuation 3. reasonable or equivalent return; satisfaction 4. precise meaning or significance 5. (*plural*) the moral principles and beliefs or accepted standards of a person or social group 6. *mathematics* a. a particular magnitude, number, or amount b. the particular quantity that is the result of applying a function or operation for some given argument 7. *music* short for time value 8. *(in painting, drawing, etc)* a. a gradation of tone from light to dark or of colour luminosity b. the relation of one of these elements to another or to the whole picture 9. *phonetics* the quality or tone of the speech sound associated with a written character representing it.
Concise Oxford	Worth, desirability, utility, qualities on which these depend; Worth as estimated
Dictionary.com	1. relative worth, merit, or importance: 2. monetary or material worth, as in commerce or trade: 3. the worth of something in terms of the amount of other things for which it can be exchanged or in terms of some medium of exchange. 4. equivalent worth or return in money, material, services, etc.: 5. estimated or assigned worth; valuation: 6. denomination, as of a monetary issue or a postage stamp. 7.*Mathematics.*

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	a. magnitude; quantity; number represented by a figure, symbol, or the like: b. point in the range of a function; a point in the range corresponding to a given point in the domain of a function:
Longman	**1** MONEY [countable, uncountable] the amount of money that something is worth **2** WORTH THE MONEY PAID [countable, uncountable]used to say that something is worth what you pay for it, or not worth what you pay for it **3** IMPORTANCE/USEFULNESS [uncountable] the importance or usefulness of something **4** → of value **5** → shock/curiosity/novelty etc value **6** → values [plural] your ideas about what is right and wrong, or what is important in life **7** AMOUNT [countable] *technical* a mathematical quantity shown by a letter of the alphabet or sign
Macmillan	1. amount something is worth 2. the degree to which someone or something is important or useful 3. interesting quality 4. values - the principles and beliefs that influence the behaviour and way of life of a particular group or community 5. in mathematics - a mathematical number or amount that is not known and is represented by a letter
Macquarie	**1.** that property of a thing because of which it is esteemed, desirable, or useful, or the degree of this property possessed; worth, merit, or importance: **2.** material or monetary worth, as in traffic or sale: **3.** (*plural*) *Mining* payable quantities of mineral. **4.** the worth of a thing as measured by the amount of other things for which it can be exchanged, or as estimated in terms of a medium of exchange. **5.** equivalent worth or equivalent return:. **6.** estimated or assigned worth; valuation. **7.** force, import, or significance: **8.** *Mathematics* **a.** the magnitude of a quantity or measurement. **b.** (of a function) the number obtained when particular numbers are substituted for the variables. **9.** (*plural*) *Sociology* the things of social life (ideals, customs, institutions, etc.) towards which the people of the group have an affective regard. These values may be positive, as cleanliness, freedom, education, etc., or negative, as cruelty, crime, or blasphemy. **10.** *Ethics* any object or quality desirable as a means or as an end in itself. **11.** *Painting* the property of a colour by which it is distinguished as light or dark. **12.** *Music* the relative length or duration of a note.

Ethics defined

	13. *Phonetics* **a.** quality. **b.** the phonetic equivalent of a letter: *–verb* (*t*) (**valued**, **valuing**) **14.** to estimate the value of; rate at a certain value or price; appraise. **15.** to consider with respect to worth, excellence, usefulness, or importance. **16.** to regard or esteem highly.
Merriam-Webster	Simple Definition : the amount of money that something is worth : the price or cost of something : something that can be bought for a low or fair price : usefulness or importance Full Definition 1: a fair return or equivalent in goods, services, or money for something exchanged 2: the monetary worth of something : market price 3: relative worth, utility, or importance 4: a numerical quantity that is assigned or is determined by calculation or measurement 5: the relative duration of a musical note 6a : relative lightness or darkness of a color : luminosity b : the relation of one part in a picture to another with respect to lightness and darkness 7: something (as a principle or quality) intrinsically valuable or desirable
Oxford	1*[mass noun]* The regard that something is held to deserve; the importance, worth, or usefulness of something. **1.1** The material or monetary worth of something. **1.2** The worth of something compared to the price paid or asked for it. 2 Principles or standards of behaviour; one's judgement of what is important in life. 3 The numerical amount denoted by an algebraic term; a magnitude, quantity, or number. 4 *Music* The relative duration of the sound signified by a note. 5 *Linguistics* The meaning of a word or other linguistic unit. **5.1** The quality or tone of a spoken sound; the sound represented by a letter. 6 The relative degree of lightness or darkness of a particular colour.
The free dictionary	**1.** An amount, as of goods, services, or money, considered to be a fair and suitable equivalent for something else; a fair price or return. **2.** Monetary or material worth. **3.** Worth in usefulness or importance to the possessor; utility or merit. **4. values** A principle or standard, as of behavior, that is considered important or desirable. **5.** Precise meaning or import, as of a word. **6.** *Mathematics* A quantity or number expressed by an algebraic term. **7.** *Music* The relative duration of a tone or rest. **8.** The relative darkness or lightness of a color.

Ethics defined

	9. *Linguistics* The sound quality of a letter or diphthong. **10.** One of a series of specified values.
Wiktionary	1. The quality (positive or negative) that renders something desirable or valuable. 2. (*uncountable*) The degree of importance given to something. 3. That which is valued or highly esteemed, as one's morals, morality, or belief system. 4. The amount (of money or goods or services) that is considered to be a fair equivalent for something else. 5. (*music*) The relative duration of a musical note. 6. (*art*) The relative darkness or lightness of a color in (a specific area of) a painting etc. 7. Numerical quantity measured or assigned or computed. 8. Precise meaning; import. 9. (*in the plural*) The valuable ingredients to be obtained by treating a mass or compound; specifically, the precious metals contained in rock, gravel, etc.

Table 2b
Definitions of 'values' (n)(pl)

Dictionary	Definition of 'values' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	No definition given.
Cambridge	B2 the beliefs people have, especially about what is right and wrong and what is most important in life, that control their behaviour:
Collins	The moral principles and beliefs or accepted standards of a person or social group.
Concise Oxford	No definition.
Dictionary.com	No definition.
Longman	Your ideas about what is right and wrong, or what is important in life.
Macmillan	The principles and beliefs that influence the behaviour and way of life of a particular group or community.
Macquarie	No definition.
Merriam-Webster	No definition.
Oxford	Principles or standards of behaviour; one's judgement of what is important in life.
The free dictionary	A principle or standard, as of behavior, that is considered important or desirable.
Wiktionary	Plural of value.

Ethics defined

Table 3
Definitions of 'ethic's (n)(pl)

Dictionary	Definition of 'ethics' (All sourced on 11/1/14, checked on 10/10/2016 ex Macquarie 24/4/2018)
Business	The basic concepts and fundamental principles of decent human conduct. It includes study of universal values such as the essential equality of all men and women, human or natural rights, obedience to the law of land, concern for health and safety and, increasingly, also for the natural environment. See also morality.
Cambridge	A system of accepted beliefs that control behaviour, especially such a system based on morals. The study of what is morally right and what is not.
Collins	1.The philosophical study of the moral value of human conduct and of the rules and principles that ought to govern it; moral philosophy. 2.A social, religious, or civil code of behaviour considered correct, esp that of a particular group, profession, or individual. 3.The moral fitness of a decision, course of action, etc.
Concise Oxford	Moral principles, rules of conduct.
Dictionary.com	1. a system of moral principles. 2. the rules of conduct recognized in respect to a particular class of human actions or a particular group, culture, etc. 3. moral principles, as of an individual 4. that branch of philosophy dealing with values relating to human conduct, with respect to the rightness and wrongness of certain actions and to the goodness and badness of the motives and ends of such actions.
Longman	[plural] Moral rules or principles of behaviour for deciding what is right and wrong. Ethic [countable] a general idea or belief that influences people's behaviour and attitudes.
Macmillan	1.[plural] A set of principles that people use to decide what is right and what is wrong. a.[uncountable] the study of the principles of right and wrong 2.[SINGULAR] a general principle or belief that affects the way that people behave.
Macquarie	**1.** a system of moral principles, by which human actions and proposals may be judged good or bad or right or wrong. **2.** the rules of conduct recognised in respect of a particular class of human actions: **3.** moral principles, as of an individual.
Merriam-Webster	Simple Definition of ETHIC : Rules of behavior based on ideas about what is morally good and bad **ethics :** an area of study that deals with ideas about what is good and bad behavior**:** a branch of philosophy dealing with what is morally right or wrong : a belief that something is very important Full Definition 1. *Plural but sing or plural in construction*: The discipline dealing with what is good and bad and with moral duty and obligation

Ethics defined

	2.
	    a) A set of moral principles **:** a theory or system of moral values
	    b) Plural but sing or plural in construction: the principles of conduct governing an individual or a group
	    c) a guiding philosophy
	    d) a consciousness of moral importance
	3. *plural* **:** a set of moral issues or aspects (as rightness)

Oxford	[usually treated as plural] 1. Moral principles that govern a person's behaviour or the conducting of an activity. 2.[usually treated as singular] The branch of knowledge that deals with moral principles.
The free dictionary	Ethic 1 a. A set of principles of right conduct. b. A theory or a system of moral values. 2 ethics The study of the general nature of morals and of the specific moral choices to be made by a person; moral philosophy. 3 The rules or standards governing the conduct of a person or the members of a profession.
Wiktionary	The standards that govern the conduct of a person, especially a member of a profession.

Ethics defined

Table 4a
Definitions of 'belief' (n)

Dictionary	Definition of 'belief' (All sourced on 10/11/2016 ex Macquarie 24/4/2018)
Business	No separate definition given. Beliefs are defined instead.
Cambridge	The feeling of being certain that something exists or is true: Something that you believe.
Collins	A feeling of certainty that something exists, is true, or is good.
Concise Oxford	Trust or confidence in; Acceptance of any received theology; Acceptance as true or existing; Thing believed, religion, opinion, institution.
Dictionary.com	1. something believed; an opinion or conviction: 2. confidence in the truth or existence of something not immediately susceptible to rigorous proof: 3. confidence; faith; trust: 4. a religious tenet or tenets; religious creed or faith:
Longman	1 the feeling that something is definitely true or definitely exists. 2 the feeling that something is good and can be trusted 3 an idea that you believe to be true, especially one that forms part of a system of ideas.
Macmillan	a strong feeling that something is true or real a. a strong feeling that something is right or good b. an idea that you are certain is true, especially involving religion or politics
Macquarie	**1.** that which is believed; an accepted opinion. **2.** conviction of the truth or reality of a thing, based upon grounds insufficient to afford positive knowledge: **3.** confidence; faith; trust: **4.** a religious tenet or tenets: –*phrase* **5. beggar belief**, to cause astonishment to the point of disbelief.
Merriam-Webster	Simple Definition : a feeling of being sure that someone or something exists or that something is true : a feeling that something is good, right, or valuable : a feeling of trust in the worth or ability of someone Full Definition 1: a state or habit of mind in which trust or confidence is placed in some person or thing 2: something believed; especially a tenet or body of tenets held by a group. 3: conviction of the truth of some statement or the reality of some being or phenomenon especially when based on examination of evidence
Oxford	1 an acceptance that something exists or is true, especially one without proof: 1.1 something one accepts as true or real; a firmly held opinion: 2 trust, faith, or confidence in (someone or something):

Ethics defined

The free dictionary	1. The mental act, condition, or habit of placing trust or confidence in another: 2. Mental acceptance of and conviction in the truth, actuality, or validity of something: 3. Something believed or accepted as true, especially a particular tenet or a body of tenets accepted by a group of persons.
Wiktionary	1. Mental acceptance of a claim as likely true. 2. Faith or trust in the reality of something; often based upon one's own reasoning, trust in a claim, desire of actuality, and/or evidence considered. 3. Something believed. 4. The quality or state of believing. 5. Religious faith. 6. One's religious or moral convictions

Table 4b
Definitions of 'beliefs' (n)(pl)

Dictionary	Definition of 'beliefs' (All sourced on 10/11/2016 ex Macquarie 24/4/2018)
Business	Assumptions and convictions that are held to be true, by an individual or a group, regarding concepts, events, people, and things.
Cambridge	No separate definition given.
Collins	Your views on religious or political matters.
Concise Oxford	No separate definition given.
Dictionary.com	No separate definition given.
Longman	Core values
Macmillan	No separate definition given.
Macquarie	No definition given.
Merriam-Webster	No separate definition given.
Oxford	No separate definition given.
The free dictionary	No separate definition given.
Wiktionary	Plural of belief.

Ethics defined

Table 5a
Definitions of 'moral' (a)

Dictionary	Definition of 'moral' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	Private conduct based on strict adherence to a sanctioned or accepted code or dogma of what is right or wrong, particularly as proclaimed in a sacred book, or by a non-secular group or sect. Once practically interchangeable with 'ethical,' this term has acquired quasi-religious connotations and has moved closer to 'righteous' following the recent (second half of the 20th century) schism between private morality and public morality.
Cambridge	B2 relating to the standards of good or bad behaviour, fairness, honesty, etc. that each person believes in, rather than to laws: C1 behaving in ways considered by most people to be correct and honest:
Collins	1. concerned with or relating to human behaviour, esp the distinction between good and bad or right and wrong behaviour 2. adhering to conventionally accepted standards of conduct 3. based on a sense of right and wrong according to conscience 4. having psychological rather than tangible effects 5. having the effects but not the appearance of (victory or defeat) 6. having a strong probability 7. *law* (of evidence, etc) based on a knowledge of the tendencies of human nature.
Concise Oxford	(a) Concerned with character or disposition or with the distinction between right and wrong; Dealing with regulation of conduct; The requirements to which right action must conform
Dictionary.com	1. of, relating to, or concerned with the principles or rules of right conduct or the distinction between right and wrong; ethical: 2. expressing or conveying truths or counsel as to right conduct, as a speaker or a literary work. 3. founded on the fundamental principles of right conduct rather than on legalities, enactment, or custom: 4. capable of conforming to the rules of right conduct: 5. conforming to the rules of right conduct (opposed to immoral): 6. virtuous in sexual matters; chaste. 7. of, relating to, or acting on the mind, feelings, will, or character:
Longman	1 [only before noun] relating to the principles of what is right and wrong behaviour, and with the difference between good and evil 2 [only before noun] based on your ideas about what is right, rather than on what is legal or practical 3 → moral support 4 → moral victory 5 always behaving in a way that is based on strong principles about what is right and wrong OPP immoral, amoral
Macmillan	Relating to right and wrong and the way that people should behave a. based on what you believe is right rather than what the law or rules say is right.

Ethics defined

Macquarie	**1.** relating to or concerned with right conduct or the distinction between right or wrong: **2.** concerned with the principles or rules of right conduct; ethical: **3.** expressing or conveying truths or counsel as to right conduct, as a speaker, a literary work, etc.; moralising. **4.** founded on the fundamental principles of right conduct rather than on enactment or custom: **5.** capable of conforming to the rules of right conduct. **6.** conforming to the rules of right conduct (opposed to *immoral*): **7.** sexually virtuous; chaste. **8.** of, relating to, or producing an effect upon the mind, feelings, or on results generally: **9.** depending upon what is observed of human nature and actions or of things generally, rather than upon demonstration: **10.** resting upon convincing grounds of probability: –*noun* **11.** the moral teaching or practical lesson contained in a fable, tale, experience, etc.: **12.** the embodiment or type of something. **13.** *Colloquial* a certainty:.
Merriam-Webster	Simple Definition : concerning or relating to what is right and wrong in human behavior : based on what you think is right and good : considered right and good by most people : agreeing with a standard of right behavior Full Definition 1a : of or relating to principles of right and wrong in behavior : ethical b : expressing or teaching a conception of right behaviour c : conforming to a standard of right behaviour d : sanctioned by or operative on one's conscience or ethical judgment e : capable of right and wrong action 2: probable though not proved : virtual 3: perceptual or psychological rather than tangible or practical in nature or effect
Oxford	1 Concerned with the principles of right and wrong behaviour. **1.1** Concerned with or derived from the code of behaviour that is considered right or acceptable in a particular society. **1.2** *[attributive]* Examining the nature of ethics and the foundations of good and bad character and conduct. 2 Holding or manifesting high principles for proper conduct.
The free dictionary	**1.** Of or concerned with the judgment of right or wrong of human action and character. **2.** Teaching or exhibiting goodness or correctness of character and behavior. **3.** Conforming to standards of what is right or just in behavior; virtuous. **4.** Arising from conscience or the sense of right and wrong. **5.** Having psychological rather than physical or tangible effects.

Ethics defined

	6. Based on strong likelihood or firm conviction, rather than on the actual evidence.
Wiktionary	1. Of or relating to principles of right and wrong in behaviour, especially for teaching right behaviour. 3. Conforming to a standard of right behaviour; sanctioned by or operative on one's conscience or ethical judgment. 4. Capable of right and wrong action. 5. Probable but not proved. 6. Positively affecting the mind, confidence, or will.

Table 5b
Definitions of 'morals'

Dictionary	Definition of 'morals' (All sourced on 9/10/2016 ex Macquarie 24/4/2018)
Business	No separate definition given.
Cambridge	Standards for good or bad character and behavior:
Collins	Principles and beliefs concerning right and wrong behaviour.
Concise Oxford	Habits, especially sexual conduct
Dictionary.com	No separate definition given.
Longman	Principles or standards of good behaviour, especially in matters of sex.
Macmillan	Principles of right or wrong behaviour that are generally accepted by a society.
Macquarie	1. principles or habits with respect to right or wrong conduct; ethics. 2. behaviour or habits in sexual matters.
Merriam-Webster	No separate definition given.
Oxford	Standards of behaviour; principles of right and wrong.
The free dictionary	Motivation based on ideas of right and wrong
Wiktionary	Moral practices or teachings: modes of conduct.

A typology of meanings: Practitioners views of 'program'

Abstract

Previous published work has identified confusion in the definition of the term program. This paper reports on a study investigating the understanding of program terminology within a sample of experienced management and project management practitioners across a range of industries and disciplines. The study was conducted in Australia which is subject to influence by both USA and British practice, without being constrained to favour either, but where any inconsistencies between these influences are potentially problematic. The outcome was that confusion on this issue was found within the practitioner community. Furthermore, this confusion had developed into competition between fields over exclusive usage of the term to the extent that one organization had even attempted to resolve it by attributing different meanings to the two different nationality spellings of the term. No common understanding or definition of the term was articulated and there was contention over whether a program has to be transformational to be labelled as such. The boundaries with the terms project and portfolio were also unclear. The existence of these inconsistencies indicates there is a need for an internally consistent set of definitions of project, program and portfolio to be agreed and adopted across the whole project management field.

Introduction

Confusion within the practitioner community over the meaning of the term program was documented by Reiss (2007). Choice of a label (project or program) can affects what methodology is selected to manage an undertaking. It is therefore imperative that the boundaries of labels are clear so that inappropriate choices are not made with adverse consequences for progress, cost and reputation.

Differences in approach to program management are evident in the latest versions of alternative practitioner guidance documents. MSP focuses on transformational change with Section 1.1 claiming "MSP represents proven good practice in programme management in successfully delivering transformational change" (Office of Government Commerce (OGC) 2011). However Project Management Institute (2013) does not mention transformation.

{McGrath, 2019 #831@@author-year} conducted a review of program terminology across a range of practitioner documents and found that confusion still exists. While they proposed definitions to overcome this, the purpose of this research is to determine whether confusion exists within the practitioner community about what a program is, whether practitioners consider it must be transformational to be so labelled, and what issues might be causing any confusion that may exist.

This is formalised into the following research questions (RQs):

RQ1: Does confusion exist in project management practitioner usage of the term program?

RQ2: Do all practising project managers consider that a program must involve transformational organizational change?

A literature review is first conducted to see if there have been any other reviews of practitioner views on this subject. The research is then designed by selecting the instrument, designing the questions and selecting the sample. An evaluation method is then determined. Interviews were conducted and the results reported and analyzed before being evaluated and discussed.

Literature Review

Various searches of all aggregator EBSCO databases were conducted on 19/10/2017 for a range of terms with results as follows:

> "definition of program" in titles – 26 found, none relevant
> program term in titles – 8 found, none relevant
> review program terminology in all fields – 6 found, none relevant
> review program definition in all fields – 157 found of which 81 were non-duplicates and none were relevant.

Searching for 'program' returned results for 'programme' as well. Abstracts were examined to determine relevance when this was not evident from the title. These searches identified particular programs in a wide variety of fields, but all were concerned with their content rather than with usage of the term itself. It appears therefore that it may only be within the field of project management that the definition is a problem and we therefore looked at more broad reviews in that field.

The term is defined in various project management standards and reference documents and so a search of all EBSCO databases was conducted on 1/10/2017 for both 'review of standards' in the title and 'project management' in the text found no relevant reviews. A similar search

for 'comparison' in place of 'review' found no relevant reviews and a similar search for 'examination' found one relevant review, namely Crawford et al. (2007). This lamented the different understanding of words in different cultures but contained no evaluation of program definitions.

A search of all EBSCO aggregator databases on 21/11/2017 for 'program', 'management' and 'practitioner' in the title found 25 items. All were examined and none were relevant.

A search of all EBSCO aggregator databases on 3/11/2017 for "management term" and 'confusion' in any field and found only one item. This was by Kang (2015) concerning change management. It did not deal with the definition of program.

A search of all EBSCO aggregator databases on 21/11/2017 for 'program' and 'confusion' in the title found 157 items of which only 78 were non-duplicates. All were examined and none were relevant to definition.

We then examined the project management definitional website (Wideman 2017). The term program does not appear on the site index but is included in the glossary itself. Several definitions of program are given but no comparative analysis or reconciliation of definitions is attempted.

In summary, the literature review has not found any prior investigation of practitioner views on program terminology. Having established as far as can reasonably be determined that there has been no previous work along the line we are investigating, we then proceed with our investigation.

Research Design
These RQs call use of a qualitative method of data collection.

Instrument selection
Conducting some form of survey was not considered appropriate as this would not facilitate exploring issues in depth relative to the particular circumstances of individual participant's organizations. As Wengraf (2001) noted:

> Decades of research into the positivist model of the survey questionnaire and the instrumentation theory on which that practice of fully structured questioning depends have produced numerous insights and many oversights (Mishler, 1986; Briggs, 1986) suggesting that, instead of a single and coherent universal instrumentation theory, all that we can have is a constant reflection upon the successes and failures, the strengths and weaknesses, of particular instrumentation practices (Wengraf 2001, p. 62).

Fontana and Prokos (2007, p. 23) considered "Face-to-face interviews have many advantages over less interactive methods. As Shuy (2002) notes, many situations benefit from face-to-face interviews, including those in which the interview is long, or includes complicated topics or sensitive questions". Program management is a complex subject and face-to-face interviewing was considered an appropriate means of canvassing it while avoiding positivist oversight.

We nevertheless sought to structure the interviews so they did not become undirected conversations leading nowhere. Fontana and Prokos (2007, p. 19) noted that in structured interviewing, "all respondents receive the same set of questions asked in the same order" and "The interviewers must perfect a style of 'interested listening' that rewards the respondent's participation but does not evaluate these responses (Converse and Schuman 1974)" (Fontana

& Prokos 2007, p. 20). This was appropriate for our particular research questions, and suggested use of a semi-structured interview which Wengraf (2001, p. 1) noted as appropriate for depth interviewing. Barriball and While (1994, p. 330); Fontana and Prokos (2007) also noted "semi-structured interviews are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers".

Wengraf (2001, p. 162) noted "Semi-structured interviewing is characterized by an emphasis on relatively open questions. However, you may wish also to put certain closed questions". Fontana and Prokos (2007) said "the structured interview … often elicits rational responses, but it overlooks or inadequately assesses the emotional dimension" (Fontana & Prokos 2007, p. 22). The authors have observed that the definition of program is a subject that can induce strong emotions and Whitty (2010) also noted the influences of emotions in project management behaviour. We therefore wished to capture these emotions.

We therefore decided to use semi-structured face-to-face interviews with a combination of open and closed questions.

Question design
Question design was based on the categories of questions used in a management study by Kummerow and Kirby (2013). These categories were evaluation, personal experience and context. Their questions were a mixture of open and closed. The actual questions used in this study were tailor-made for its RQs and were only very loosely based the actual Kummerow and Kirby (2013, pp. 542-4) protocol as their investigation occurred within a contained organizational boundary and was more amenable to statistical analysis than the RQs posed here.

For these particular RQs, it was appropriate for the interview questions to be open, with closed questions being used principally as prompts.

The interview strategy was to first confirm the background/ context of the person by determining various classificatory factors, then ask the pre-determined interview questions. The background/ context factors were:

the sector of their organization (Public or Private enterprise (G=Government, P = Private, H = Hybrid))

the area within the Sector (SG = State Government, LG = Local Government, SGA = State Government Authority, M = Manufacturing, E = Education)

the person's work type = the type of products worked with (I = Infrastructure (Civil/ Building/ Electrical/ Mechanical), IT = Information Technology, including IT infrastructure, BD = Business Development).

This particular study was conducted as part of a broader study examining various project management topics and for the practical reason of limiting the time involvement of participants, only one question could be allocated to this topic. As definitional questions tend to promote thought, reflection and discussion, a definitional question was devised that also asked for both individual and corporate views to expose any conflicts or contradictions.

The question developed was: How do you/ does your organization distinguish between a program and a project?

Other closed questions were asked by way of 'impromptu' prompts to either stimulate further observations or to clarify meaning when the response was not clear. In the latter cases a summary or interpretation of the view expressed was related back to the participant for confirmation or correction.

In response to another (non- program) question asked during the interviews, one participant response related to program management and this has been included in the findings below.

Sample selection
RQ1 and RQ2 were framed deductively. This rendered statistical analysis inappropriate and so it was not necessary to have a statistically significant minimum sample size for the purpose of gaining inductive confidence.

The likelihood of detecting false disagreement was reduced by selecting only people who were both knowledgeable on the topic and held organizational positions where they would be required to implement their knowledge. This avoided assessing issues of training and experience. The people selected were all at least either a head of a project management support office or a program manager and several headed large infrastructure delivery organizations.

The likelihood of detecting disagreement was increased by selecting the interview sample across the boundaries of discipline and organization type. A range of these were selected; from government and private enterprise, from physical infrastructure and IT, and from consulting and project owner organizations.

The sample location was also considered. The researchers are based in Queensland, Australia, and consideration was given to whether participants would be selected locally or from interstate or overseas. Australia sits at cultural and geographic crossroads between England/ Europe, the Americas and Asia. Local members of The Australian Institute of Project Management are heavily involved with the International Project Management Association (IPMA) and local practitioners were involved in development of the first PMBOK. The Project management Institute (PMI) also has a strong local presence. This, together with the ease of global communication, global access to databases and the existence of internationally accepted bodies of knowledge should ensure that world-wide trends influence local participants. It was therefore considered that the sample could be selected locally. Framing the key RQs deductively rather than inductively also avoided sample size and location effects.

Potential organizations and candidates were approached and 21 experienced managers and project managers agreed to participate and were interviewed.

Method of analysis and evaluation
The method of analysis was audio recording of the interviews followed by transcription, then manual analysis of the transcripts to identify themes including any categories or typologies of understanding that the transcripts revealed and any issues that emerged.

The evaluation of RQ1 is straightforward from the perspective that if everyone interviewed indicates the same understanding of the term program, then confusion is not established and there is then no contest or disagreement identified among practitioners requiring resolution. However, if this is not the case, then confusion over the term program could be considered established.

The evaluation of RQ2 is similarly straightforward from the perspective that if everyone interviewed considers a program must be transformational, then any disagreement with this view is not established. However if this is not the case, then the notion that experienced practitioners consider a program must be transformational is demonstrated to be false.

Data collection and taxonomy of the group of participants

Interviews were conducted between 13 August 2014 and 3 September 2015.

21 people were interviewed from 7 organisations of which 4 were in the private sector (2 separate consultancies, 1 multi-national manufacturing company and 1 educational institution) 2 from the Government sector (a state government department and a local government department) and 1 which straddles both – a commercialised state government authority. All had offices in Queensland, Australia.

The distribution by industry area was 4 from private industry (1 from each company), 16 from government (7 from state (1 of whom was a contracted consultant) and 9 from local (1 of whom was a contracted consultant)) and 1 was from the hybrid organisation (who was also a contracted consultant).

The distribution of work types engaged in was 9 in physical civil infrastructure, 6 in IT, 1 in business development, 1 in manufacturing, 1 in academia/ buildings, and 3 in multiple work types (2 in infrastructure and business development, 1 in physical infrastructure and IT).

The full taxonomy of the interviewed group is given in Table 1 showing the participants (1 to 21), their organisation (A to G), industry sector, area within that sector, and their work type or discipline.

Table 1

Participant Taxonomy

#	Org	Sector	Area	Work type
1	A	P	M	I
2	G	P	E	I
3	C	G	LG	BD
4	C	G	LG	IT
5	D	H	SGA&C	IT&I
6	C	G	LG	I
7	C	G	LG	I
8	B	G	SG	I
9	B	G	SG	I
10	C	G	LG	IT
11	B	G	SG	I
12	C	G	LG	I
13	C	G	LG	IT
14	B	G&P	SG&C	IT
15	B	G	SG	I
16	C	G	LG	I
17	C	G&P	LG&C	IT
18	B	G	SG	IT
19	E	P	C	I
20	B	G	SG	I&BD
21	F	P	C	I&BD

A typology of meanings: Practitioners views of 'program'

Legend:

G=Government	SG=State Government	I=Infrastructure (Civil/ Building /Electrical/ Mechanical)
P=Private	SGA=State Government Authority	IT=Information Technology, including IT infrastructure
H=Hybrid	LG=Local Government C=Consultant M=Manufacturing E=Education	BD=Business Development

In the following sections, participants are referred to by their number and organisation e.g. 1A or 21F. The abbreviations in the Table 1 legend are also used in places where brevity is advantageous.

Note that full transcripts of interviews have not been included in this paper due to word limit restraints.

Findings

The interview question asked was how do you/ does your organization distinguish between a program and a project?

The general findings from the responses to this question are presented below before reporting responses of note under the headings of the issues that emerged.

Participant responses were assessed according to whether they considered a program to be a collection of projects (C), something that produces transformational change (T), or something else (O = Other) or the question was not applicable for whatever reason (N/A). The results of this assessment are as follows:

14 responded C, indicating they defined a program as a collection of projects. Of these:

3 were involved in business development, comprising all in the sample who were so involved (3C, 20B, 21F). Two of these were also involved in infrastructure, and the third one, although not directly involved in infrastructure, worked for an organization whose principal activities involved engineering infrastructure (3C).

4 were from IT (5D, 14B, 17C, 18B). All three were highly experienced consultants who had worked across a range of industries and just happened to be working on contract in government at the time of interview. One (5D) also worked in infrastructure and did not mention transformation.

10 worked in engineering infrastructure (6C, 8B, 9B, 11B, 15B, 16C, 19E, + 2 in both I and BD (20B and 21F)). One (5D) said C and O.

This gives a total of 17 responses from 14 participants, three of whom worked across two work types (5D, 20B, 21F).

3 responses were categorised as T, considering transformation an essential part of the definition (7C, 12C, 13C). One of these was from an infrastructure project office and had responsibility for ensuring the organizations internal methodology accommodated IT (14B) and the other two were from IT. These accepted that a prog<u>ramme</u> was transformational but a financial prog<u>ram</u> was a collection of projects which should be called a portfolio. Note: In this respect, all followed the official corporate project office line, one of whom had determined it. So in one sense, all three agreed that a program was a collection of projects,

but just thought this should be peculiar to financial progr<u>am</u>s and not to project management progr<u>amme</u>s.

3 indicated some other understanding categorised as O. 1A said 'a program was basically a large project'. 5D spoke of a project comprised of three component projects in an environment where the outcome could not be delivered without all three and the term program was generally used to mean a collection of projects. 16C said 'The organization treats programs as a list of services rather than a list of projects. The list of projects roll up to a portfolio. Our budget programs confuses everybody as well. There's not clarity around that'.

2 were N/A: one whose organization did not have a definition was not asked and one responded with embarrassment over the organization's distinction between program and programme (10C).

This gives a total of 22 responses from 21 participants, as one indicated both C and O (5D).

In responding to this question, participants spoke about a range of issues. There were several usages or typologies of the word program as well as boundaries and inclusions. To facilitate analysis, the findings of note are presented below according to these issues.

Typology 1: Programs as collections of projects
11B from infrastructure said:

> Projects are seen as something that has its own life, it's not just a way of capturing cost ... Our programs are either funding programs or programs with particular purposes across the state … and we also run geographical programs or delivery programs as well, which is about optimising the schedule, delivery and having continuous work and so on. At a local level, people talk about program management which is really about getting the work done in a good way, sequenced right, getting efficient procurement etc. Q: Do you look at programs as being collections of projects? A: Yes. The only projects I look at are the $10M+ and we do a scan across these every month.

13C from IT said:

> The issue came out of the SAP introduction. A program can be a collection of projects and can include maintenance activities which can go on and on if not monitored and you want visibility of these ... Within IT, we look at a collection of projects as … a program ... We didn't consider this part of transformational change. (Note: This was referring to program rather than programme.)

19E from infrastructure said:

> Our clients usually call it one thing or the other (project or program). I don't really think about it or have a personal definition but accept program as a collection of projects that probably have a strategic importance outside the delivery of those projects. I'm just delivering and am not concerned with their strategic intent, so to me, it's not really a program. It's just something to deliver for them.

Typology 2: Programs and transformation
7C from infrastructure said "You generally find transformational change in the business type projects".

A typology of meanings: Practitioners views of 'program'

11B from infrastructure, when asked a supplementary question "So you don't go for the IT definition of a program being about transformational change?" responded:

> No. Our programs have clear outputs and outcomes and we focus on the outputs. I'm the program owner for a number of programs ... It's different to IT ... Some of our programs have transformational change and others don't. Some of our bigger programs involve a lot of transformational change for the business internally ... It's not essential for a program to have internal transformational change.

13C from IT, while considering a program must be transformational also said:

> Unfortunately, we don't use MSP here in IT or whole of organization. We focus more on projects. We do have programs with a number of projects under ... Within IT, we look at a collection of projects as business as usual (BAU) without transformation and still call it a program (as distinct from programme) ... We didn't consider this part of transformational change.

17C from IT did not mention that programs had to be transformational, saying:

> In IT, we have like work bundled as a program, there's a common objective, they talk about us having portfolios; we have programs of work that are totally disparate. Things like the infrastructure maintenance program is a true program and has network and fibre, storage, software and infrastructure.

18B from IT said:

> A program doesn't have to be transformational; it can be quite mundane. A program can be business as usual ... Ours are transformational as they are all change projects. For a school, primary school is a program and Grade 1 to 6 are projects. The kids are transforming themselves, but the projects and programs aren't.

20B from infrastructure said:

> A project is a single thing you are doing. A program would have a series or collection of projects. We have works packages across the state. So it's a program of programs and projects. Q: So the idea of transformational change being a key element of a program is not something you consider important? A: I don't know what you mean.

21F from infrastructure and business development said:

> A Program does not have to have transformational change. I think that's a step too far. You can get lots of programs that aren't transformational change'. [Interviewer's note: This participant who had successfully managed many major civil infrastructure projects over many years hadn't heard of MSP and asked who it was written by. He was aware of some OGC materials but hadn't come across the idea of programs being about transformational change].

Typology 3: Program as a large project
1A from infrastructure said:

> We used program and project interchangeably, and a program was basically a large project. They called it program management rather than project management. … most programs were quite large; averaging $50 to $150M and up to $500M+. These were manpower intensive with small materials component, whereas civil works have

> much larger materials costs, which puts it into a different perspective. Q Were these equipment projects? A: Yes. Q: Was it an IT focus? A: It was a mechanical and electrical engineering focus.

5D from IT and Infrastructure said:

> One project to build a particular element of the network actually had three projects, but everybody just called it the one project, even though there were three buckets of money and all the work had to be allocated three different ways. That wasn't considered a program even though it had three projects for the one effective outcome. Whereas where we have 100 projects within a program, we refer to that as a program. It's a bit nebulous. We tend to do it on network typology, geography and past experience.

11B in response to another question (2.4 - not reported in this paper) made a comment relevant to this issue:

> Some projects are just activities and are run as a large project or small program but that's not really program management. They are really large projects with a lot of activities rather than small programs. Each one is a commitment that's tracked in timing, but we are not managing each one as a project.

Program versus programme

This was peculiar to organization C.

10C from IT said "Program is budget, Programme is works. Program is a line item of money. Programme is for MSP. This decision was taken to avoid confusion. This decision didn't go down so well".

12C from infrastructure said:

> A programme is around transformational change. I'm talking about programme, not what we talk about in this organization as a budget program. It's about transforming the organization or behaviour of the community e.g. ERP, access and inclusion. Not many programs are what we define as true programmes of work. In the project world in the old days before the OGC came into play, a programme was a programme of works and that is now called a portfolio. We used to talk about a programme of works which was bundling for efficient delivery, it didn't necessarily mean they were inter-dependent. A portfolio is what that's called now days, thanks to OGC. A portfolio can consist of sub-portfolios. Program is a financial term and I wish to God they had never ever named it that way, but they have. That leads to confusion. That's a budget program which is basically a funding bucket. We are structured under programs. In a project world that becomes really quite complex. We just keep referring to it as a budget program. It's just a funding allocation, whereas, in itself, it is just a portfolio of work or a bundling of things. It's just a bundling of stuff that doesn't necessarily have to be linked or independent. You can use frameworks to enable them to be more efficiently delivered. So what's happening is that people are trying to apply IM(C) (an internal methodology in Organization C) to everything in the bundle, writing business cases and project management plans for all of these things, whereas if we took that as a portfolio, we could actually look at that as a more efficient delivery way. We have only a methodology but you can't apply a project management methodology to managing programs or portfolios. It's not efficient. So that's why we need new frameworks to support those.

A typology of meanings: Practitioners views of 'program'

13C from IT said "Regarding the program versus programme spelling issue, finance people don't understand how it's spelled in the project management world, but it's not a big issue for us. Sometimes people discount your terminology with their terminology".

16C from infrastructure said "The organization treats programs as a list of services rather than a list of projects. The list of projects roll up to a portfolio. Our budget programs confuse everybody as well. There's not clarity around that".

17C from IT said "The (program) term is used loosely here; you have programs based on finance, but when we go down to lower levels we can have projects that span multiple (financial) programs".

Program versus portfolio
7C from infrastructure said:

> A collection of projects is a portfolio. We might call it a program, but it's actually a portfolio of projects. The transformational change type projects would be the type of program where … a group of things that comes together to make a transformational change in that area. Another example of transformational change was the program to introduce a new ERP system. You generally find transformational change in the business type projects. We don't have programs of infrastructure projects, we have portfolios of them.

8B from infrastructure in response to a supplementary question "Is the term portfolio management used and what level does that refer to?" said:

> Yes. It's used to define the peak body, making decisions on the allocation of funds and strategic direction. There is a gap between portfolio and project. The portfolio level is trying to play the role of program as well. Portfolio is not necessarily the full suite of expenditure of the department – It's just the infrastructure part. We have separate portfolios e.g. finance and other organizational activities. The portfolio view should really be considered holistically looking across the whole of the department. The programs should be considered as a collective, not individual streams or silos.

15B from infrastructure said:

> By our definition, the program managers are in the investment area. In reality, there's a gap in between. It's probably blasphemy to say they don't do program management but they are focused on $s and cash flows, not on what I'd call delivery program management. That's the gap my boss is trying to fill. If I got to choose the names, I'd call the investment area portfolio management, what we do program and what the districts do projects. We want to get into the sequencing of projects for reasons other than cash flow, including the bulking up of projects, but it's not being driven from the delivery end. Project we are clear on. Program, we've painted ourselves into a corner by saying that what the investment area does is program management.

16C from infrastructure said "The organizations treats programs as a list of services rather than a list of projects. The list of projects roll up to a portfolio. Our budget programs confuses everybody as well. There's not clarity around that".

17C from IT said:

A typology of meanings: Practitioners views of 'program'

> The model I'm most familiar with is the one promoted by MSP which I think is a good model, because that actually goes up to the next level (portfolio). A portfolio by definition also includes BAU… Q: When managing a program do you switch over to a different methodology? A: Not necessarily, but PRINCE2 won't work. I used MSP and I'm operating at a higher level and looking at portfolio type risks and can come back in and look at program risks and inter-relationships between individual projects, resourcing impacts as well.

18B from IT said "A portfolio is a collective of programs".

19E from infrastructure said:

> Our clients usually call it one thing or the other. I don't really think about it or have a personal definition, but accept program as a collection of projects that probably have a strategic importance outside the delivery of those projects. I'm just delivering and am not concerned with their strategic intent, so to me, it's not really a program. It's just something to deliver for them.

Objectives, benefits and outcomes
3C (BD) said:

> (A program) can be an aggregation of a series of activities that have some common thread and theme. Each can deliver a set of program outcomes. Scope, time and task differentiate. Few projects have objectives that last to 2026 (now is 2015). While programmatic work can happen in a project, I don't connect these e.g. earthworks program part of a road project. Program can be used above or below projects. Our programs are all encompassing, some with woolly outcomes. We have to conclude with an evaluation. Projects have very defined outcome. Programs often don't.

8B from infrastructure said:

> On a program outcome level typically benefits are not understood well enough and get translated down to the project level to manage and measure when the project can't do that as the ultimate outcome or gain might rely on a suite of projects that are sequentially delivered. Delivery programs are being told you must measure benefits and investment programs are as well and no-one really knows who's doing it and which things are important at what time. Benefits and program are strongly associated. At the investment program level, the benefits determine how the projects are prioritised. Once delivered, the benefits may need to be adjusted and this is a continuous cycle, which needs to be done at a project delivery level.

9B from infrastructure said "Program = a collective of projects of a similar nature or a collective of projects with common benefit outcomes".

17C from IT said "A true program is one where all the projects have a common objective ... I look at objectives and benefits".

18B from IT said "Programs have objectives and projects support that. It can be a high level vision or objective. The program is the project enabler".

19E from infrastructure said "I don't really think about it or have a personal definition, but accept program as a collection of projects that probably have a strategic importance outside the delivery of those projects".

21F (I&BD) said:

A typology of meanings: Practitioners views of 'program'

> There are two common uses, either program = lots of projects or it is focused on business objectives. For me it links projects with the business. A program delivers some business benefits. If they don't, you need to look at your program. I've found a number of times I've had to re-scope a program simply because it is just a collection of projects with no synergy. In that case, I think the program is poorly scoped. Sometimes a program has no synergy.

Analysis of findings

The issues raised in the findings are analyzed below.

Collection of projects versus transformation

Most participants agreed that a program was a collection of projects and that it did not have to be transformational. Three participants said transformation was essential to the definition of a program (provided it is spelled programme) and 14 said or implied it was not, with some of those explicitly rejecting the notion. Those saying transformation was required were all in or involved with IT and all acknowledged pro<u>gram</u>s as a collection of projects while saying pro<u>gramme</u>s did have to be transformational. All were from one organization (C) which had defined these two terms differently. However, several from IT in two different organizations also did not consider that programs or programmes had to be transformational with one (7C) noting "You generally find transformational change in the business type projects". Another (18B) gave the example of primary school being a program and Grades 1 to 6 projects, saying "The kids are transforming themselves, but the projects and programs aren't". Another said: "it's not essential for a program to have internal transformational change". The responses of two other highly experienced and successful infrastructure program directors managing multi-billion-dollar annual programs (20B and 21F) made it evident that the concept of internal transformational change had been completely unnecessary for their practice. These participants were both well aware of the external community transformations that can result from infrastructure projects.

Given that substantial non-acceptance of this concept was found and the reasons for it were well-articulated in the interview responses, it cannot be considered as either generic or best practice and so the proposition that a program must be transformational for the organization delivering it must be considered disproven i.e. false. This indicates that the answer to RQ2 is negative as most of the experienced project managers interviewed did not consider that a program must involve transformational organizational change.

This also raises the question of the influence of IT terminology on project management generally.

A program as a large project

The issue of a big project being considered as a program was mentioned by 1A and 5D in relation to mechanical/ electrical projects. The issue was not raised specifically in relation to IT projects although it was implied by some participants from organization C in classifying a collection of projects as a portfolio rather than a programme. 11B mentioned the opposite perspective, saying that even a program of projects may be managed as a large project.

This issue is important if projects are to be managed using a different methodology to programs. It is evident that organizations A and E did not distinguish between projects and programs, managing both successfully with the same internal system. 19E said some clients ask for a program manager and others ask for a senior project manager but the roles are the

same; "To me, it's not really a program. It's just something to deliver for them". Organization B also had in place a system that indicated how programs and portfolios could both be managed by selecting particular elements of their project management system. Project Management Institute (2003) also took this approach, with OPM3 having program and portfolio methodology based upon the PMBOK project processes.

Organization B's internal methodology also differentiated between projects, component projects and sub-projects. The distinction was that component projects are projects that are inter-dependent and without which the overall project cannot produce an outcome, whereas sub-projects are arbitrary subdivisions that can be delivered independently and still produce a useable product that produce an outcome. This terminology had been applied to business development/ IT projects as well as linear engineering infrastructure replacement/ upgrade projects where the length delivered depended on the funds available. In this Organization (B), an 'overall' project that depended on component projects was managed as a project, not as a program. This is a potentially useful categorisation and so we will define these terms as:

> Sub-project = part of a larger project that can independently produce a required outcome

> Component project = part of a larger project that cannot independently produce a required outcome

Application of this nomenclature would accommodate participant 5D's difficulty with three projects being referred to as one project, as the three would be labelled component projects. It would also avoid the need to use the term program for a big project.

Program versus programme
The spelling of the word emerged as an issue in only one of the seven organizations represented in the interviews. Three participants from this organization (C) were clear about the different meanings of the two spellings but the remainder either were not or did not mention the issue. Two attributed it to MSP/ OGC. 10C said "This decision (to have two different meanings for different spellings) was taken to avoid confusion. This decision didn't go down so well". 13C said "Regarding the program versus programme spelling issue, finance people don't understand how it's spelled in the project management world, but it's not a big issue for us. Sometime people discount your terminology with their terminology".

The responses indicate that assigning different meanings to two different nationality spellings of the same word was an attempt to resolve a terminology issue between accounting and delivery interests using IT based terminology i.e. between three competing commercial interests or perspectives. Conflict between organizational accounting control and project control was also mentioned by 15B, indicating that program terminology and definition has caused difficulty in more than one organization. This indicates that RQ1 can be answered affirmatively; confusion does still exist within the experienced practitioner community about the meaning of the term program.

For organization C, this attempt led to confusion of program with portfolio, with the latter being defined as a collection of projects. This overlapped with the more widely accepted meaning of the word program in attempting to isolate the word program to budgeting and accounting and did not accommodate the computer program usage of the term.

As noted in the Appendix, the word program was initially the American (mis) spelling of the English word programme. In the 1970s in Australia, a computer program was distinguished from other programmes by its spelling. However by the 1990s the ease and simplicity of the

shorter form in Australia had made 'program' an acceptable (albeit still not preferred) spelling for all forms of 'programme'. Rayner et al. (2013, p. 2) also notes "The English speaking nations cannot even agree on how to spell program(me). We will use *programme* …, but you should remember that people more aligned with the USA will use the term *program*".

Program versus portfolio

The findings indicate general practitioner agreement with the PMI definition of portfolio as a group of programs, projects and other things, albeit with organization C at times adopting a more restricted view that overlaps with the PMI definition of program as a group of projects. There was also general acceptance that the organizational portfolio level sits above the organizational program level.

Interestingly, 15B indicated a reluctance for an investment area to actually label itself as portfolio, preferring to refer to and regard themselves as doing program management. This area actually set the criteria for various projects to be included within its various programs.

Program and benefits association

Four participants connected programs with benefits (8B, 9B, 17C, 21F). Others used the terms objectives and outcomes (3C, 18B). One (17C) used both benefits and objectives. This aligns with PMI and APM and is also mentioned in the MSP definition of programme.

3C noted "projects have very defined outcome. Programs often don't" and "Programmatic work can happen in a project … program can be used above and below projects". This highlights the need to distinguish between the activities performed in program(me) management, to identify the silent or assumed qualifiers that may be present and to determine where and how it is assigned as a label.

The comments of 8B were particularly instructive regarding what is possible at the project level:

> On a program outcome level typically benefits are not understood well enough and get translated down to the project level to manage and measure when the project can't do that as the ultimate outcome or gain might rely on a suite of projects that are sequentially delivered.

This is effectively saying that benefits realization is not a project activity, as noted by McGrath (2007) in saying "Project managers cannot be held responsible for actually realising the benefits from a project, as the delivery team will generally move on when the project is finished". It may also not be possible for even the program level to assess benefits realization if, for example, the benefits don't materialize until the last project in the program is completed. This implies that only the organization that owns and operates the new assets can realize the benefit. That organization (or part of it) will derive program and other benefits enabling achievement of its business (portfolio) objectives. This generally results from the completed asset being put into operation. This is not exactly confirming that benefits must be associated only with the program level; it means realization of benefits usually cannot occur at lower than the program level.

Discussion

The findings indicated there were three different typologies of definitions and three other issues causing confusion. The analysis of these concluded that the boundaries described with the project and portfolio levels were fuzzy. This clearly indicates that the answer to RQ1 is

affirmative; confusion has been found to exist in the experienced practitioner community regarding the meaning of the term program. Furthermore, this confusion existed to the point where one organization had (unsuccessfully) attempted to attribute different meanings to different nationality spellings of the word in an attempt to resolve competition for exclusive use of the term.

The confusion identified around transformation indicated a negative answer to RQ2. Not only was there an absence of unanimity that a program must be transformational, there was only a small pocket of support for that among the IT practitioners interviewed.

Analysis of the responses to this single interview question has revealed how terminology mistakes can so very easily occur and be very difficult to detect. This can result from failing to recognise the boundaries and limitations of the source field, being loose with silent or assumed qualifiers and being loose or 'upwardly mobile' in attaching conceptual labels to various activities and organizational levels. Any of these can produce competitive rather than agreed use of terminology, resulting in confusion. When all of them occur together, the problem becomes quite resistant to resolution.

This points to a need to properly define the terms project, program and portfolios together with their organizational and management qualifiers and to adequately investigate whether particular processes are truly generic before mandating them to general practice.

Limitations and future research

The limitation of this work is that it is based upon a sample of organizations and industries in one state in one country. While the factors mentioned above in sample selection should result in world-wide trends affecting any local participants, there is no guarantee of that. RQ1 and RQ2 were framed in a deductive way, not an inductive way, to allow for this, however there may be other perspectives the study did not identify.

The responses indicate a need for a rigorous exercise to determine suitable terminology for the program term and its boundaries with project and portfolio.

During this study, data was also collected on project governance and the exercise of power, which will require further separate analysis.

Conclusion

This paper has documented the collection and analysis of interview data from experienced practitioners and found that the confusion that exists in their understanding of the meaning of the word program. It also found that the notion that a program must be transformational is not generally accepted among practitioners. In some cases, in engineering infrastructure, it was unheard of and it was not even accepted by all IT project practitioners interviewed. It also found that activities thought to be generic within IT projects have been problematic when transferred to other fields. This indicates a need to agree and adopt an internally consistent set of definitions of project, program and portfolio across the whole project management field. Such a set of definitions has recently been proposed by {McGrath, 2019 #831@@author-year}.

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Practitioner views on project management methodology (PMM) effectiveness

ABSTRACT

This paper reports the results of a study investigating the organisational conditions that impact the effectiveness of project management methodology (PMM) implementation. It was conducted with a sample of experienced practitioners across a range of industries and disciplines covering engineering infrastructure and IT in Queensland, Australia. The implementations covered generally aligned with either the American PMBOK or the British PRINCE2, while some attempts had been made to hybridize.

The study found general practitioner agreement on the effectiveness of having a methodology and synthesised from the data collected a list of six organisational conditions impacting the effectiveness of PMM implementation, providing a guide to practitioners looking to implement a PMM. Evidence of quantification of PMM benefits was found in two large organisations whose PMBOK based PMMs had been delivering better than 90% on time and budget across all their infrastructure projects. This study included but did not focus on IT and did not uncover any information on actual performance of PRINCE2 implementations. It indicated a need for research on the effectiveness of PMM implementation and found that this could be facilitated by analysing internal organisational project performance data records, which are sometimes published in annual reports. It also found the PRINCE2 claim of suitability for application to all project types was disputed for physical engineering infrastructure. The paper also puts a case for defining Project Management Methodology (PMM) as an organisation's process for the whole lifecycle of its projects, which would exclude PMBOK and PRINCE2 from being so labelled.

KEYWORDS: project management methodology implementation, PMM, project governance, change management, PMBOK, PRINCE2

Introduction

The benefits of project management methodology could be considered obvious, as evident from the success of the worldwide marketing of PRINCE2, MSP and associated products. KnowledgeTRAIN (2017) states under its FAQs for PRINCE2 online courses that "In total, more than 1.4 million examinations have been taken worldwide since 1996. Of these, almost half were taken in the UK". This comes despite a lack of empirical evidence as to their effectiveness and views to the contrary, as noted by Wells (2012). It was not until several years later that Joslin and Müller (2015) were able to show a quantitative positive impact (22.3%) of project management methodology (PMM)s on project success.

However, attempts at quantification of the effectiveness of any particular (or all) PMM presume a positivist paradigm and difficulties arise with intangibles/ contextual/

Practitioner views on project management methodology (PMM) effectiveness

environmental variables. For example, it is quite difficult to attribute a proportion of success to leadership, as distinct from the leader's organisation having and following a methodology that the leader supports. The full effect of introducing a PMM may also not become evident for some years and there are many variables, such as the appropriateness of the starting methodology to the content material, the effectiveness of the modifications made to tailor it to the local content, the level of flexibility provided for in its application, the level of documentation it calls for, the persistence of the effort to implement and maintain it and the acceptance it receives from project managers and senior executives within the organisation. These conditions are also likely to change over time, making quantification of the effect of a particular PMM implementation a quite difficult and possibly unproductive path to pursue. Nevertheless, considering a PMM implementation within the boundaries of a single organisation limits the variability of these conditions to a much narrower band.

Any attempt at measurement of methodology effectiveness in dollar terms at the lower project level is fraught with even more difficulty. Quantification for a successful project involves estimating how much the PMM might have either saved or avoided wasting, which can only be speculation; it was not actually incurred and so was not there to be measured. Where a project fails, such as abandonment after significant expenditure, the costs are much easier to measure. But in the absence of any Royal Commission or similar investigation, any attempt to allocate blame, including the percentage contribution coming from its PMM, is likely to be strongly contested as reputations and career/ economic prospects will be at stake.

We therefore focused at the organisational level on the portfolio of projects managed by a single methodology. Given the difficulties with quantification, we sought to undertake a qualitative investigation of conditions impacting the effectiveness of PMMs at that (organisational) level. We decided to investigate practitioner views on their PMMs to determine what organisational conditions they considered important and to see if any quantifiable evidence of effectiveness emerged.

It should be noted that we are not here investigating project success factors. We are investigating the effectiveness of PMMs at the organisational level. We first investigated the literature to see what post-implementation evaluation of PMMs had been done, before developing research questions and determining the research design. We adopted a semi-structured interview approach so that we could explore any unexpected conditions that may emerge. We also explored across both engineering infrastructure and IT, allowing investigation of anecdotal evidence of clash of methodologies causing difficulty. We then conducted the interviews, transcribed and analysed them, seeking to identify organisational conditions that emerged affecting PMM effectiveness. We identify six such organisational conditions and found evidence of quantification of PMM benefits in two large organisations.

Literature Review

The literature reviewed specifically targets the evaluation of actual PMM implementations. We used deductive reasoning to develop search terms to find only evaluations. We conducted searches for those terms, reviewed all the abstracts located, and then report on the contents of those found to be relevant. We used the EBSCO database as it is an aggregator which searches multiple databases from multiple sources.

Our search terms were determined by the following reasoning: Any evaluation of PMMs would have to have the word methodology and may also have one of effectiveness,

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evaluation or success also in its title, as such an exercise could not be conducted incidental to another investigation. To restrict the search to the project management field, an additional AND criterion of "project management" in all text was included. Searches for these terms were done in various combinations as detailed below.

A search of all EBSCO aggregator databases on 22/11/2017 for methodology effectiveness in the title and "project management" in all text found 3 items. Only one dealt with project management methodology. That was by Łuczak and Górzna (2012). It effectively summarised PRINCE2 and was concerned with adopting it rather than with evaluating any implementation of it.

A similar search for effectiveness in the title and "project management methodology" in all text also found only 3 items, one of which was Łuczak and Górzna (2012) and the other two were different to the previous search but also did not evaluate project management methodology.

A similar search for evaluation in the title and "project management methodology" in all text also found 17 items, all of which were examined and only two were relevant. One was by Łuczak and Górzna (2012) and the other was by Wells (2012) who studied practitioners with varying levels of experience, all within an IT/ IS environment. She noted there had been a "drive from government and the public sector toward the promotion and usage of the PRINCE2 (Office of Government Commerce [OGC], 2009) PMM in recent years for the development and management of large and complex IT/IS projects" (Wells 2012, pp. 43-4). She also documented difficulties with PMMs including "the indifference of the methodologies to their organizational business interests and benefits beyond those of a single project; complexity in tailoring and modification; leadership and strategy; and their reliance on documentation and their inflexibility of dealing with change" (Wells 2012, p. 44). She noted PMMs being applied "as a fetish used with pathological rigidity for its own sake" (Wells 2012, p. 45). Her research approach was "phenomenological with exploratory purpose" and also with "an inductive approach and reasoning" and "a multiple-case-study approach" (Wells 2012, p. 46). Four PMM cases were examined; PRINCE2, a tailored PRINCE2 and two other methodologies. Data were collected through semi-structured interviews with 48 practitioners. She also noted that "The research used an inductive approach and the interpretivism paradigm" (Wells 2012, p. 57). A significant conclusion of this work was that "Most project managers perceived the prime purpose of PMM to be management, control, and compliance rather than support and guidance. The investigation on this aspect reveals that 47.9% of project managers… claimed that using PMMs hinders their project delivery" (Wells 2012, p. 57).

A search of all EBSCO aggregator databases on 30/11/2017 for methodology success in the title and "project management" in all text found 15 items of which 11 dealt with evaluation of methodology. Three considered project management methodology generically and are examined below. The other eight were concerned with software development; three were from 1988 to 1992, too dated to be relevant in the current IT environment, and two were effectively duplicates - a paper and a thesis with the same title by the same author. This effectively left three IT papers which are also examined below.

The most recent and most comprehensive of the three cross-industry papers were two complimentary ones by Joslin and Müller (2015, 2016). Both papers dealt with the relationship between the use of a project management methodology (PMM) and project success, and the impact of project governance context on this relationship. The first surveyed 246 PMI members and found that "the application of a PMM account for 22.3% of the

variation in project success" (Joslin & Müller 2015, p. 1377). The second paper was qualitative, conducting 19 semi-structured interviews covering 19 organisations across 11 industrial sectors including IT, process and finance industries, with none in engineering infrastructure. Furthermore, all were within IT. It concluded that "environmental factors, notably project governance, influence the use and effectiveness of a project methodology and its elements with a resulting impact on the characteristics of project success" (Joslin & Müller 2016, p. 364). They also noted that "Research on project methodologies is limited, and the results are somewhat contradictory" (Joslin & Müller 2016, p. 368).

The third non-IT focused paper was by Patah and de Carvalho (2012). It conducted a quantitative study in one multinational company with several divisions acting in different markets, where it was possible to obtain data from a large number of projects for a long period of analysis. This company produced and installed a wide range of equipment and earnt 60% of its gross sales from projects. 1387 projects with complete data across Argentina, Brazil and Chile were analysed directly from the organization's databases, covering a three-year period between July 2006 and June 2008.The study considered budget, deadlines and financial margin and "The results show a positive and significant influence from the implementation degree in the project success, from the schedule point of view" (Patah & de Carvalho 2012, p. 1). This paper dealt with a subset of the elements of project management rather than with project management methodology (PMM) specifically.

The three IT papers were all concerned with evaluating Agile against what could be labelled as 'waterfall' approaches. The results were somewhat inconclusive as outlined below.

Ahimbisibwe et al. (2017) developed and tested a contingency fit model comparing the differences between critical success factors (CSFs) for outsourced software development projects in the context of traditional plan-based and agile methodologies. This study conducted an online survey of senior software project managers and practitioners who were involved in international outsourced software development projects across the globe and received 984 valid responses. It found that various CSFs differ significantly across agile and traditional plan-based methodologies, and in different ways for various project success measures. It recommended further refinement of the instrument using different sources of data for variables and future replication using a longitudinal approach. The results "suggest project managers should tailor PMMs according to various organizational, team, customer and project factors to reduce project failure rates" (Ahimbisibwe et al. 2017, p. Abstract).

Tripp (2012) quantitatively evaluated the impact of various Agile methodologies on IT project success by survey of 83 Agile development teams. He noted "that the distinctive element of agile methodologies is their strong emphasis on obtaining and processing feedback from the environment" and observed that "the use of the practices of agile methodologies… has been observed in non-agile methodology environments". He found that "agile methodology use positively impacts project success, while structural complexity negatively moderates the impact of agile use" (Tripp 2012, p. Abstract).

Wright (2014) was concerned with quantifying the impact of software development methodologies on 10 measures of project success. The software development methodology used was classified as either agile, structured, or with some degree of hybridization. He found that for supplier satisfaction, agile projects exhibit slightly higher success rates than structured projects and for "the other nine measures of success, software development methodology choice does not appear to impact the success rates. This suggests that

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practitioners should make software development methodology choices without concern about the impact on the ten measures of success" (Wright 2014, p. Abstract).

Joslin (2017, p. 162) said:

> Several decades of methodology development would imply a common understanding of the term 'methodology'. However, the opposite is true; for example, PMI (2013a) describes a methodology as a 'system of practices, techniques, and procedures, and rules,' whereas the Office of Government Commerce (OGC, 2002) describes its PRINCE2 not as a methodology, but as a method, which contains processes and not techniques… Irrespective of the type of project methodology, all methodologies comprise a heterogeneous collection of practices that vary from organisation to organisation (Joslin 2017, p. 162).

We note that despite this claim of PRINCE2 not to be a methodology, other academic authors also refer to it as such - (Muller 2017a, p. 108) refers to "Predictive methodologies, such as PRINCE2" , Muller (2017b, p. 176) refers to "professional standards or methodologies, such as those of PRINCE2" and Wells (2012) includes PRINCE2 in her assessment of PMMs.

Joslin (2017, p. 166) also noted a case where "a highly evolved methodology that was aligned to the needs of the different business divisions in an engineering company was replaced with a standardized methodology with catastrophic results – project success rates dropped from 90% to 55%". He did not name the methodology. Data on such occurrences is difficult to obtain and name for commercial and reputational reasons.

In summary, the literature search has found:

- only marginal support for the effectiveness of Agile relative to traditional sequential 'waterfall' methodology,
- only one research group conducting a recent (2015/6) post implementation assessment of generic project management methodology in relation to quantifying its effectiveness and the impact of governance upon it and
- only one not quite so recent (2012) evaluation with conclusions rather uncomplimentary to PMMs.
- Lack of an agreed definition of what a PMM is.

The literature review found no interviews exploring the views of experienced practitioners outside IT. Wells (2012) interviewed experienced IT practitioners and noted that PMMs typically fail to accommodate their requirements. Joslin and Müller (2016) also interviewed only experienced IT practitioners. This provides support for interviewing experienced practitioners outside IT.

We also note the absence of a PMM definition and so will develop one before proceeding to generate our research questions.

Definition of Methodology and PMM

The (Oxford) dictionary defines method as "A particular procedure for accomplishing or approaching something, especially a systematic or established one" and methodology as "a system of methods used in a particular area of study or activity". The essential part of this definition is that a methodology is a system of methods. This allows a methodology to be a

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system of procedures or a label describing a particular approach e.g. critical realism. This allows for and is compatible with the academic definitions according to Crotty (1998, p. 3):

- Method: the techniques or procedures used to gather and analyse data related to some research question or hypothesis.
- Methodology: the strategy, plan of action, process or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes.

Applying that to project management, a PMM can be regarded as a system of methods used in project management.

Both PMBOK and PRINCE2 provide a system of methods that would appear to satisfy both the Oxford Dictionary and Crotty definitions as both advocate tailoring their contents to individual projects. However both PMBOK and PRINCE2 declare themselves to be 'non-methodologies'.

The PRINCE2 2017 manual does not use the term methodology and the PRINCE2 2009 manual mentioned it only in its foreword. (AXELOS 2017a, p. xix) describes itself as a "a product-focused project management method". It also says

> If PRINCE2 is not tailored, it is unlikely that the project management effort and approach would be appropriate for the needs of the project. This can lead to 'mechanistic' project management at one extreme (a method is followed without question) or 'heroic' project management at the other extreme (a method is not followed at all) (AXELOS 2017a, p. 27).

So PRINCE2 is claimed to be a method rather than a methodology.

PMBOK says:

> This PMBOK guide is different from a methodology. A methodology is a system of practices, techniques, procedures, and rules used by those who work in a discipline. This PMBOK guide is a foundation upon which organisations can build methodologies, policies, procedures, rules, tools and techniques, and life cycle phases needed to practice project management" (Project Management Institute 2017, p. 2).

The previous fifth edition also said "this standard is a guide rather than a specific methodology" (Project Management Institute 2013, Section 1.1). The subsequent sixth edition included a separate standard. In other words, the PMBOK is claiming to be a BOK, upon which methodology can be based, but is not claiming to be a methodology.

This does not accord with various authors (Wells 2012; Christiansen 2016, p. 4; Muller 2017a, p. 108; 2017b, p. 176) having regarded PRINCE2 as a project management methodology or with AXELOS (2017b) actually proclaiming it as such. This confirms the statement of Joslin (2017, p. 162) in the literature review commenting on the absence of agreement on what a methodology is.

PRINCE2 also appears to confuse lifecycle with methodology/ method in saying:

> Although PRINCE2 does not prescribe the use of any particular project lifecycle, it does require that one is used. Rather than each project manager designing their own,

> consider including one in the project management method, describing the purpose of each management stage and linking back to the PRINCE2 processes and themes (AXELOS 2017a, p. 276).

This requires an inversion of the method/ methodology hierarchy, suggesting a (presumably project) lifecycle, which is broader than its method, should be brought in underneath its method. This all indicates confusion in methodology terminology in the PRINCE2 manual and its marketing.

Within the local engineering infrastructure industry in Queensland, with which the authors are familiar, the term 'methodology' (i.e. a PMM) has the sense of being something required by the organisation that will own the asset that the project will create; something relieving the project manager of the need to invent or experiment with unnecessary time-wasting parent organisational process and associated politics, and providing information on its application to various project types and scale. This distinction does not emerge from the academic literature we have read. Neither PRINCE2 nor PMBOK would satisfy this 'definition'. The PMBOK has been regarded locally as not being a methodology because it did not specify what degree of implementation of each knowledge area was appropriate at different phases of the project and did not deal with options analysis/ feasibility studies.

We consider the hair-splitting arguments over whether particular systems are methods or methodologies to be unnecessary and counter-productive, simply constituting an evolutionary type struggle for commercial supremacy and a pointless contest for exclusive use of a generic term. As mentioned above, all satisfy the Oxford and academic definitions in that they provide guidance allowing variation, and so could all legitimately be considered PMMs. The problem can be avoided by accepting there are levels or degrees, depending upon their process and lifecycle bases, which determine the degree of tailoring required or number of process uncertainties remaining for the project manager to figure out.

It could be considered that there are three levels of PMMs:

1. Product process and product lifecycle
2. Knowledge area process and project lifecycle
3. An organisation's process for the whole project lifecycle of its projects.

PRINCE2 could be considered as level 1, PMBOK as level 2 and a system suitable for application as an organisational PMM, as level 3. However, given the tendency to drop qualifying words, it would be preferable if the term PMM was referred to as level 3 only, as that is the only level that gives full end-to-end processes for particular projects. This would align with the claims of both products to not be methodologies.

Research Questions (RQs)

This research sought to:

1. determine experienced practitioner views on methodology effectiveness

2. investigate generally across engineering infrastructure and IT (to guard against drawing conclusions that may be generic to one field only)
3. identify any organisational conditions that emerge as being important for PMM effectiveness
4. see if any participants were able to present information verifying the benefits that had accrued from use of their methodology and
5. identify any issues that may warrant further investigation

The following research questions were therefore developed:

RQ1: Do experienced practitioners consider the project management methodology (PMM) their organisation uses is effective and or beneficial?

RQ2: Can any of the participants present information verifying the effectiveness and benefits that have accrued from use of their PMM?

RQ3: What organisational conditions emerge as being important for the effectiveness of PMMs?

Research Design

Our research approach is qualitative and similar to that of Wells (2012), who described her approach as phenomenological, exploratory and interpretivist. However, our approach differs in that we seek to employ deduction rather than induction, as Popper (1979, p. 86) noted "Hume had shown induction invalid". While we do seek to identify views and issues that may be of use or interest outside the sample, none of the RQs seek to make any inferences on practitioner views beyond the sample. However, if an issue has been identified in one place, any denial of its existence can be definitely refuted, rendering possible the inference that it may be an issue in other places.

Our research approach is also similar to Joslin and Müller (2016) who adopted a philosophical stance of critical realism.

This research calls for use of a qualitative method of data collection with deductive analysis and interpretation of the responses.

Instrument selection

Wengraf (2001); Fontana and Prokos (2007, p. 23) considered "Face-to-face interviews have many advantages over less interactive methods. As Shuy (2002) notes, many situations benefit from face-to-face interviews, including those in which the interview is long, or includes complicated topics or sensitive questions". Methodology is a complex subject and face-to-face interviewing was considered an appropriate means of canvassing it while avoiding positivist oversight.

We nevertheless sought to structure the interviews so they did not become undirected conversations. Fontana and Prokos (2007, p. 19) noted that in structured interviewing, "all respondents receive the same set of questions asked in the same order" and "The interviewers must perfect a style of "interested listening" that rewards the respondent's participation but does not evaluate these responses (Converse and Schuman 1974)" (Fontana & Prokos 2007, p. 20). This was appropriate for our particular research questions, and suggested use of a semi-structured interview which Wengraf (2001, p. 1) noted as appropriate for depth

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interviewing. Barriball and While (1994, p. 330); Fontana and Prokos (2007) also noted "semi-structured interviews are well suited for the exploration of the perceptions and opinions of respondents regarding complex and sometimes sensitive issues and enable probing for more information and clarification of answers".

Wengraf (2001, p. 162) noted "Semi-structured interviewing is characterized by an emphasis on relatively open questions. However, you may wish also to put certain closed questions". Fontana and Prokos (2007) said "the structured interview … often elicits rational responses, but it overlooks or inadequately assesses the emotional dimension" (Fontana & Prokos 2007, p. 22).

We therefore decided to use semi-structured face-to-face interviews with a combination of open and closed questions.

Question design

Question design was based on the categories of questions used in a management study by Kummerow and Kirby (2013). These categories were evaluation, personal experience and context. Their questions were a mixture of open and closed. The actual questions used in this study were tailor-made for this investigation and were only very loosely based the actual Kummerow and Kirby (2013, pp. 542-4) protocol as their investigation occurred within a contained organisational boundary and was more amenable to statistical analysis than the investigation being conducted here.

For this particular research, it was appropriate for the interview questions to be open, with some closed questions being used to produce classification information or as prompts.

The interview strategy was to first confirm the background/ context of the person by determining various classificatory factors, then ask the pre-determined interview questions. The background/ context factors were:

- the sector of their organisation (Public or Private enterprise (G=Government, P = Private, H = Hybrid))
- the area within the Sector (SG = State Government, LG = Local Government, SGA = State Government Authority, M = Manufacturing, E = Education)
- the person's work type = the type of products worked with (I = Infrastructure (Civil/ Building/Electrical/Mechanical), IT = Information Technology, including IT infrastructure, BD = Business Development).

Semi-structured interview questions were then developed to capture as many perspectives on project management methodologies as possible. The approach was to have evaluation questions that covered both the nature of and the outcomes from use of these methodologies before evaluating their operation. The initial evaluation questions (Q1) therefore addressed their nature and questions (3 to 5) explored their effectiveness of their implementation.

A combination of open-ended and closed questions were developed as follows:

1. Does your organisation require use of a single common project management system or methodology?
2. What is it/ are these?
3. What is its/ their parentage?

   4. How closely is it/ are they followed?
   5. Is it effective? In what ways? Where/ how is it least effective?

The closed questions (1 to 3) were designed to explore the organisational context and alignment of the methodology with major approaches within the industry. The open-ended questions (4 and 5) were intended to prompt participant discussion.

Other closed questions were asked by way of "impromptu" prompts to either stimulate further observations or to clarify meaning when the response was not clear. In the latter cases a summary or interpretation of the view expressed was related back to the participant for confirmation or correction.

Sample selection

As noted above, a qualitative deductive approach was adopted. This rendered statistical analysis inappropriate. It was therefore not necessary to have a statistically significant minimum sample size, as would be required for the purpose of gaining inductive confidence.

Only people who were both knowledgeable on the topic and held organisational positions where they would be required to implement their knowledge. This avoided assessing issues of training and experience. This also conforms with consensus theory which is based on the principle that experts tend to agree more with each other within their particular domain than do novices (Romney et al. 1986). They also indicated stable results with sample sizes of around six 'experts'. We decided to select only people who were all at least a program manager or a head of a project management support office. More recently, Guest et al. (2006) have indicated a sample size of six to 12 is sufficient where the participants share common experiences, participants are interviewed separately and in private and the questions asked comprise a common domain of knowledge and a similar set of questions is asked of all participants. On this basis, given that we were interested in differences between engineering infrastructure and IT and given the literature review found previous IT practitioner interviews but none in engineering infrastructure, we set out to interview at least 12 with an engineering infrastructure project background plus six from an IT background.

The likelihood of detecting divergent views was increased by selecting the interview sample across the boundaries of discipline and organisation type. A range of these were selected; from government and private enterprise, from physical infrastructure and IT, and from consulting and project owner organisations.

The sample location was also considered. The researchers are based in Queensland, Australia, and consideration was given to whether participants would be selected locally or from interstate or overseas. Australia sits at cultural and geographic crossroads between England/ Europe, the Americas and Asia. Local members of The Australian Institute of Project Management are heavily involved with the International Project Management Association (IPMA) and local practitioners were involved in development of the first PMBOK. The Project management Institute (PMI) also has a strong local presence. This, together with the ease of global communication, global access to databases and the existence of internationally accepted bodies of knowledge should ensure that world-wide trends influence local participants. It was therefore considered that the sample could be selected locally.

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Potential organisations were identified, their agreement obtained and potential candidates were approached. 21 experienced project managers agreed to participate and were interviewed which is well in excess of the requirement for theoretical saturation. Several of those interviewed headed large infrastructure delivery organisations.

Data collection and taxonomy of the group of participants

21 people were interviewed from 7 organisations of which 4 were in the private sector (2 separate consultancies, 1 multi-national manufacturing company and 1 educational institution) 2 from the Government sector (a state government department and a local government department) and 1 which straddles both – a commercialised state government authority. All had offices in Queensland, Australia.

The distribution by industry area was 4 from private industry (1 from each company), 16 from government (7 from state (1 of whom was a contracted consultant) and 9 from local (1 of whom was a contracted consultant)) and 1 was from the hybrid organisation (who was also a contracted consultant).

The distribution of work types engaged in was 9 in physical civil infrastructure, 6 in IT, 1 in business development, 1 in manufacturing, 1 in academia/ buildings, and 3 in multiple work types (2 in infrastructure and business development, 1 in physical infrastructure and IT).

The full taxonomy of the interviewed group is given in Table 1 which shows the participants (1 to 21), their organisation (A to G), industry sector, area within that sector, and their work type or discipline.

Table 1

Participant Taxonomy

#	Org	Sector	Area	Work type
1	A	P	M	I
2	G	P	E	I
3	C	G	LG	BD
4	C	G	LG	IT
5	D	H	SGA&C	IT&I
6	C	G	LG	I
7	C	G	LG	I
8	B	G	SG	I
9	B	G	SG	I
10	C	G	LG	IT
11	B	G	SG	I
12	C	G	LG	I
13	C	G	LG	IT
14	B	G&P	SG&C	IT
15	B	G	SG	I

16	C	G	LG	I
17	C	G&P	LG&C	IT
18	B	G	SG	IT
19	E	P	C	I
20	B	G	SG	I&BD
21	F	P	C	I&BD

Legend:

G=Government	SG=State Government	I=Infrastructure(Civil/ Building /Electrical/ Mechanical)
P=Private	SGA=State Government Authority	IT=Information Technology, including IT infrastructure
H=Hybrid	LG=Local Government	BD=Business Development
	C=Consultant	
	M=Manufacturing	
	E=Education	

In the following sections, participants are referred to by their number and organisation e.g. 1A or 21F. The abbreviations in the Table 1 legend are also used in places where brevity is advantageous.

Findings from responses to Methodology Questions

The findings from the five questions asked are reported below.

Question 1 – Single project methodology

The question asked was 'Does your organisation require use of a single common project management system or methodology?'

16 answered yes and 4 answered no. 1 said "not explicitly" but actually had an organisational process meaning the response was effectively yes. All 9 organisation C participants said yes and they ranged across infrastructure, IT and business development. The 7 Organisation B participants, who were from infrastructure and IT gave differing responses. 4 said yes and 3 said no. Some of these answered from the perspective of their part of the organisation. That organisation used to have one single methodology before the IT area was required to adopt PRINCE2 and before its accounting area developed another methodology for particularly large projects.

Several other comments made are worthy of explicit mention.

19E said "PRINCE2 is geared more towards IT".

5D said:

> I'm a fan of PRINCE2 in IT. It's not necessarily good for engineering projects or when you don't have a physical project. In engineering you have a spectacular amount of standards and approaches, but with software, it is still a discipline that's in its infancy. I think PRINCE2 has helped software development projects immensely.

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2G chronicled the difficulty of getting a single system implemented across a diverse organisation and referred to a rather unusual committee title, the "project management framework board" which was set up "to help develop the methodology and framework".

21F made an observation that warrants mentioning in full:

> We've noticed that people develop their own methodologies then lose them, develop them again then lose them. I was talking to an old friend who said when I asked what he was doing, that he was developing an asset management framework for an organisation I previously worked for, as they've got nothing. I suggested to him that when he's next in there, walk down to Person x's desk and tell him what you are doing. The American Water Association paid the organisation to send him and the current head of a similar large interstate organisation over there to give them the strategic framework for asset management only three years earlier. I just sit there and shake my head! But I've seen it so many times.

Question 2 - Project methodology used

The question asked was 'What is it/ are these?'

18 indicated they used an in-house methodology, 2 used PRINCE2 and 1 used none.

Some of the 18 mentioned PRINCE2. Although the respondents in Organisation C did not use PRINCE2, the terminology they used indicated there had been some influence from it. Other packages that were mentioned were the American PMBOK and the PRINCE2 stable-mate 3PCM.

2G mentioned several examples of projects considered successful and unsuccessful and was able to compare installations of the same Enterprise Resource Planning (ERP) system into two comparable organisations. The one that did not customise the package and changed their own forms and processes to accommodate it, successfully delivered it for around $16M. The one that customised the system so it did not have to change its forms and processes cost one CEO their job along the way, had a re-tender in the middle and was eventually delivered some years late at a total cost of $60-70M.

7C made the following comment about adopting a modified scheduling package across their organisation:

> When we first came together …, we all thought we were special and had special ways of doing things but over time we found we can actually manage the same way… and it was really just the formatting that was the issue.

Question 3 - Project methodology parentage

The question asked was 'What is its/ their parentage?'

8 said PMBOK and PRINCE2 (all from Organisation C), 5 said PMBOK (all from Organisation B), 2 said PRINCE2 (both from Organisation B and working in IT), 2 said experience that went into development of the PMBOK (1A, 21F). 2 also mentioned experience as well as PMBOK (5D, 19E), 1 was not applicable, having no methodology and 1 was not asked.

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This question flushed out several interesting comments on PMBOK, PRINCE2 and ERPs.

21F provided comments on PMBOK in saying:

> My AIPM number is xxx, virtually a foundation member. That was in the days when the PMBOK was being developed by us in Brisbane. I can tell you the names of the guys who developed the stuff you read there. In Australia, the AIPM co-developed PMBOK with PMI. Then PMI cut AIPM adrift and claimed it so they could sell it and they turned themselves into a commercial organisation rather than an industry body. That really grated on us, especially when we had to buy copies of PMBOK. The risk part of its methodology is basically AS4360 re-written. I think the PMBOK is a clear methodology - Inputs/ Outputs/ Processes. If you want to have boxes to tick, no. That's an interesting issue. I lecture at a university and one of the things I'm finding is the expectation of students in the industry that we change everything into a checkbox arrangement. Management has to think and project management is about applying something – the concepts, from PMBOK or whatever they are and apply to your project or circumstance or whatever. You have to do some interpretation of stuff.

17C commented on PRINCE2 in saying that his organisation's internal methodology here referred to as IM(C) as being:

> based on a waterfall approach to most things. The closest it is to PRINCE2 is in governance - PCGs - Owner, Senior User and Senior Supplier. The artifacts are nowhere near PRINCE2. It uses more PMBOK/ AIPM terminology. Project mandate and business case terms aren't the same as PRINCE2. It gives a lot more credibility to risk than PRINCE2 does. I think PRINCE2 is quite light on risk. It also doesn't separate project managing from project doing i.e. what is a project manager actually responsible for (as distinct from content)?

10C mentioned an ancillary system IM(C1), which is an adjunct to their project management methodology, IM(C). 10C explained that IM(C1) aligns their "IT infrastructure, financial infrastructure and business operations to a parent-child methodology so the financial systems can roll down and the PM methodology, tools and techniques can roll back up", and they will "now be able to align … structures in both financial and project management". It is a scheduling and reporting system that attempts to accommodate cross program linkages and the separation of budget and physical accountabilities. It is based around Microsoft Project and was effectively an attempt to develop a project monitoring system that would interface with their ERP.

Question 4 – How closely methodology is followed

The question asked was 'How closely is it/ are they followed?'

Participant responses were assessed on the basis of whether the participant's response indicated high (H), medium (M) or low (L) compliance. These were a little arbitrary and useful only for gaining an overall impression. The main value was again in what the participants said.

14 were classified as indicating high compliance, 6 as medium, none as low and 1 was not applicable. 1 who was classified as 'M' said "a lot of our clients have their own project management system that we as consultants are required to follow" (19E).

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This indicates a reasonably high level of compliance with corporate systems within Organisations A to F, irrespective of whether single or multiple methodology is in use.

One participant raised the issue of compliance when there is political involvement, saying "There are significant conversations around business cases being required when there is political direction to do something" (12C).

14B from IT said "PRINCE2 is closely followed with flexibility on how deep/ light you go with it, as without that, you can kill yourself with paperwork".

There was one interesting comment on the nature of project management: "As project managers are we artists or scientists? We're somewhere in the middle' (19E)".

Question 5 – Methodology effectiveness

The question asked was 'Is it effective? In what ways? Where/ how is it least effective?'

Participant responses were assessed on the basis of whether the participant's response indicated yes (Y), no (N) or maybe (M). 20 indicated yes and the one whose organisation did not have any methodology was supportive of their use, as evidenced by the fact that he was involved in an attempt to implement one.

Some participants responded regarding methodologies generally. These are reported below before reporting the responses on particular methodologies.

18B said "All the project methodologies are as good as each other. I'm not wedded to any particular one".

13C was using a hybrid and said:

> It's not industry standard as it's a hybrid. Following either PMBOK or PRINCE2 would have been easier. We spend so much time reviewing when there's stuff on the shelf that's just as effective that could just be adopted and tweaked. We have two people doing this.

In response to a different question (2.1) asked in the same interview, 2G, who lectures practitioners in a project management master's degree program said:

> IT projects tend to have more IT focused project management and methodologies which are different to those used for capital projects. The ones that I have seen tend to be a variation of PRINCE2. I've seen lots of people who say they use PRINCE2 but in fact, it's a home-grown variation. I don't believe many people adopt PRINCE2 in total and use the full suite of PRINCE2 principles.

When responding to Question 4, 11B (from an engineering infrastructure area) expressed a view about PRINCE2's effectiveness in IT without getting specific about any particular feature, saying it was:

> a failure, which may have more to do with the nature of IT projects than the PRINCE2 methodology, but it confuses a lot of people that there's a separate methodology. I don't think that's useful. The majority of the department's projects are either business or infrastructure and they are all run off essentially the same PMBOK methodology. What's grown out of the department's IM(B) has become the norm for

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> everything except for the PRINCE2 stuff. What's in there (PRINCE2) makes sense, but it doesn't mean the IT projects go that well. It's being used on all of them now as that's the government norm but I'm ambivalent because I've seen a lot of IT projects that haven't gone that well. I have seen ones that go well too, and the difference is obviously the people who are running them, whatever their methodology. The ones where the business takes a great interest. They go well.

This aligns with the history of that organisation, as mentioned above having previously had a common methodology for all projects including IT and having to abandon it for IT related projects in favour of PRINCE2.

Some participants were able to indicate or measure effectiveness for their PMBOK based systems. 7C said 'We deliver projects on time and budget consistently'. 10C said they were 'starting to see benefits and efficiencies. We formerly had paper based and ad-hoc approach to managing projects. Our process now allows for streamlined business decisions - saving 20-30 mins/ day in document control'. 11B said 'We get 90% on time and 95% under budget with high satisfaction. We have a reduction in the number of major issues and we're getting less re-work and major failures'. 13C said 'We report on project delivery and have more than 90% on time and on budget'.

Participant responses on particular features of their systems that were most and least effective are reported below for organisations B and C systems, as the bulk of the participants were from these two organisations. PRINCE2 responses are also reported separately, with responses drawn collectively across the organisations sampled.

IM(C) – Internal methodology for Organisation C
The most effective aspects of IM(C)

4C IM(C) "It gives a framework".

6C "It's most effective in definition of critical stages - development, business case, delivery and closure".

7C said:

> We deliver projects on time and budget consistently [reported above] … Have assessed maturity at 3-4. The engineering infrastructure area was ahead of the rest of the organisation, as expected. Most important is to have a process across all disciplines. It probably doesn't really matter what that is, provided it's consistent across the organisation.

10C said:

> IM(C) is simple, light, very easy to follow and you don't have to use all of it for every project. The system/ framework is prescriptive, almost tick-a-box. The way finding is clear.

12C "The system is effective in producing those outcomes when it's used".

13C "We report on project delivery and have > 90% on time on budget and have the stats".

17C "Most -You usually get the supporting documentation you require".

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The least effective aspects of IM(C)

4C "if followed blindly, the patient may die".

10C said:

> There's a stigma attached to it in some places, that it is over-governed, bureaucracy gone mad, too hard, unnecessary, terminology and definitions that are over the top, a bit wanky, especially program/ portfolio/ project. People are right - Program and Programme. That's embarrassing. Program is budget, Programme is works. Program is a line item of money. Programme is for MSP. This decision was taken to avoid confusion. This decision didn't go down so well.

12C said:

> Difficulties with the system being followed rather than absence of system. Most effective in providing the documentation and system. The Nike approach (Just do it) exposes the PM and organisation to risk. That's what happens when people are time poor.

16C said:

> Adhering to the start-up process is poor, such as business cases. Other components are followed and then the benefits realisation at the end and project closeout would be poor as well. A lot of not following the full process is driven by tight time-frames. The start-up, initiation and decision around investment is not done so well, the doing bit is done fairly well, then the close-out is done poorly. People are choosing the bits they want to do rather than following the whole process. We've been endeavouring to put it into more practical terms. Many areas have people delivering who don't have project management experience, so we want it to be easy to follow. Where we've made it too difficult to follow, compliance is virtually non-existent.

17C said:

> There's nothing to say what you are doing about the actual management of the project. They call it a project management methodology. It's actually a project delivery methodology. For IT, need a business requirement that leads to a solution options to solution architecture to functional requirements (of the IT modules). That's your project methodology. So business requirement should drive your functional requirement. The as-is and to-be are in the business requirements. That's all the technical stuff. You build out from that by determining scope, then schedule, budget, then quality and performance requirements, then resources, then communications, risk and procurement. That's all the project management stuff. That to me is a project management methodology. Governance is focused on the business requirement… Where IM(C) falls down is that it covers the work management rather than the project management.

IM(B) – Internal methodology for Organisation B
The most effective aspects of IM(B)

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8B "Documentation, simplicity of following steps. It has good background processes and good guidance throughout the documentation is key".

9B said:

> Phasing of project development in a logical sequence, starting with what's the strategic intent of the proposed solution and then building up that proposal through series of phases such as Options Analysis leading to a to Business Case, which is the definitive investment decision point and thereon to development of a tender and construction assurance. The strength of the system is allowing a level of scalability and flexibility within defined parameters.

15B said:

> It has been the tool used to get more discipline around things like estimating and risk management … It's the vehicle that carries the common language that's now embedded within the organisation, which, again, we didn't have 10 years ago. The best thing out of IM(B) was the vocabulary. Everybody understands what a business case is. Similarly for… project phases. My opinion is that it has been as valuable as the detailed content, having people speak the same language.

11B "We get 90% on time and 95% under budget with high satisfaction. We have a reduction in the number of major issues and we're getting less re-work and major failures".

The least effective aspects of IM(B)

8B "Project managers and their management understanding the need to use it - Where a project manager deviates from the standard methodology as they see their project doesn't quite fit - the tailoring and principles behind it get left behind".

9B said:

> The need to be adapted to needs of very diverse client base and being clear in the outcome to be achieved. The negative is that the systems aren't clear in the application of that flexibility and the consequences are that you end up with users that withdraw from using it and the adoption rate diminishes or have outcomes not quite meeting suitable requirements and users end up developing alternative approaches - which may be adaptation or going elsewhere. Another weakness or risk is not to be overly prescriptive or repetitive in the information sought as this leads to diminished adoption.

15B said:

> When people don't think about how they are using it, and tend to put more effort into the bits they don't need to and less into those that they do. … Historically, the department culturally likes having black and white rules to follow. You can use it like that, but you don't get the best value out of it that way. We still have the issue of people following a cook book approach, rather than as a tool to document your own experience and expertise.

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11B "in the western areas where capability is not so strong, and where we work with other areas of the department that don't have the same focus on a project or program management approach".

PRINCE2
Only 3 participants were fully using PRINCE2 and all considered it was effective for the IT area they were involved in.

The most effective aspects of PRINCE2

14B said:

> It provides a good mechanism for ensuring the project has the right stage gate decisions as needed. It allows for a good level of planning. PRINCE2 talks about works packages and stages. … It is also good for initiating projects appropriately, to ensure the right sponsorship is in place, the right pieces of information are gathered & understood to inform initiation of a project.

The least effective aspects of PRINCE2

14B said:

> Maybe quality needs strengthening and provide process and methods for measuring and providing the projects with the ability to proactively work to quality outcomes. One of the principal difficulties is people not understanding that it is a flexible methodology and they bury themselves in paperwork. You add a significant overhead to the project if you don't match how deep you go to the complexity and size of the project.

17C said:

> When I talk about a project management methodology, I'm not really worried about the product development methodology. That's the basis of PRINCE2. PRINCE2 does deal with project management and reaches out to the project executive only via its governance arrangements… I think PRINCE2 pays lip service to risk management. It does a lot around scope and quality… In IT we do it very badly. We focus all our effort on the work management rather than on the project management, and it shows through.

Analysis of Findings

Question 1 – Single project methodology
While most said their organisation had a common project management methodology, for some, this referred to their particular part of the organisation. So although the responses from one organisation conflicted, the no responses did not indicate absence of methodology. They rather indicated the absence of a single one followed by all parts of the organisation. As noted in the findings, this particular organisation previously had one single methodology before the IT area was required by whole-of-government mandate to adopt PRINCE2, and before its accounting area also developed another methodology for particularly large projects. The PRINCE2 model was introduced for IT without consideration of how it might interact with the core business which was not using it. The large project methodology was developed

without regard for the existing project management methodology, perhaps bearing out the observation of 21F who commented on organisations developing methodologies and then losing them.

The issue that emerges from these observations is the difficulty of both implementing a common methodology and then keeping it, or in other words, the difficulty of introducing and sustaining effective change. It is evident from the remarks that plenty of change can be introduced that is not sustained.

Organisational conditions having the potential to contribute to this include the reduction of corporate loyalty to staff, the acceptance of increased mobility and the expectation of constant change. It appears that the bureaucratic norm has completely changed from the pre-1980s entrenched resistance to change to the complete opposite in the 1990s and 2000s, to the point now where past experience is devalued and retaining anything much of lessons learned is a significant challenge. Both approaches can be described as very risky practices and some balance between the two is obviously necessary. One wonders what productivity gains might be possible if the excesses of both approaches could be avoided. As Duffield and Whitty (2012, p. 1) noted "Both the knowledge and project management literature suggest that the lessons learned process in practice rarely happens, and when it does it fails to deliver the intended results".

A related issue that emerges is the tendency within bureaucracies to not research outside one's own silo for previous approaches that may have already solved the same problem. This is facilitated by time pressure producing efficiency rather than effectiveness. This feeds competition between frameworks. There are potential esteem and career promotion prospects involved in developing a 'new' framework for others to follow. Such rewards won't accrue if it should happen to be found that the task has already been done. This also produces a tendency to discredit any such existing frameworks that may be found as being flawed, to justify development of a new one. The need for esteem and attention, manifesting in the desire to provide an example to others without recognising we are still just learning ourselves, feeds the short-cycling of ineffective change and the proliferation of competing conceptual frameworks. So there is little incentive to do such research, and the time pressure on practitioners for efficiency over effectiveness easily leads to ignoring the potential savings that a little bit of research and investigation may bring. There is rarely time to adequately research or consider what is to be done, but there is all the time in the world to work through the consequences. This has been lost through change advocates adopting moral high ground with evangelising zeal, labelling reasonable questioning as resisting change.

This is perhaps due to the prevailing mind-set, hung over from logical positivism, that everything can be controlled, and we can all have what we want, and we should be able to get it, now. If I perceive a need here and now, I may go out and solve it myself rather than look around too much. This mirrors the difficulty identified in McGrath and Whitty (2017), where blindness to silent or assumed qualifiers causes difficulty in our communications on abstract concepts. A further difficulty arises that once a position is taken and a career attached to it, egos come into play, as mentioned in the response to a separate set of governance questions asked in conjunction with the methodology questions. 7C said "People find it very difficult to articulate governance because what happens is egos get bruised along the way, so people who think they're important find out they're not important and that's one of the critical factors".

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A third issue that emerges is some participants stating that PRINCE2 is much better suited to IT projects than to physical infrastructure (5D and 19E). 11B in response to Question 4 noted his organisation did not use it for business or engineering infrastructure projects and that PRINCE2 had been "a failure" for IT projects in his organisation. 17C in response to a supplementary question "Are you aware of Prince being used in infrastructure anywhere?" asked when probing a governance question (1.8) (not reported in this paper) answered "No. I'm not sure if it could be because you can't half build a building; you can't half do a mine". These statements cast doubt on claims in the PRINCE2 manual that it is "generic so that it can be applied to any project regardless of project scale, type, organization, geography or culture" (AXELOS 2017a, p. 2) and indicate the possibility of proof by induction (that if something seems good in one area it will also work in another) having been accepted without adequate evidence (see Organisational Condition 2 above).

Question 2 - Project methodology used

The significant factor that emerges here is that some internal methodologies in engineering infrastructure organisations have survived the PRINCE2 challenge noted by Wells (2012, pp. 43-4).

Another issue emerges from the comment of 7C 'we all thought we were special and had special ways of doing things but over time we found we can actually manage the same way … it was really just the formatting that was the issue'. This supports the second issue identified in Question 1 of not looking outside silos. It is also instructive relative to the customisation of ERP systems mentioned in the findings, with customisation multiplying the cost in one case by about 4. This could be taken as a message to either purchasing organisations to select a package closest to existing organisational processes and not to insist on customisation, or to ERP suppliers to include more flexibility in their base product to reduce the need for customisation. Of course, this may not suit the ERP company business model for ongoing revenue. It may also not support the industry of introducing changed ERPs as a measure to solve organisational problems.

Question 3 - Project methodology parentage

The findings indicate that both PMBOK and PRINCE2 have had substantial influence on the organisations the participants had worked in and that these two parentages dominated the organisational systems reported, albeit that some of the older participants were able to relate further back to experience that provided the base for PMBOK. Of course, PRINCE2 has a long history as well, originating from the PROMPT II system, as documented in McKenna and Whitty (2012). However, it is only in the last two decades that it has spread widely beyond the UK.

Question 4 – How closely methodology is followed

While a high level of compliance with corporate project management systems was indicated in the organisations the participants represented, it was notable that the issue of political involvement compromising compliance was raised by only one of the participants (12C). It may be that the existence of methodology had provided a governance framework to enable such pressure to be resisted, however the interview data enabled no conclusion on this matter to be drawn and it was not the focus of our investigation.

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Question 5 – Methodology effectiveness

From the virtual clean sweep of responses considering their methodology was effective, it is evident that the answer to RQ1 is affirmative. This contrasts markedly with Wells (2012, p. 57) finding only 50% agreement on this. Some were able to report measurable improvements; participants from both organisations B and C reported delivering to better than 90% on time and budget across all their infrastructure projects.

While the difficulties of demonstrating performance improvement are enumerated in the introduction above, practitioners are subject to pressure to get results and so project outcomes are generally well measured at least in terms of time and cost. These are tracked in performance data, which for some larger public project delivery organisations, is contained at some level in annual reports. This study interviewed practitioners from two organisations which do maintain and monitor project performance data. However only one reported this in their annual reports. Two annual reports from this organisation were examined, 2014-15 and 2015-16. In Organisation B, the only measure directly comparable, due to reporting differences between the financial years examined was cost. The 'number of projects costing less than 10% over the programmed estimate' increased from 87 to 90%. While a single year on year comparison does not validate any statistical trend, the high percentage numbers support the organisation's participants claims. Note that Annual Reports fulfil legal requirements to report, with associated obligation for truthfulness and any data presented can be subject to FOI (Freedom of information) requests and so can generally be regarded as accurately reported. They are used as public sources of reference. Consequently, performance data is generally kept to the bare minimum and as broad as possible. If the performance data is unfavourable, it is generally either omitted or selectively reported or different measures are used that look less unfavourable. So, if any data that specifically addresses performance is actually reported, particularly if the same measures are used year to year, it can generally be relied on. Close attention to the way it is worded and presented is, of course, necessary.

This indicates that RQ2 can be answered affirmatively; it is possible to achieve consistency and reliability of delivery through having an organisation wide methodology, as two organisations sampled have done it. Both had PMBOK based methodology.

Discussion

The analysis of findings above indicate that the first two research questions can be answered affirmatively; The experienced practitioners sampled considered the project management methodology (PMM) their organisation uses to be effective and beneficial (RQ1), and participants from two organisations were able to present information verifying the effectiveness and benefits that have accrued from use of their PMM (RQ2).

We now turn our attention to RQ3. It is evident that RQ3 can be answered and this will be done in the next section below by distilling the organisational conditions identified in the questions above.

Both organisations where measurable performance benefits were claimed had PMBOK based methodologies and indicated reductions in both re-work and major issues/ failures. Both also reported effectiveness in defining critical stages - development, business case, delivery and closure for IM(C) and phasing of strategic intent, Options Analysis and Business Case for IM(B). Both received favourable comments on simplicity, scalability and flexibility as well

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as on the documentation provided. IM(B) received a favourable comment on its production of common vocabulary. So it is evident that the aspect of a PMM providing common process was generally considered beneficial. Both were widely supported and followed within their organisation.

The main difficulties reported for both systems were the level of adherence to the system at the margin (by the minority in both organisations who did not follow the system), with comments being made on the adequacy of following the start-up process, the level of adherence on the mid-section processes including delivery, and completion of close-out - due to time pressures and staff inexperience. These difficulties were at the margin for the two organisations that had performance measurement data and the level of conformance was high as the systems were mandated from the top of these organisations. The question was asked even-handedly, so even though participants supported their organisational system, they had to come up with something that counterbalanced their support. So even though the questions were asked in a 50/50 way, the responses cannot be interpreted in that way,

However, IM(C) also seemed to have some rigidity of either the system or some implementation features that generated some resistance, which was at least partly addressed by introducing a light version. One rather fulsome comment related to it being a delivery methodology rather than project management methodology, pointing out all the project management omissions (17C). The comment came from the IT area and concluded with the statement that 'it covers the work management rather than the project management'. This corresponds with the need expressed in McGrath and Whitty (2015) to distinguish process from content. However, in spite of this difficulty, the organisation still reported high success rates. This either means IM(C) is a robust system or highlights the relative importance of having some system rather than none, or possibly both.

Organisational conditions contribute to the effectiveness of PMMs

The following organisational conditions that contribute to the effectiveness of PMMs emerged from the participant responses:

1. **The difficulty of both implementing a common methodology and then keeping it:** This was identified in Question 1 responses and is related to Condition 2 below. It is a difficulty that can result from changes in personnel, which can produce loss of knowledge of organisational history or imposition of different attitudes, priorities or systems.
2. **The tendency within bureaucracies for practitioners to not research outside their own silo for previous approaches that may have already solved the same problem:** This was also identified in Question 1 responses. There is scope here for promotion of what could be labelled a 'double helix', akin to the triple helix concept of Etzkowitz and Leydesdorff (1998). Practitioners are time poor and must produce a useable outcome for their customers/ the community. Unnecessary duplication is difficult to detect within large organisations for many mutually supporting reasons. These include increasing staff turnover, reduced organisational loyalty to staff, expectations of rapid promotion, the career enhancement prospects of introducing change and the removal of sceptical older staff with organisational knowledge.
3. **Competition between methodologies:** This was identified in Question 2 responses and despite the world-wide push for adoption of OGC methodology, other internal

methodologies in some engineering infrastructure organisations, two of which were sampled here, have survived the PRINCE2 challenge to replace them. If more performance data was available, as suggested in Research Direction 1 below, this would provide competitive feedback that may drive changes in commercial methodologies. It may also determine the circumstances where some PMMs may work better than others.

4. **Adoption of common formats:** This was identified in Question 2 responses with one participant saying that "we all thought we were special and had special ways of doing things but over time we found we can actually manage the same way… it was really just the formatting that was the issue". This, taken together with one participant's observation of the same ERP implementation in two different but comparable organisations where customisation of formats in one resulted in the implementation cost being nearly four times that of the other organisation, indicates that this issue may well apply more broadly than just within project management.

5. **Flexibility in application:** This was identified in Question 5 responses. While some hankered for an idealised world, desiring purity of methodology and an absence of customisation or hybridisation, this attitude seemed rooted in the positivist paradigm which provided the origin of project management theory, as noted by Bredillet (2010, p. 6). Rigidity of application seemed to generate adverse reactions of "over-governed, bureaucracy gone mad" (10C) (although this referred to only some parts of the organisation) or 'buried in paperwork' (14B) (referring to inappropriate applications of PRINCE2). However, all the two PMMs considered here addressed this by having some fixed elements and some that are allowed to vary, to accommodate project circumstances not fitting some aspect of the framework imposed upon them. Use of a scaling process or having a 'light' version available for less complex projects were means that these methodologies had adopted. We also noted that IM(B) also had the ability to accommodate softer i.e. less deterministic project types, such as policy or strategy development or people-oriented projects such as culture change.

6. **Distinguishing content from process:** This was identified in Question 5 responses and was raised in terms of one PMM covering the work management rather than the project management. The very existence of the project management field depends upon identifying the generic process characteristics, separate to and independent of the content area it is applied to. This poses the challenge of identifying items thought to be generic within one field that may not be so in another. This may be relevant in further examination of Research Direction 3 below.

This list constitutes the response to RQ3.

Future research directions identified

The future research directions identified in the analysis of findings above were as follows:

1. **There is a lack of post-implementation evaluations of the effectiveness of PMMs:** The literature review located show only one such study and that was in 2012. That is rather surprising, given the scale and continuing spread of the OGC methodologies world-wide, the persistent lack of improvement in IT project performance reported in Gartner and the possibility of attempted implementation of IT PMMs to engineering infrastructure.

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2. **Evaluations of PMM performance is increasingly possible through analysis of annual reports and internal data systems:** This was identified in Question 5. While annual reports may not provide specific detailed performance data, some actually do, even though they may only cover the traditional parameters of time and cost. One study by Patah and de Carvalho (2012) identified in the literature review actually accessed internal time and cost information and records of one company. However, some organisations, such as the two large public organisations covered in this study do now actually record such internal data that is not published in annual reports but which can potentially be used and which the ethical obligation of anonymity of academic investigation may facilitate unlocking. This can contribute to Research Direction 1 above.

3. **Claims that PRINCE2 is unsuitable for application to physical infrastructure:** This was identified in Question 1 and warrants separate investigation that is beyond the scope of this paper.

Observations

We also note that the data collection, analysis and reporting periods of this paper overlapped with Joslin and Müller (2015, 2016). The latter paper adopted the same philosophical stance (critical realism), data collection method (semi-structured interviews) and deductive analysis approach as used in this paper. Our sample however focused on engineering infrastructure and included IT that served it, rather than focusing on IT enterprises and process industries from a purely IT viewpoint. This enabled us to examine whether IT based methodology was influencing engineering infrastructure project management.

We also note the tendency of previous studies identified in the literature review to select samples from across industry but wholly within the field of IT. This may cover a range of IT projects but does not actually produce a view of cross-industry physical project types at all. This is potentially quite dangerous as it can lull the researcher into a false sense of thinking their findings are generic when they are not.

Limitations and future research

The limitation of this work is that it is based upon a sample of organisations and industries in one state in one country. While the factors mentioned above in sample selection should result in world-wide trends affecting local participants in this study, there is no guarantee of that.

During this study, data was also collected on project governance and this has been analysed separately. The organisational conditions identified in this study have led to several suggestions for future research as detailed above.

We consider it would be desirable for future research in the project management field to make it explicit when 'cross-industry' samples all come from within the field of IT projects as the success rates of IT projects may well be different to that of engineering infrastructure projects.

Conclusion

This paper has documented the collection and analysis of data from experienced practitioners concerning project methodologies. It found general agreement on the desirability of PMMs and identified two large infrastructure organisations with PMBOK based methodologies which were achieving greater than 90% of their projects on time and cost. It also identified

six organisational conditions that contribute to the effectiveness of PMMs providing a guide to practitioners looking to implement a PMM. It suggests future research on PMM effectiveness and on the suitability of PRINCE2 for use in engineering infrastructure. It also recommends that a Project Management Methodology (PMM) be defined as an organisation's process for the whole lifecycle of its projects.

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TERMINOLOGY

WHAT IS A
PROGRAM:

AN EXAMINATION OF TERMINOLOGY IN PRACTITIONER REFERENCE DOCUMENTS

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Abstract:

Previous published work has identified confusion in definition of the term program. This paper examines program terminology across a range of project management practitioner reference documents to determine if there is any definitional confusion within or between them and whether the boundaries with project and portfolio levels are clear. The examination finds that there are indeed inconsistencies in program terminology between the documents analyzed making it difficult to know where the boundaries with project and portfolio lie. A set of mutually consistent definitions of terms including all three words is then developed using an established method.

1. INTRODUCTION

Confusion within the practitioner community over the meaning of the term program has been documented by Reiss (2007). As yet unpublished interviews conducted by the authors as part of this research have also found practitioner difficulties and contention regarding the definition of a program and whether it must include transformation or not. MSP focuses on transformational change with Section 1.1 claiming "MSP represents proven good practice in programme management in successfully delivering transformational change" (Office of Government Commerce (OGC), 2011). However the Project Management Institute (2013c) does not mention transformation. Choice of a label can also affect the choice of methodology used to manage an undertaking. It is therefore imperative that the labels are clear so that inappropriate choices are not made, with adverse consequences for progress, cost and reputation.

The objective of this paper is to examine a range of commonly used practitioner reference documents to see whether confusion is evident between them or not.

This paper reviews the academic literature to see if the issue has been recognized and studied before. Research questions are then posed, and the research design determined. The documents to be examined are selected and the method of review and assessment determined. The practitioner documents are then examined to determine whether confusion exists about what a program is, whether these documents require it be transformational, as Office of Government Commerce (OGC) (2011) suggests and whether the boundaries with the terms portfolio and project are clear. The investigation of each of the selected terms is then presented in tabular form, allowing ready comparison and an analysis of each term then follows. The boundaries of what is a program, together with the allied terms of project and portfolio are then considered to determine whether a set of mutually consistent non-overlapping terms can be developed.

2. LITERATURE REVIEW

Various searches of all aggregator EBSCO databases were conducted on 19/10/2017 for a range of terms with results as follows:

- "definition of program" in titles – 26 found, none relevant
- program term in titles – 8 found, none relevant
- review program terminology in all fields – 6 found, none relevant
- review program definition in all fields – 157 found of which 81 were non-duplicates and none were relevant.

Searching for 'program' returned results for 'programme' as well. Abstracts were examined to determine relevance when this was not evident from the title. These searches identified particular programs in a wide variety of fields, but all were concerned with their content rather than with usage of the term itself. As the issue has been identified within the field of project management, we then looked for more broadly titled reviews in that field.

The term 'program' is defined in various project management standards and reference documents and so a search of all EBSCO databases was conducted on 1/10/2017 for both 'review of standards' in the title and 'project management' in the text found no relevant reviews. A similar search for 'comparison' in place of 'review' found no relevant reviews and a similar search for 'examination' found one relevant review, namely Crawford, Pollack, and England (2007) which is considered below. Similar searches of Taylor and Francis and Emerald databases on 2/10/2017 also found no relevant reviews. A Google Scholar search of 'project management standard' with at least one of comparison, examination or review in the title returned one result, Sadeanu, Candea, and Bodea (2013). This was concerned with comparing the then recently developed ISO 21500 with the Project Management Institute (PMI) PMBOK (Project Management Body of Knowledge) (2013), PRINCE2 (2009) and ICB V. 3.0:2006 (IPMA (International Project Management Academy) Competence Baseline Version 3.0) and was not concerned with questioning their content. It reported but did not reconcile alternative definitions of a project (Sadeanu et al., 2013, p. 43). We were not concerned with ICB V. 3.0:2006 as it is not our purpose here to comment on competency.

Other subsequent investigation located two further reviews. One was Zandhius and Stellingwerf (2013). This also provided a basic comparison of PMBOK (2013), PRINCE2 (2009) and ICB Version 3 as well as Agile, Lean Six Sigma and others. Again, it was concerned with comparing these documents rather than with questioning their content. The other was by Xue, Baron, Esteban, and Zheng (2015). This provided a basic comparison of ISO 21500 with PMBOK and ISO/IEC TR 29110 (on Software engineering – Lifecycle profiles for very small entities). Again, this comparison did not question the content of any of these documents.

The reviews mentioned so far came after a long period of consensus making in developing ISO21500 between 2007 and 2012 (Sadeanu et al., 2013). The impression we gained from these reviews was that they were more concerned with finding general alignment between various documents and with achieving consensus and so did not examine or question any fundamental assumption behind any particular document or definition.

Crawford et al. (2007) was the closest to our interest and was concerned with the "relationship between project management performance-based standards through an analysis of differences in language use between the standards of different nations". They noted "It is easy to assume that within a field such as project management, where profession-specific terminology is common, that different people attach the same meaning to a particular word. However, this is not necessarily the case". (Crawford et al., 2007, p. 6). They were concerned with "the threat of fragmentation of project management due to competition, not cooperation, in the development of standards and qualifications" (Crawford et al., 2007, p. 6). Their analysis sought to identify cultural factors across the full range of language usage, and so even though "The original intention of this study was to compare the various countries' project management standards directly" (Crawford et al., 2007, p. 10), a more broad-scale technique was found to be necessary and they used computational corpus linguistics techniques to conduct keyword analysis. However, our purpose is to analyze the definition of a single word and its associated terms and so direct comparison of documents is possible and appropriate for this task, using the documents' own declared definitions.

Program management was one of the 48 topics Crawford et al. (2007) identified but that paper does not discuss definitions of the term program. Analysis of its reference list indicated no references to other comparisons of practitioner documents.

We then examined the Wideman project management definitional website. It says, "this Glossary now lists more than thirty definitions of the word 'Project'. True, many of them are similar, but by no means identical" (Wideman, 2017). The three terms project, program and portfolio do not appear on the site index, but the definitions are actually included in the glossary itself. Apart from the project definitions, there are several definitions of program but only one definition of portfolio. No comparative analysis or reconciliation of definitions is attempted. We will therefore proceed independently and review against these definitions at the end. The website also states "We use US spelling - e.g. 'program' = 'programme' " (Wideman, 2017). We accept that proposition and use the term 'program' to mean the same as 'programme'.

On his site introduction page, Wideman (2017) notes similarly to Crawford et al. (2007):

It would be nice if everyone agreed and understood the same meaning for a given label. But language is a living lexicon leading to changes by general consensus over time and, in any case, authors are entitled to define terms in their own way to suit their particular purpose. Language serves us much better this way. Unfortunately, the inappropriate application of copyright can also lead authors into attempting to say the same thing but in different words (Wideman, 2017).

While this acknowledges the language problem, it also attempts to justify loose usage, excusing it for convenience of authors and ignoring confusion for their audiences. There may have been a pragmatic need to garner sufficient consensus to produce the ISO standard to avoid the fragmentation referred to by Crawford et al. (2007, p. 6) , but we can now stand on the shoulders of that achievement and address any definitional issues that may have contributed to the difficulty of that task.

Further searching located Rehacek (2014) who mentioned difficulty with the ISO 21500 definition of a project requiring unique processes but itself defining a standard set of 40 standard processes. Rehacek (2017) conducted a review of various project management standards and their differing project definitions but did not attempt to reconcile them.

An unrelated search of all EBSCO aggregator databases on 3/11/2017 for "management term" and 'confusion' in any field found one item by (Kang, 2015) concerning change management which, in discussing human performance technology (HPT), commented "People use the same terms and concepts and unconsciously think that other people's understanding of the term or concept is the same as theirs… Actually, there is no universally accepted definition of change management" (Kang, 2015, p. 26). He proposes "new terms- macro change management and micro change management - for the two uses of the term change management" (Kang, 2015, p. 26). This adds a qualifier to gain precision in the same way as the categorisation of stakeholders as "invested, contributor, observer and end-user" in McGrath and Whitty (2017, p. 741). Having established as far as can reasonably be determined that there has been no previous work aimed at reconciling program terminology differences, we then proceed to generate our research question.

3. RESEARCH QUESTIONS (RQS)

The following research questions (RQs) were therefore developed based on the review of the literature, broadly addressing whether the problem of defining a program actually exists and if so, what can be done about it:

RQ1: "Does confusion exist within or between project management practitioner reference documents about the meaning of the term program and associated terms (project and portfolio)?"

RQ2: "Do all of the documents require that a program must involve transformational organizational change?"

RQ3: "If confusion is found, can generic definitions be developed giving clear boundaries between project, program and portfolio levels?"

4. RESEARCH DESIGN

These research questions all call for a qualitative approach and for critical evaluation of definitions. The practitioner reference documents will be selected and the evaluation method determined. To ensure boundary conditions are accommodated, the definitions of associated potentially overlapping terms, namely portfolio and program will also be examined.

4.1. Practitioner reference document selection

Wideman (2017) lists 46 sources from various books, standards, organizations, associations, consultants, articles and private sources from all over the world. The most recent of them with a date given is PRINCE2 of 2002. We are seeking definitions in current versions of reference documents influencing practitioners now. We therefore decided not to use Wideman (2017) but, as mentioned already, cross-check against it at the end.

Given we framed our research questions deductively, we only needed to examine to the point of finding contention. We therefore considered only the major sources that have influenced a wide range of international practice and selected sources from England and the United States to cover the main English language influences. This also accommodates our location in Australia which is subject to influence by both without being constrained to follow one in favour of the other, but where any inconsistencies between them are potentially problematic. We also selected documents used in engineering infrastructure as well those used in ICT and considered only documents dealing with "whole of project", thus excluding any dealing only with a particular knowledge area such as risk or environment.

Consequently, a total of eight documents were selected as follows for the reasons given below:

- three documents giving an American project management perspective, some of which are commonly used in engineering infrastructure:
  - o the PMBOK (Project Management Body of Knowledge) Guide (Project Management Institute, 2017),
  - o the Standard for Program Management (Project Management Institute, 2013c) and
  - o the Standard for Portfolio Management (Project Management Institute, 2013b)
- four documents giving a British project management perspective, some of which are commonly used in ICT:
  - o PRINCE2 (AXELOS, 2017),
  - o MSP (Managing Successful Programmes) (Office of Government Commerce (OGC), 2011),
  - o APM BOK (Association of Project Management Body of Knowledge) (Association for Project Management, 2012) and
  - o BS6079 covering British project management terminology (British Standards International, 2002)
- ISO 21500:2012 = AS ISO 21500:2016 (Australian Standards, 2016) to give international perspective.

4.2. Methods of analysis and evaluation

Definitions for the terms portfolio and project as well as program will be analyzed, to ensure the boundaries between 'program' and the hierarchical levels on either side of it are clear.

A set of reference definitions will first be developed for use as a comparator using an independent method developed by McGrath and Whitty (2015). Their method is particularly suited to cross-field investigations such as we are conducting here and will serve to inoculate against the mistake of introspectively developing an apparently generic definition of a term that is actually field-specific. The practitioner reference documents will then be analyzed by examining and comparing their definitions, as McGrath and Whitty (2013, 2015) did in examining the academic literature on governance related terms.

To facilitate direct comparison of all documents examined, the analysis of each of the three terms will be presented in a separate table listing the documents and the definitions they contain. Each document's definition will be evaluated according to assessment criteria based on McGrath and Whitty (2015) who "seek to define objective content or Aristotelian essence… stripping it of any limiting field, concept or framework-specific extensions" (McGrath & Whitty, 2015, p. 760). They also paid close attention to any inclusions or extensions of meaning. These two factors, essence (or intention) and inclusions (or extensions), will be used as the assessment criteria and columns for these will be included in the Tables. Each table will then be analyzed. If confusion is found, the merits of competing definitions will be evaluated, issues determined and a definition accommodating them all will be proposed.

The answers to the RQs will then be determined. A deductive rather than an inductive approach is appropriate for evaluating RQ1 and RQ2 as this requires only one opposite view to confirm RQ1 or to negate RQ2. The response to RQ3 will be assisted by the reference definitions, and prospective definitions will be developed and assessed in relation to any potential difficulties that the analysis to date may have found.

5. DEVELOPMENT OF REFERENCE DEFINITIONS

The actual method used here is an abbreviated form of the full McGrath and Whitty (2015) process, adopted because the terms considered here have not been regarded as 'essentially contested' in the terminology of Gallie (1956). The process starts with a definition from a single recognized lexical source, the Oxford Dictionary, then criticizes it from any conceivable angle, covering all the headings of their full method, until its essence is fully distilled, and no contradictions remain.

We seek to develop reference definitions for the terms program, portfolio and project. We also note that the potential for overlap with the word schedule and will therefore develop a reference definition for it as well. As these are not terms that cause difficulty in colloquial use, the Oxford Dictionary definitions of these words will be accepted and analyzed to determine generic definitions in terms of their essential characteristics. The Oxford Dictionary defines these nouns as follows:

Project –
An individual or collaborative enterprise that is carefully planned to achieve a particular aim. The essential elements of this definition can be expressed as an enterprise planned to achieve an aim. However, omission of the qualifiers has the sense of its essence being corporate rather than generic and so we will use endeavour instead. We therefore take the essential definition to be an endeavour planned to achieve an aim. This is not satisfactory as it could include going on a picnic for the aim of enjoyment, which would not normally be referred to as a project. The draft definition contains no reference to producing an output or outcome, so we will substitute the word outcome for aim. The definition then becomes an endeavour planned to produce an output or achieve an outcome. However, this is clumsy and could still include a picnic, so there is some aspect of creation missing. We will therefore replace planned and achieved with create. The definition then becomes an endeavour to create an output or outcome. This is still clumsy and would be better reduced to an endeavour to create something. 'Something' is generic and does not have to be restricted to a physical thing. This is a suitably succinct essential definition that does not require delving into the extensions of outputs and outcomes. Also, creation implies it is unique or has not existed before and so use of 'unique' would be redundant.

Schedule –
  1. A plan for carrying out a process or procedure, giving lists of intended events and times
      1) One's day to day plans or timetable
      2) A timetable
  2. An appendix to a formal document or statute, especially as a list, table, or inventory.
  3. Any of the forms issued for completion and relating to the various classes into which taxable income is divided. The essential elements of these definitions can be expressed as a list of things, which may be items or planned activities. Note: There is no requirement for any relationship between listed items or activities or any overall purpose, even though those things may be present. A personal to-do list of completely unrelated activities can be described as a schedule, whereas one would not normally refer to it as one's programme for the day, unless one had annotated it with times.

Programme -
  1. A planned series of future events or performances
    1) A set of related measures or activities with a particular long-term aim.
  2. A sheet or booklet giving details of items or performers at an event or performance.
  3. An item broadcast between stated times on radio or television.
  4. A series of coded software instructions to control the operation of a computer.
The essential elements of these definitions can be expressed as a planned series of related things. This implies there is some internally cohesive purpose. The word planned implies the future, making use of that word redundant. Note: There is no transformational requirement listed here, just something that deals in some way with the future. It is not generally used in a personal sense; reference to one's own personal itinerary or schedule for the day is more usual.

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Program –

The US spelling of programme (also widely used in computing contexts). This implies, as Wideman (2017) does, that program means in the US exactly what programme means in England.

Portfolio –

  1. A large thin flat case for loose sheets of paper such as drawings or maps

    1) A set of pieces of creative work intended to demonstrate a person's ability to a potential employer

    2) A varied set of photographs of a model or actor intended to be shown to a potential employer

  2. A range of investments held by a person or organization

    1) A range of products or services offered by an organization

  3. The position and duties of a Minister or Secretary of State.

The duties of a Minister can be described as a particular type of portfolio, namely parliamentary or political, with the descriptors or qualifying words usually omitted. The term implies being a portmanteau, in other words containing disparate things that may not be related to each other but enabling a collection of things to be handled as one. The essential feature these definitions have in common is the establishment of a collection of things, a varied set or range of items or duties or work or activities, unifying disparate items for the purpose of making a manageable collection. So, the essence of these definitions can be expressed as a diverse collection of things - items or activities serving some external purpose without requiring internal cohesion. A collection doesn't have to be diverse, but the term portfolio has a sense of having a broad range.

So, the derived essential definitions derived from the Oxford dictionary are:

  • **Project** = an endeavour to create something.

  • **Schedule** = a list of things - items or planned activities.

  • **Program(me)** = a planned series of related things.

  • **Portfolio** = a diverse collection of things.

Some particular undertakings may satisfy all of these definitions and others may satisfy only one. So, while these definitions do not overlap, their application to a particular undertaking may well do so. This is an important distinction to bear in mind – just because common usage of any term may be divergent or appear confused does not mean that essential definition of the singular term is confused. The essential or most generic difference between program and portfolio, in both project management and general terms, is their purpose, with the former having a focus on some form of internal cohesion (which does not exclude having the effect of being useful for external purpose or presentation) and the latter collecting things that might have little or no internal cohesion but have some wider or external purpose. This essence of the term portfolio covers administrative convenience, presenting a collection of one's photographs, describing a group of shares in diverse and unrelated companies or collecting a range of activities together for allocation to a government minister or for the purposes of ensuring responsibility for everything conceivable is allocated.

We will now proceed to examine the practitioner documents selected.

OXFORD DICTIONARY
• • • • • • • • • •   DEFINITIONS

6. EXAMINATION AND ANALYSIS OF PRACTITIONER DOCUMENTS

These are presented first for the term program followed by the two terms having a boundary with it, namely portfolio and project. For each of these, a table is presented showing the examination in a form that allows ready comparison of the definitions in the various documents, followed by an analysis of the results in comparison with each other and with the reference definition, enabling a resolution of discrepancies identified to be proposed.

While it may be usual for an organizational structure to exist to deliver a program, regarding that structure as being what the program is would seem to be a very self-absorbed, introspective organizational view. The structure, which may dominate the thinking of those immersed in it, is just a means to an end, whereas the program is about what is to be achieved. That structure may be the focus of delivery efforts, but it is not the actual purpose of the program.

6.1. Program definition

The examination of program definitions in the various practitioner documents appears in **Table 1**. Note that the essential features of each definition are shown shaded in grey in this and following tables to facilitate comparison. The 2013 AIPM documents give the same definition of a program as a group of related things, as do the APM and the British and ISO standards. The 2017 PMBOK seems to retain the same intent but omits 'a group of' and changes subprogram to subsidiary program. However, the two OGC/ AXELOS definitions define it as an organization structure. This indicates confusion in definition, requiring detailed analysis to determine issues and to enable development of suitable terminology.

Table 1: Definitions of program(me) in practitioner reference documents

Document	Relevant Definitions	Essence/ Intension	Inclusions/ Extensions
Project Management Institute (PMI) PMBOK (2017)	**Program**: Related projects, subsidiary programs, and program activities that are managed in a coordinated manner to obtain benefits not available from managing them individually (In Definitions).	Related things	Projects, subsidiary programs, program activities, coordinated, benefits
PMI Standard for Program Management (2013)	**Program**: A group of related projects, subprograms, and program activities that are managed in a coordinated way to obtain benefits not available from managing them individually. **Program Management**. The application of knowledge, skills, tools, and techniques to a program to meet the program requirements and to obtain benefits and control not available by managing projects individually (in Glossary Definitions).	Group of related things	Projects, subprograms, program activities, coordinated, benefits
PMI Standard for Portfolio Management (2013)	"	"	"
PRINCE2 (2017)	**Programme**: A temporary, flexible organization structure created to coordinate, direct and oversee the implementation of a set of related projects and activities in order to deliver outcomes and benefits related to the organization's strategic objectives. A programme is likely to have a life that spans several years (P380).	Organisation structure	Temporary, flexible, related, projects, activities, outcomes, benefits, strategic objectives
MSP (2011)	**Programme**: A temporary flexible organization structure created to coordinate, direct and oversee the implementation of a set of related projects and activities in order to deliver outcomes and benefits related to an organization's strategic objectives. A programme is likely to have a life that spans several years. **Programme Management**: The coordinated organization, direction and implementation of a dossier of projects and transformation activities (i.e. the programme) to achieve outcomes and realize benefits of strategic importance (In Glossary).	"	" Transformation
APM BOK (2012)	**Programme**: A group of related projects and change management activities that together achieve beneficial change for an organisation (P241). **Programme management**: The coordinated management of projects and change management activities to achieve beneficial change (P241).	Group of related things	Projects, change management activities
BS6079 (2000)	**Programme**: A group of related projects. NOTE: A group of unrelated projects is sometimes known as a portfolio (P10).	Group of related projects	Projects
AS ISO 21500:2016 = ISO 21500:2012	Section 2 on terms and definitions does not define either of the terms program or programme. However, Section 3.5.3.3 says "**A programme** is generally a group of related projects and other activities aligned with strategic goals. **Programme management** consists of centralized and coordinated activities to achieve the goals".	Group of related things	Projects, other activities, strategic goals

The organizational structure is a 'how' rather than a 'what'. Furthermore, existence of an organizational structure is not generic to all programs, as anyone who has single-handedly managed a program would attest. Consequently, defining it as an organization structure is not generic and is logically incorrect.

Of course, there is value in analyzing projects and programs from an organizational perspective, which is "one of nine schools of thought in project management research... which was triggered by applying organization theory to research on projects (Lundin & Söderholm, 1995)" (Muller & Shao, 2013, p. 149). But here we are simply attempting to define 'what' a program and a project is from the practitioner reference documents so that we can understand what it is they are actually talking about.

There is a further logical difficulty if this definition of program as an organizational structure; any word must describe the essence of whatever thing or group it labels, otherwise there would have been no need for a separate word. While a single word may have different usages stemming from silent or assumed qualifiers, no single word stripped of qualifiers can have more than one essence, so only one of them can be valid.

Furthermore, definition of a conceptual term already in use cannot be determined arbitrarily, let alone by a vote of a small sample or the view of one field, ICT in this case. As John Stewart Mill said:

   It would, however, be a complete misunderstanding ... to think that because a name has not at present an ascertained connotation, it is competent to anyone to give it such a connotation at his own choice. The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. ... To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name. When this can be done without rendering any received assertions inadmissible, the name can be defined in accordance with its received use (Mill, 1874, pp. 469,470).

The OGC/ AXELOS definition clearly fails this test. Comparison with our reference definition derived from the Oxford dictionary as a planned series of related things, indicates that all but the OGC/ AXELOS definitions align with it, having the same essence, albeit using the term group rather than series and with some variation in 'things' included. Defining a program(me) as an organization structure does not make sense in relation to the essence of the original term and can therefore be rejected.

This has potentially serious implications for the project management field. If the OGC/ AXELOS definition is integral to MSP, this difference in definition could obviously result in it being applied to inappropriate circumstances. Furthermore, this usage attempts to take a term in a direction that does not have the sense of conforming with its original essence. This would seem to require both correction of definition as well as re-working of the MSP document, to ensure the change is reflected throughout and not just made cosmetically to the definition.

The 2017 PMI definition omits the key part of the essence of the concept. It defines something as 'something else's' - all these other related things, rather than being a group of them. This is not a proper definition and can also be rejected.

The remaining definitions use the term 'a group of related projects', which is consistent with the term 'series' and so cannot be rejected.

Having dealt with essence, we can then consider the inclusions. All non-OGC/ AXELOS definitions include projects. BS6079 stops there, with no other inclusions, other than adding a note drawing the distinction with portfolio in which it states the projects do not have to be related. The other definitions include other things that will be considered after we first deal with the question of whether stating the purpose to be achieved should be part of the definition or not.

PMI mentions benefits that can't be achieved by managing things individually. While it is true that projects can be collected by similarity of work type, usage of common resources, or by geographic area, this is not a generic requirement.

A new program may be developed politically, and government bureaucracy required to deliver it, whether there are community benefits to be achieved by collecting them together or not, and so this addition cannot be accepted.

APM BOK says it is to achieve beneficial change for an organization. This also cannot be accepted as it is not generic, limiting the definition to organizational development/ ICT projects.

ISO says the inclusions must align with strategic goals. OGC/ AXELOS say it is to deliver outcomes and benefits related to the organization's strategic objectives. Some programs don't contribute to strategic goals but just have to be delivered – such as some programs introduced for political reasons, or to fulfil community service obligations, which may actually conflict with overall organizational direction. Aligning with strategy is obviously highly desirable but it is not an essential feature of a program(me).

In all these documents, consideration of genericity leads to exclusion of all their statements of purposes to be achieved. This is unsurprising as specifying any single purpose risks excluding other legitimate purposes. Furthermore, they each provide a 'why' rather than the 'what' that we are seeking in a definition.

We will now consider the remaining extensions. Not all programs are about transforming an organization and so this OGC/ AXELOS extension is not generic and so cannot be accepted. The only extensions remaining are sub-programs and 'program activities'. While these cannot be excluded and are not excluded by the reference definition, whether it is necessary or useful to include them is another matter. They are not necessary from the perspective of specifying essence. Including sub-programs is useful in avoiding contest for labelling exclusivity, allowing categories or 'degrees' of labelling for programs from a management perspective. However, including this in the definition would make it recursive and must therefore be rejected.

The usefulness of the 'sub' classification can be accommodated by providing guidance on achieving non-overlapping use when attaching the term as a label. Using the term 'program activities' would also produce recursion and cannot be accepted. Using the term 'related activities' would avoid this problem but would seem tautological - defining the 'whatever it is' then adding 'anything related to it'. We therefore reject this extension as well.

Note that if we wish to convert our understanding of what we attach a label to into a proper definition, we need to add some form of qualifier. We have chosen the qualifier 'organizational' to minimize any potential confusion between project and general management. We therefore define the phrase 'organizational program' as a group of related projects. We have chosen the word 'group' rather than 'planned series' as the qualified term does not have to include items such as a theatre concert program and so a subset of that term can be selected, in the same way that 'project' can be regarded as a sub-set of 'things'. This enables the general tenor of the non-OGC/ AXELOS definitions to remain, albeit with many somewhat shortened. It does require the 2017 PMI definition and the OGC/ AXELOS definitions to be revised.

Within the general management and project management fields, this 'organizational program' could be abbreviated to the single word 'program' provided glossaries of terms make this clear.

6.2. Portfolio definition

The examination of portfolio definitions in the various practitioner documents appears in **Table 2**.

The PMI definition of portfolio specifies all the extensions of meaning or things that could be included and says it can be managed as a group. For the purposes of identifying essence, we will take their definition as actually intending to mean that it is a group of somethings, which is what the APM definition says. The ISO definition is similar, using the word collection as well as group. However, the OGC/ AXELOS definition departs substantially from this theme, defining it as an investment. This indicates confusion in definition, requiring detailed analysis to determine issues and to enable development of suitable terminology.

Document	Relevant Definitions	Essence/ Intension	Inclusions/ Extensions
PMI PMBOK (2017)	**Portfolio**: Projects, programs, subsidiary portfolios, and operations managed as a group to achieve strategic objectives. Portfolio Management. The centralized management of one or more portfolios to achieve strategic objectives (Definitions).	Group	Projects, programs, subsidiary portfolios, operations, strategic objectives
PMI Standard for Program Management (2013)	**Portfolio**: Projects, programs, subportfolios, and operations managed as a group to achieve strategic objectives. **Portfolio Management**. The centralized management of one or more portfolios to achieve strategic objectives (Glossary Definitions).	"	Projects, programs, subportfolios, operations, strategic objectives
PMI Standard for Portfolio Management (2013)	"	"	"
PRINCE2 (2017)	**Portfolio**: The totality of an organization's investment (or segment thereof) in the changes required to achieve its strategic objectives (P378).	Investment	Strategic objectives
MSP (2011)	**Portfolio**: The totality of an organization's investment (or segment thereof) in the changes required to achieve its strategic objectives (Glossary).	"	"
APM BOK (2012)	**Portfolio**: A grouping of an organisation's projects and programmes. Portfolios can be managed at an organisational or functional level (P240). Portfolio management: The selection, prioritisation and control of an organisation's projects and programmes in line with its strategic objectives and capacity to deliver (P240).	Group	Projects, programmes
BS6079 (2000)	No definition given		
AS ISO 21500:2016 = ISO 21500:2012	Section 2 on terms and definitions does not define the term portfolio. However, Section 3.5.3.2 says "A project **portfolio** is generally a collection of projects and programmes and other work that are grouped together to facilitate the effective management of that work to meet strategic goals. **Project portfolio management** is generally the centralized management of one or more project portfolios, which includes identifying, prioritizing, authorizing, directing and controlling projects, programmes and other work to achieve specific strategic goals. It may be appropriate to conduct the opportunity identification and selection, as well as the approval and management of projects, through a project portfolio management system" (3.5.3.2).	Collection/ Group	Projects, programmes, other work, strategic goals

Table 2: Definitions of portfolio in practitioner reference documents

While most portfolios require funding, and securing this is a very big deal, regarding the investment required as being what the portfolio actually is constitutes a misdirection that appears to be somewhat self-absorbed, introspective and accounting based. The investment, which may dominate the thinking of those immersed in it, is nevertheless just a means to an end. It is a 'how' rather than a 'what'. Furthermore, existence of an investment is not necessarily generic to all portfolios, as anyone who has managed a portfolio of activities for a small volunteer organization would attest. So, defining a portfolio as a financial investment is not generic and can be logically incorrect.

Also, as mentioned earlier, no single word stripped of qualifiers can have more than one essence, so only one of the two used in **Table 2** can be valid.

Furthermore, as mentioned earlier, the definition of a conceptual term already in use cannot be determined arbitrarily, let alone by a vote of a small sample, or the view of one field, ICT in this case. The OGC/ AXELOS definition clearly fails the John Stewart Mill test mentioned above.

Comparison with our reference definition derived from the Oxford dictionary as a diverse collection of things also indicates a problem with the OGC/ AXELOS definition. Defining a portfolio as an investment does not make sense in relation to the essence of the original term and must therefore be rejected.

Having dealt with essence, we can then consider the inclusions.

All non-OGC/ AXELOS definitions include projects and programs. These and other inclusions will be considered after we first deal with the question of whether stating the purpose to be achieved should be part of the definition or not.

PMI says its purpose is to achieve strategic objectives, as do OGC/ AXELOS. ISO says it is to meet strategic goals. APM does not include this in its definition and it does mention alignment with strategic objectives in its separate definition of portfolio management. Achieving strategic objectives is not a generic requirement as for example, a new portfolio may be developed for political reasons and the government bureaucracy required to deliver it whether it actually aligns with any strategic objectives or not. It may just meet a short-term political imperative. Of course, one could argue that there will be a political strategy behind any such means of solving a short-term problem and so the use is valid as we are seeking genericity, not specifying whose strategy it is or whether it actually benefits the organization or community involved or not. However, this gets to some degree of unproductive hair-splitting, opening the possibility of inclusions having unintended consequences. All this can be avoided if particular purposes are not unnecessarily included in definition. Specifying any particular purpose can lead to exclusion of other possible purposes and so we prefer to specify 'what' rather than 'why' in definition wherever possible.

We will now consider the remaining extensions, which are sub-portfolios, operations and other work. While these cannot be excluded from our definition and are not excluded by the reference definition, we need to consider whether it is necessary or useful to mention these. They are not necessary from the perspective of specifying essence. However, they may provide additional specification that is useful in addressing the issue of categories or 'degrees' of portfolios within the fields of general and project management. In fact, including them in the definition would assist with our aim of clearly differentiating boundaries between terms. This can be done provided we add an explicit qualifier to the base term. We therefore define the phrase 'organizational portfolio' as a collection of an organization's activities that may include ongoing organizational operations, programs of projects, individual projects not part of any program, and other works. Note that we do not include sub-portfolios as this creates recursion and the inclusion of 'other works' provides a catch-all that avoids the exclusion problem of definition by extension.

We have used the word collection as it aligns with the essential definition. It also gives the sense of the things in it not necessarily being related a little better than the word group does. We have ordered the extensions in order of importance from a general management perspective, considering the ongoing operations of the organization. We have referred to 'ongoing organizational operations' rather than just 'operations' for a particular reason. Within the project management field, 'operations' is colloquially taken to mean anything that's not a project, but the term is not defined in any of the three current PMI publications which use the term. It has the sense of producing products or services which are routine in the project management sense i.e. nothing new required as the process and the circumstances the process acts upon are already established, even though the operation of that process still requires many decisions that are the province of general management. So, the wording we have chosen reflects its general management importance rather than dismissing it with the single word 'operations' as anything that's not a project and therefore inconsequential.

The definition does not mention organizational improvement or change as this is a characteristic generic only to ICT projects. Some organizations exist to deliver projects, and this is their normal 'operations'. Such projects are not organizational improvement/ change projects; they

are community improvement/ change projects. In such organizations, the general and project management roles are combined. This highlights a need for a definition of operations. Rather than define it negatively by exclusion, in line with 'everything that's not a project' we propose a positive definition that expresses the essence of what it really is as the ongoing activity enabled by completion of a project. This ongoing activity can include production, such as occurs at a car manufacturing plant, where the production of many cars is the purpose of constructing the assembly line and the items produced are generally referred to as products rather than projects.

A further question within the project management field is that 'operations' and 'other works' could be considered to overlap, making inclusion of one of these terms unnecessary. However, our proposed definition is by extension, so it is preferable to include both to avoid the hair-splitting argument of whether operations cover every conceivable category of other works or not. Project support, for example, might not be categorized as ongoing organizational operations but would be included as 'other activities'.

This definition of a phrase makes it quite clear that a management portfolio is not the same as a share portfolio or a photographic portfolio, for example. It does not generate unnecessary and time-wasting contest for exclusive use of the term 'portfolio'; it simply specifies what the particular somethings are for the qualified use of the term.

Within the context of general management and project management publications, 'organizational portfolio' can be abbreviated for convenience to the single word 'portfolio' provided glossaries of terms make this clear.

Table 3: Definitions of project in practitioner reference documents

Document	Relevant Definitions	Essence/ Intension	Inclusions/ Extensions
PMI PMBOK (2017)	**Project**: A temporary endeavour undertaken to create a unique product, service, or result. **Project Management**. The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements (Glossary Definitions).	Endeavour	Temporary, unique, product, service, result
PMI Standard for Program Management (2013)	"	"	"
PMI Standard for Portfolio Management (2013)	"	"	"
PRINCE2 (2017)	**Project**: A temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case (P380) **Project Management**: The planning, delegating, monitoring and control of all aspects of the project and the motivation of all those involved in it to achieve the project objectives within the expected performance targets for time, cost, quality, scope, benefits and risk.	Organisation	Business products, business case
MSP (2011)	**Project**: A temporary organization that is created for the purpose of delivering one or more business outputs according to a specified business case (Glossary).	"	"
APM BOK (2012)	**Project**: A unique, transient endeavour undertaken to achieve planned objectives (P241). **Project Management**: The application of processes, methods, knowledge, skills and experience to achieve the project objectives.	Endeavour	Unique, transient, planned objectives
BS6079 (2000)	**Project**: A unique process, consisting of a set of co-ordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirements, including constraints of time, cost and resources **Project Management**: Planning, monitoring and control of all aspects of a project and the motivation of all those involved in it to achieve the project objectives on time and to the specified cost, quality and performance. (P10).	Process	co-ordinated, controlled, activities, start date, finish date, achieve an objective, specific requirements, time, cost, resources
AS ISO 21500:2016 = ISO 21500:2012	Section 2 on terms and definitions does not define the term project. However, Section 3.2 says: "A **project** consists of a unique set of processes consisting of coordinated and controlled activities with start and end dates, performed to achieve project objectives. Achievement of the project objectives requires the provision of deliverables conforming to specific requirements. A project may be subject to multiple constraints... Although many projects may be similar, each project is unique… Every project has a definite start and end and is usually divided into phases…".	Set of processes	coordinated, controlled, activities, start date, end date, achieve project objectives

6.3. Project definition

The examination of project definitions in the various practitioner documents appears in **Table 3**.

PMI defines a project as a temporary endeavour, APM varies this to a unique, transient endeavour, and the remainder depart from calling it an endeavour at all. The closest departure occurs in BS6079 which says it is a unique process, and ISO which says it's a unique set of processes. The furthest departure is again by OGC/ AXELOS, calling it a temporary organization. This indicates confusion in definition, requiring detailed analysis to determine issues and to enable development of suitable terminology. Of the three terms considered here, this one is the most confused.

Here again, the one word cannot have three different essences, so two of these usages are invalid. Endeavour, process and organization are not the same things. If a project is defined as a process, then the content that the process is being applied to is, by definition, not part of the project. This renders the process definitions invalid. Small projects may require some organization of things but do not necessarily have to have a formal organization and so the organization definition is also invalid. This leaves only the 'endeavour' definition standing. It also aligns with the reference definition.

Having dealt with essence, we next consider the inclusions. The word 'temporary' used in conjunction with 'create' is redundant. Once it's created, it's finished. However organizationally there is generally a need for maintenance of the asset created and there is a tendency for projects to transmute into ongoing maintenance organizations. At some point there must be a transition, which can be blurred during maintenance/ defects/ warranty periods. However, while use of the word temporary is unnecessary in the essential definition, its use in defining an 'organizational project' could be useful to highlight the fact that there has to be a transition. Including 'a unique product, service, or result' would simply specify what the 'something' in the essential definition is for one qualification of the term. This does not conflict with the essential definition and is also generic. However, it produces a definition that is not pithy and seeks to obtain genericity by

extension, tempting exclusion by omission. It also includes the term 'unique' which Rehacek (2014) indicated had difficulties, as mentioned in the literature review above. If there was another way of expressing the intention without requiring multiple extensions, that would be preferable. Such a definition could be framed as anything that changes what currently exists or sustained effort to change a situation. Such definitions capture the essence of an organizational project changing things, creating something that wasn't there before and being different to ongoing operations. The latter proposal is more direct and gives some indication of effort, differentiating it from say a child's project to create a drawing. We will therefore select this as our definition. It is compatible with the essential definition, introducing only a little more specificity while nevertheless remaining quite generic. It renders unnecessary use of the words temporary, unique, product, service, and result, while not precluding any of them. Of course, the same applies to the reference definition of the term, which could equally well be used unqualified - which is not the case for program and portfolio.

7. EVALUATION

The analysis above indicates that the answer to RQ1 is affirmative as confusion has been found to exist in the practitioner reference documents regarding the meaning of the term program. It is also evident that the answer to RQ2 is negative as not all documents require or even mention that a program must involve transformational organizational change. We will now consider RQ3.

While it may be quite clear from the essential definitions whether a particular activity can be described as a project, a program or a portfolio, the same activity may legitimately be described as more than one, and possibly all of these three terms. This provides fertile ground for confusion, especially if there is competition for exclusive use.

To address this, it was necessary to make the silent qualifier explicit for each base term by defining a phrase containing it. This appears to make the distinction quite clear - until one considers that overlap can still occur depending upon whether the terms are used as macro labels assigned to particular organizational units, or as micro labels that can be used to describe the various functions these units perform.

To overcome this problem, we will go one level deeper and define what it really means to manage at each of these levels. We will therefore define phrases comprising three words that result when the term management is added to each of these three phrases already defined. We will do this by further examination of the management definitions in the Tables above and by considering other parts of the examined documents. We will develop these definitions in a common format.

7.1. Consequent management definitions

We consider all definitions of management in Tables 1 to 3 as a group so that mutually consistent definitions can be developed. Any statements regarding purpose or why it is needed or what it should achieve or bring alignment with, are ignored as being irrelevant to what the activity actually is.

Some definitions are of the type 'management of' and do not define what that management is. The remainder say it is "planning delegating, monitoring and control… and motivation" (PRINCE2 - Project management), the "application of" things (APM BOK and ISO 21500 – project management), "planning, monitoring and control… and motivation" (BS6079 – project management), "the application of knowledge, skills, tools and techniques" (PMI - project and program management), "coordinated organization, direction and implementation of… projects" (MSP – programme management), "selection, prioritization & control of an organizations programmes" (APM BOK - portfolio management) and "identifying, prioritizing, authorizing, directing and controlling projects, programs and other works… selection… approval…" (ISO 21500 - portfolio management). We can extract from this that what these documents collectively say is done in managing each of the three levels is as follows:

- Project – planning delegating, monitoring and control
- Program - coordinated organization, direction
- Portfolio – selecting/ identifying, prioritising, authorizing, directing and controlling

Note that we have excluded motivation as a project can be managed without this; it is really a leadership technique rather than something essential to project management itself, important though it may be in many circumstances. We have also excluded the term 'application' because of its vagueness, and management isn't really an 'app' that can be downloaded into someone's head, even though that may be a valid training analogy.

The items mentioned can all be described as decision making activities. This list is obviously incomplete and does not really accommodate the delegation of selected parts of these activities to lower levels. While we prefer definition by intension, in this case it produces vagueness, such as in the 'application' definitions and so we will define by extension and further specify the list as comprehensively as possible to minimize the risk of omission. In the absence of guidance from the documents examined and lack of previous attempts to resolve this conflicting terminology, we fill in the obvious gaps from our own experience and rely upon the peer review process and subsequent publication to test their veracity.

We adopt a top down approach, so that each level is constrained by and consistent with the level above. We also attempt to ensure the intent extracted above from the documents examined is fully expressed in the extensions. Accordingly, we propose that the decision-making activities involved in managing each of these levels are as follows:

- Portfolio - decides objectives, strategy, funding, rules and selection criteria for activities including programs and projects.
- Program - decides whether prospective projects meet the rules and selection criteria, can be sequenced for prospective inclusion in the program and have an appropriate method of delivery (where this has not already been dictated above Portfolio level such as occurs with PPPs (Public Private Partnerships)).
- Project - decides delivery methods and may propose projects for inclusion in a program.

All three levels are subject to any higher-level approvals that may be required and all three must ensure implementation occurs for anything to happen. We define implementation by selecting the key decision-making elements of the PMI process groups as set out in PMBOK Chapter 3 process groups (Project Management Institute, 2013a). We omit anything specific to any of the three levels, paraphrasing and adding any words necessary to achieve specificity and logical flow. This produces the following definition of implementation as initiating establishment if necessary (i.e. if not already existing), controlling through directing and setting timelines, giving approvals, monitoring, initiating corrective action where necessary, reviewing to determine future action and closing where necessary, all subject to any higher-level approvals that may be required. This definition enables use of exactly the same words to describe how each level implements what it decides. This supports the application of project management principles to all three levels and highlights the usefulness of considering content separate to process.

We consequently propose the following definitions which further develop the definitions coming out of the documents examined:

- Organizational portfolio management = the activity of deciding and implementing parameters including setting objectives, strategy, funding, rules and selection criteria.
- Organizational portfolio management of projects = the activity of deciding and implementing program and project parameters including objectives, strategy, funding, rules and selection criteria.
- Organizational program management = the activity of selecting and implementing projects including evaluating project inclusion and determining sequencing and delivery methods.
- Organizational project management = the activity of deciding and implementing work methods.

We were initially inclined to use the word process but decided upon the term activity as it includes both process and content. Note also that 'Organizational portfolio management' is defined as a complete whole, not just the processes involved that we may wish to focus on from a project management perspective.

These definitions clearly distinguish the boundaries between project, program and portfolio management, define the management of the various levels in terms of activities rather than an application and are consistent with project management techniques being applied to higher management levels independent of the subject matter (content). This is actually the principle on which project management relies for its existence as a separate field.

Any activity can then be judged as to which level it falls within. Note that the above four definitions are based on classifying activity rather than organizational unit labels. A particular organizational unit may have one of the three organizational labels appropriate to the organizational hierarchy or level of activity it is established to deal with, but within that, may actually undertake activities at all three levels.

Considering the amount of specificity and sub-classification necessary to propose this solution, it is perhaps unsurprising that confusion has occurred. An unintended consequence of this process has been to challenge the definition of project management itself.

7.2. A program as a large project

The remaining question is whether these definitions resolve the program = a big project issue, as identified by Reiss (2007). To determine this, we must first recognize that this adds a labelling issue to an already confused definitional issue. The essential definitions of the concepts given above are clearly different from each other, and further confusion occurs when these concepts are attached as labels to particular endeavours or to organizational units. Objective logic does not necessarily govern such assignments - which can be influenced by habit, prejudice, internal or external politics, individual self-promotional reasons or even lack of awareness. We therefore separate determining the meaning of a concept from attaching it to something as a label. We have also kept our definitional process objective and transparent to avoid any such normative issues

that may be involved.

Labels attached to an undertaking do not necessarily accurately label every activity that is carried out within it. For example, a big project will involve some elements of program management, whether it is regarded as a program with projects or as a project with sub or component projects.

We therefore approach this issue from the fundamental perspective of project management. We consider that whoever is carrying out the creation and deciding or approving delivery work methods or outputs, is working at the project level. We do not consider we should be running away from labelling our field exactly where it is by chasing names with puffed up importance that may advantage us. This seems to us to be an evolutionary trait, seeking individual advantage that does not benefit the wider community. This approach does not support labelling large projects as programs. We also reason that whatever the organizational unit is called that plans for or decides if, when and how the whole undertaking will proceed, it is performing a 'higher' level activity. To clearly distinguish between the three when assigned as labels, we propose the following rule of thumb: That activities and organizational units be assigned the label that describes the management activity they predominantly carry out. This is a straightforward rule that is easy to apply and can minimize confusion between the definition of the concepts and their assignment as labels.

Labelling can pose a problem if there is a separate methodology to be used for projects and program(me)s and the undertaking has been mis-labelled. This can be compounded if the organizational unit has itself been mis-labelled. Drawing this distinction between a concept and its use as a label also highlights a further difficulty with PRINCE2 and MSP defining a project and a program as an organization. This inadvertently tempts users into the mis-labelling trap, inviting circular argument as well as inappropriate application and confusion. In separate but related empirical work yet to be published, the authors found one organisation using the terms 'sub-project' as meaning part of a larger project that can

independently produce a required outcome and 'component project' as part of a larger project that cannot independently produce a required outcome. These definitions are potentially useful in relation to the large project issue and so are reported here.

7.3. Summing up

Having been able to provide a resolution to all difficulties mentioned above, we therefore now consider RQ3 has been answered affirmatively; Yes, it is possible to develop definitions giving clear boundaries between project, program and portfolio.

8. REVIEW AGAINST WIDEMAN DEFINITIONS

The Wideman (2017) glossary definitions of the three terms were all examined and were found to contain varying essences and inclusions that include stating purpose. For reasons already canvassed above, none were found suitable to supplant the definitions derived here.

9. SUMMARY OF DERIVED DEFINITIONS

The terms derived from the documents examined and from the Oxford dictionary are as follows:

- Schedule = a list of things – such as items or planned activities.
- Project = an endeavour to create something.
- Program(me) = a planned series of related things.
- Portfolio = a diverse collection of things – such as items or activities.
- Sub-project = part of a larger project that can independently produce a required outcome.
- Component project = part of a larger project that cannot independently produce a required outcome.
- Organizational project = a sustained effort to change a situation.
- Organizational program = a group of related projects.
- Organizational portfolio = a collection of an organization's activities that may include ongoing organizational operations, program(me)s of projects, individual projects not part of any program(me), and other works.
- Operations = ongoing activity enabled by completion of a project.
- Implementation = initiating establishment if necessary (i.e. if not already existing), controlling through directing and setting timelines, giving approvals, monitoring, initiating corrective action where necessary, reviewing to determine

future action and closing where necessary, all subject to any higher-level approvals that may be required.

- Organizational portfolio management = the activity of deciding and implementing parameters including objectives, strategy, funding, rules and selection criteria = business management.
- Organizational portfolio management of projects = the activity of deciding and implementing program and project parameters including objectives, strategy, funding, rules and selection criteria.
- Organizational program management = the activity of selecting and implementing projects including evaluating project inclusion and determining sequencing and delivery methods.
- Organizational project management = the activity of deciding and implementing work methods.

10. OBSERVATIONS

The current differences in program, portfolio and project definitions do not support a broader goal of agreeing common terminology so that we can all know what it is that we are actually talking about. Achieving this would require some adjustment in all of the documents examined.

It is also evident that unfounded assumptions regarding the genericity of some ICT circumstances/ practices have been inappropriately carried forward into supposedly generic project management documents and standards. This has been facilitated by such definitions being hidden behind training delivery paywalls.

This investigation has also drawn attention to the difference between defining a conceptual term and attaching it as a label to something and has proposed a 'rule of thumb' for such attachment. This paper challenges past views and practices on the terminology problem and provides a framework for resolving it transparently.

11. LIMITATIONS AND FUTURE RESEARCH

This paper does not deal with examination of practitioner views to see whether the confusion found here in the commonly used practitioner documents has translated into practice.

The potential removal of competitive advantage from those inadvertently or otherwise invested in concepts remaining confused may inhibit acceptance of the generic definitions developed here. The real challenge to any such interests, or to any researcher for that matter, is to find any error in the reasoning and/ or propose a better solution that satisfies all the issues considered here.

These findings raise the question of what detrimental impact this confusion may have had upon practitioners and organizations implementing program management and this is a possible area for future research.

12. CONCLUSION

This paper has documented an examination of program and related terminology in eight commonly used practitioner reference documents. It found that confusion does exist about the meaning of the word program and whether it must be transformational. A set of mutually consistent definitions of program and associated terms was developed by ensuring that silent or assumed qualifiers were articulated. Adoption of these definitions would provide consistent terminology and would also require changes to all the documents examined.

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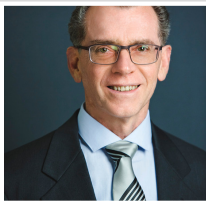
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...a set of mutually consistent definitions of program and associated terms was developed by ensuring that silent or assumed qualifiers were articulated. Adoption of these definitions would provide consistent terminology and would also require changes to all the documents examined."

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The suitability of PRINCE2 for engineering infrastructure

ABSTRACT

The view that PRINCE2 was not suitable for application to infrastructure was identified in a study done for a separate purpose, namely to examine project governance and methodology, which is not reported in this paper. It was asserted by several participants in interviews conducted with a sample of experienced practitioners across a range of industries and disciplines. This paper follows up on those comments by conducting an examination of PRINCE2 from an engineering infrastructure perspective to investigate the validity of this assertion. It takes a deductive, definitional approach to determine if there are any features in it that would cause difficulty for engineering infrastructure use. 17 features were examined and 15 were found to have difficulty in application to the project management of engineering infrastructure. The remaining two found inconsistencies that were unlikely to cause too much difficulty. The features causing difficulty include non-generic terminology for the terms project, lifecycle and stage, using a product rather than a project based process, use of an iterative product delivery process unsuited to predictive projects, use of a delivery process for all project phases, assumption of a board governance model with inappropriate accountabilities, lack of clarity around use of the project plan, and absence of a lifecycle appropriate for engineering infrastructure, with PRINCE2 effectively self-declaring its need for a higher-level project lifecycle/ methodology from somewhere else. The paper concludes that PRINCE2 is quite poorly suited to managing engineering infrastructure projects and identifies that some of the reasons for this are likely to also cause difficulty for many ICT projects as well.

Introduction

The benefits of project management methodology have been considered obvious, as evident from the success of the worldwide marketing of PRINCE2, MSP and associated products. KnowledgeTRAIN (2017, p. 380) states under its FAQs for PRINCE2 online courses that "In total, more than 1.4 million examinations have been taken worldwide since 1996. Of these, almost half were taken in the UK". This comes despite lack of empirical evidence as to their efficacy and views having published to the contrary Wells (2012). It was not until some years later that Joslin and Müller (2015) was able to quantitatively demonstrate a positive impact of project management methodology (PMM) generally (PRINCE2 was not specifically mentioned) on project success, finding that "the application of a PMM account for 22.3% of the variation in project success".

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However, attempts at quantification presume a positivist paradigm. Difficulties arise with intangibles or contextual or environmental variables; for example, it is quite difficult to attribute a proportion of success to leadership, as distinct from the leader's organisation having and following a methodology that the leader supports. The full effect of introducing a PMM may also not become evident for some years and there may be many variables, such as the appropriateness of the starting methodology to the content material, the efficacy of the modifications made to tailor it to the local content, the level of flexibility provided for in its application, the level of documentation it calls for, the persistence of the effort to implement and maintain it and the acceptance it receives from project managers and senior executives within the organisation. These are very likely to change over time, making quantification a difficult and possibly unproductive path to pursue. Furthermore, measurement of how much methodology, or any other factor or combination of factors, might have actually either saved or avoided wasting can only be speculation as it was not actually there to be measured. Where such factors have contributed to failure rather than success, the costs are much easier to measure, but any attempt to quantify the impact of various factors is likely to be strongly contested as reputations and career/ economic prospects will be at stake.

PRINCE2 came from the ICT area in the British Government Office of Government and Commerce (OGC). It evolved from PROMPT which was released in 1975 to save money in ICT projects (Haughey 2014; McKenna & Whitty 2012, p. 9). PRINCE was developed from PROMPTII in 1989 and "developed a reputation for being too unwieldy, too rigid and applicable only to large projects, leading to a revision in 1996… which became more generic and applicable to any project type" (Haughey 2014). It was revised again in 2009 to make it simpler (Haughey 2014). Its current manual states "PRINCE2 has been designed to be generic so that it can be applied to any project regardless of project scale, type, organization, geography or culture" (AXELOS 2017, p. 2).

The principal author attended project management conferences in the very early 2000s in Australia where the PRINCE2 presenters came under considerable pressure about the paperwork generated. They defended by continually asserting "it can be cut down". While audiences were unconvinced, its usage nevertheless, eventually spread throughout Australia. The issue of replacing methodologies is still current, as indicated by Joslin and Müller (2016, p. 380) who specifically mentioned it, warning of the importance of considering context and environmental factors.

The view that PRINCE2 was not suitable for application to infrastructure was identified in a study done for a separate purpose, namely to examine project governance and methodology, which is not reported in this paper. It was asserted by several participants in interviews conducted with a sample of experienced practitioners across a range of industries and disciplines. This paper follows up on those comments by conducting an examination of PRINCE2 from an engineering infrastructure perspective to investigate its suitability for application to engineering infrastructure project management by examining the contents of its manual(s).

Before doing so, we will review both the academic and practitioner literature to determine if any previous examinations of the suitability of PRINCE2 for use in engineering infrastructure have been conducted.

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Literature review

Academic literature

We searched multiple databases for multiple combinations of terms. In summary, no evaluations of the suitability of PRINCE2 for engineering infrastructure use were located. Only one evaluation of actual implementations of PMMs was located and while it did not deal with engineering infrastructure, it did evaluate PRINCE2.

Wells (2012) who studied practitioners with varying levels of experience, all within an IT/ IS environment. She noted there had been a "drive from government and the public sector toward the promotion and usage of the PRINCE2 (Office of Government Commerce [OGC], 2009) PMM in recent years for the development and management of large and complex IT/IS projects" (Wells 2012, pp. 43-4). She also documented difficulties with PMMs including "the indifference of the methodologies to their organizational business interests and benefits beyond those of a single project; complexity in tailoring and modification; leadership and strategy; and their reliance on documentation and their inflexibility of dealing with change" (Wells 2012, p. 44). She noted PMMs being applied "as a fetish used with pathological rigidity for its own sake" (Wells 2012, p. 45). Her research approach was "phenomenological with exploratory purpose" and also with "an inductive approach and reasoning" and "a multiple-case-study approach" (Wells 2012, p. 46). Four PMM cases were examined; PRINCE2, a tailored PRINCE2 and two other methodologies. She used an inductive approach and interpretivism paradigm collecting data through semi-structured interviews with 48 practitioners. A significant conclusion of this work was that "Most project managers perceived the prime purpose of PMM to be management, control, and compliance rather than support and guidance. The investigation on this aspect reveals that 47.9% of project managers… claimed that using PMMs hinders their project delivery" (Wells 2012, p. 57).

We provide below a brief overview of the other evaluations located for context and background purposes. Most simply compared documents and none critically evaluated any particular PMM.

Hughes, Dwivedi and Rana (2017) brought together a group of five expert PRINCE2 participants to review a list of failure factors and determine relative rankings. They mapped these "to PRINCE2® project stages… as public sector failure seems to feature highly in the literature… where PRINCE2® is extensively used" (Hughes et al. 2017, p. 777). They did not critically review any aspect of PRINCE2 and accepted continued failure as "inevitable" (Hughes et al. 2017, pp. 787-8).

Joslin and Müller (2015, 2016)were concerned with project success of methodology rather than with evaluating any particular methodology.

Xue, Baron, Esteban and Zheng (2015) compared ISO 21500 with PMBOK and ISO/IEC TR 29110 and did not question the content of any of these documents.

Słoniec (2014) studied the theoretical possibility of using PRINCE2 in the management of a specific project involving relocation of industrial facilities" (Słoniec 2014). The conclusions were full of the word "could".

Sadeanu, Candea and Bodea (2013)compared PMBOK (2013), PRINCE2 (2009) and ICB V. 3.0:2006 and did not question their content.

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Zandhius and Stellingwerf (2013) compared PMBOK (2013), PRINCE2 (2009) and ICB Version 3 as well as Agile, Lean Six Sigma and others and did not question their content.

Delgado, Marcilla, Calvo-Manzano and Vicente (2012) conducted a theoretical evaluation of PRINCE2 against ISO/IEC 38500 and did not examine any PRINCE2 implementation.

Łuczak and Górzna (2012) aimed to adapt PRINCE2 to manage projects under the annual action plans for the Office of the Prime Minister of Poland in response to the concept of new public management (NPM). It effectively just summarised the PRINCE2 manual.

Sargeant, Hatcher, Trigunarsyah, Coffey and Kraatz (2010) was commissioned and funded by a group working with the OGC itself. It used a survey instrument to sample internationally in comparing PRINCE2 with an unspecified group of other frameworks. Its overall findings were complimentary to PRINCE2, confirming its methodology while making various recommendations for improvement to its manual.

We viewed with some astonishment the failure of such extensive literature searching to locate anything other than a 2012 evaluation of PRINCE2 with findings somewhat unfavourable to it. For it to have spread to over 1.4 million people, as mentioned in the introduction, one would have expected to find a multitude of papers investigating and confirming its veracity. This leads to the conclusion that PRINCE2 has spread without any academic scrutiny of its veracity. This begs the question as to how this could possibly have occurred. We note also that none of the items located related to engineering infrastructure. It therefore also appears that any claims of PRINCE2 applicability to infrastructure have also been academically untested.

Joslin (2017, p. 166) also noted a case where "a highly evolved methodology that was aligned to the needs of the different business divisions in an engineering company was replaced with a standardized methodology with catastrophic results – project success rates dropped from 90% to 55%". He did not name the methodology.

Calder (2008, Chapter 7) which said "Organisations whose IT projects failed usually all deployed recognisable project management methodologies; the reasons for failure were invariably to do with failures of project governance rather than simply of operational management".

We subsequently became aware of a later paper by Joseph and Marnewick (2018) that, while not relevant to engineering infrastructure, had actually investigated the efficacy of PRINCE2 certification in IT and concluded:

> IT project performance was not influenced by project management certification presence. Moreover, PRINCE2 Practitioner presence has a negative influence on failed and challenged IT projects which raises further questions regarding the adoption of project management certifications.
> This research therefore contradicts the PWC as well as the PMI studies [11, 12], which stated that projects are more likely to succeed when project management certification is present. Moreover, this research confirmed that project management certification is not crucial for improved IT project performance.
> Future research should investigate why there has been a decrease in certification and what is influencing this change especially if certification is considered a key criterion for the project management discipline. Furthermore, it must be investigated why IT

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projects have performed better without certification in recent times as this could help clarify the decrease in certification presence. An investigation into how certification influences project performance at different organisational project management maturity levels is needed to establish whether certification contributes at different maturity levels. Research into PRINCE2 Practitioner certification must be conducted to determine why it is leading to more challenged and failed IT projects than successful IT projects (Joseph & Marnewick 2018, p. 63).

This raises the question that if PRINCE2 has been unsuccessful in IT where it originated, it would appear to have less chance of being successful in fields outside IT.

Practitioner literature

Wideman (2002), the principal author of the PMBOK, evaluated PRINCE2 at the time when PRINCE2 usage was starting to spread internationally. He noted "The (PMBOK) Guide is generally written from … the project owner's perspective rather than from that of a supplier or seller. Consequently, the Guide covers more ground than does PRINCE2" Wideman (2002, p. 10). He considered "that PRINCE2 is clearly project life cycle based with six out of eight major processes running from 'Starting up a project' to 'Closing a project' " Wideman (2002, p. 4), he also noted:

> The PRINCE2 project life cycle does not start with original need, solution generating and feasibility studies – these are considered as inputs to the project life cycle, perhaps as separate projects in their own right. For example, PRINCE2 describes a product's life span as having five phases: Conception, Feasibility, Implementation (or realization), Operation and Termination but, of these, only Implementation is covered by PRINCE2. Indeed, the manual states "Most of what in PRINCE2 terms will be stages will be divisions of 'implementation' in the product life span" Wideman (2002, p. 4).

Appelo (2008) noted the rigidity of PRINCE2 and that "There is so much overhead involved in running a Prince2 project, with so many documents to be produced" (Appelo 2008). He also noted PRINCE2 does "*not* address *Requirements Management* or *Requirements Development...* (or) the way the *Technical Solution* should be built nor… processes for *Verification* or *Validation* of a product… (nor) progress measurements, the post-deployment phase, project portfolios, or the scaling of project size. (Appelo 2008).

Having established as far as can reasonably be determined that there has been no previous work along the line we are investigating, we will proceed to proposing our research question.

Research Question (RQ)

Posing a research question inductively would require establishing probabilities and confidence limits and ultimately making a subjective value judgement. This would not be appropriate for our purpose and ultimately the research question needs to be such that any features that may be unsuitable are identified. The research question is therefore posed deductively as follows: Are there any features of PRINCE2 that make it difficult to apply to engineering infrastructure projects?

Research Design

As we are seeking to use deduction rather than induction, use of a qualitative approach is appropriate.

Determination of source documents together with the methods of analysis and evaluation are set out below.

Sources selected for examination

We will principally examine the latest (2017) version of the PRINCE2 manual. However, due to the recency of its release, we will examine earlier versions where appropriate, as their impact upon current practice will obviously have been much greater. Having access to academic databases and library sources, we were able to view the 2017 and 2009 versions of the PRINCE2 manual electronically and located one paper copy of the 2005 edition. For prior versions, we had to rely on the comments of Wideman (2002). Also, any relevant concept that impacts projects and is contained in its companion product MSP (Managing Successful Programmes) will be referenced, where appropriate.

Method of analysis

We analyse key features of PRINCE2 and its definitions of terms that are likely to differ between engineering infrastructure and the ICT area where it originated.

Where appropriate, we compare PRINCE2 with the PMBOK, which has been widely used in engineering infrastructure. We predominantly use the PMBOK 2017 sixth edition but also refer to earlier fifth edition. We also compare PRINCE2 with other standards as well as with the Oxford dictionary, where appropriate. Beyond these comparisons, we then rely on our knowledge of practice in that industry, derived from the principal author's practitioner experience and knowledge of its definitions and practices, further informed by having conducted the practitioner interviews that identified the need for this paper. This approach is supported by what has been labelled 'pracademics' (Walker & Lloyd-Walker 2016) and was also used to identify the key features as definitions for analysis.

We then determine whether the particular feature being considered is actually generic, applicable to all project types including engineering infrastructure, or something peculiar to the nature or content of ICT.

Evaluation method

If we cannot find anything that would make application to engineering infrastructure difficult, then the answer to the research question will be 'none that we have been able to determine'. If we do find some, then the proposition is established that there is some difficulty in applying PRINCE2 to the project management of engineering infrastructure and we will then assess the degree of difficulty they may cause.

Presentation method

Many of the features examined are inter-related and the order of reporting has been selected so there is a flow to the pattern that emerges.

The examination of each feature is presented in a format that generally commences with quotation(s) from PRINCE2, followed by quotation(s) from PMBOK (and occasionally other

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sources) where appropriate, followed by analysis of the quotations followed by a discussion and evaluation of them.

This is quite different to the conventional academic paper format of reporting numbers of observations and then discussing them collectively at the end. To have followed that format would have resulted in a disjointed presentation without flow, unnecessary repetition and irritating for the reader, constantly having to refer many pages back. Consequently, We deal with each feature as a complete unit, discussing the implications of what we have found progressively and proposing possible reasons/ mechanisms before presenting an overall summary table and making observations on the implications holistically at the end. observations are made throughout the paper in the separate discussion sections under each feature evaluated.

To minimise space and repetition, we at times abbreviate PRINCE2 to P2 and distinguish between its 2009 and 2017 editions by referring to them as P2-9 and P2-17, where the unabbreviated usage would be cumbersome.

An outcome summary is presented as Table 1 after the last feature is evaluated.

Examination of PRINCE2

17 features of PRINCE2 are considered in the following sections.

Overall structure of the manual

Analysis

PRINCE2 gives seven principles any project must follow to be a PRINCE2 project (continued business justification, learn from experience, defined roles and responsibilities, manage by stages, manage by exception, focus on products, tailor to suit the project). It then gives seven themes (Business case, Organisation, Quality, Plans, Risk, Change, Progress) followed by seven processes (Starting up a project, Directing a project, Initiating a project, Controlling a stage, Managing product delivery, Managing a stage boundary and Closing a project) (AXELOS 2017).

The PMBOK has introductory concepts and discussions of the project environment and the role of the project manager, before describing the 10 knowledge areas (integration, scope, schedule (time), cost, quality, resources, communications, risk, procurement). It gives a process for developing and controlling each, which is similar for each but not identical, adapted for the characteristics of each knowledge area. These processes generally include some form of planning, doing some form of work, followed by combinations of control, monitoring and means of handling change. The document also includes a new standard which effectively runs through these processes in groups or phases of the project lifecycle, covering all of the 49 processes across the 10 knowledge areas specifying for each its components and giving examples of which project documents would be used and which would be updated (Project Management Institute 2017).

Analysing these summary descriptions indicates that differences as follows:

- PRINCE2 does not deal with the PMBOK knowledge areas of integration, scope (which it partly addresses through requirements specifications), schedule, cost,

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> communications or procurement/ contracts. Its processes are based around iterative product development.
>
> - PMBOK does not deal with directing a project or controlling or managing stages. It does not give specific executive or board guidance. Its processes are based around a generic project lifecycle that accommodates predictive, iterative, incremental and Agile life cycles.

They represent the same thing (project management) in two different conceptual ways, each having a different focus, terminology and starting point that produces two different and competing frameworks.

There is some overlap between the PMBOK knowledge areas and PRINCE2 themes, but in general comparison, PRINCE2 omits some of the key knowledge areas whereas PMBOK omits board and executive involvement.

Discussion

Most engineering infrastructure follows a predictive lifecycle and is not iteratively developed. Much of the PRINCE2 stage management process deals with a heavily bureaucratic approvals process based around the iterative development cycle, which may suit ICT product development which requires high levels of user involvement but is much less suited to engineering infrastructure projects where product characteristics are fairly well known. The basic focus of the PMBOK around its project (as opposed to PRINCE2's product) lifecycle better accommodates engineering infrastructure and PRINCE2's lack of coverage of some of the knowledge areas is a problem for engineering infrastructure. It is more ICT delivery focused, leaving out much of the owner project lifecycle, assuming ICT requirements specifications as inputs and having difficulty handling feasibility studies.

Project definition

Analysis

PRINCE2 defines a project as "a temporary organization that is created for the purpose of delivering one or more business products according to an agreed Business Case" (AXELOS 2017, p. 8).

PMBOK defines a project as "A temporary endeavour undertaken to create a unique product, service, or result" (Project Management Institute 2017, p. 715).

PRINCE2 defines a project as an organisation, omits services and results, admits only business products and requires an agreed business case.

Discussion

PRINCE2 provides is a highly restricted definition of a project in that successfully excludes practically all of them. Its definition as an organisation rather than as an activity has to be ignored for it to even include some small ICT projects, which are then the only ones likely to satisfy all of the rest of the definition. An organisation may sometimes be referred to as a project, so this mistake actually sounds credible, but it is loose; describing a project in terms of one facet of its delivery rather than reaching into, going beyond self-absorption with how we do what we do, and describing its essence.

A project has to have some sort of purpose to create some end result and it is the realising or the delivering of that purpose, in other words, the activity or the endeavour to produce it that

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is its essence, not the incidental organisation that happens to become an administrative necessity to deliver anything of any size. The existence of an organisation provides evidence that a project exists at the time the asset, product, service or result is being created; but this is not the essence of what it is. A project does not have to have an organisation associated with it to be a project; a personal project that one works on privately does not become not a project just because there may be no recognised organisation attached to it. Of course, the important matter of studying projects from an organisational perspective is a completely different matter to defining them as their organisations.

Furthermore, many small activities, such as a person organising a party or personal event or a school organising a speech night or fete, can be delivered as projects without any formal business case. It is not unheard of for even some large ´politically imperative´ projects to be delivered without one; and maintenance or special works before an election rarely have one, at least in terms of overall return on investment to the community; and many project outputs are not normally referred to as business products.

While some engineering projects could be considered a 'business product', referring to them as such is a peripheral abstraction in defining what physical infrastructure projects actually are. The terminology has an introspective ICT and accounting focus that is irrelevant in much of what is done in engineering infrastructure projects. Public engineering projects focus on achieving a community objective and the 'business product' considerations, although not completely irrelevant, are narrow, focusing on particular aspects of the wholistic project. Just because someone in PRINCE2's long history happened to think this was generic, subsequent followers attempted (quite successfully) to unilaterally impose it upon the rest of the world and incessantly repeated claims to its being best practice, does not force it to be generic. As John Stewart Mill said:

> It would, however, be a complete misunderstanding … to think that because a name has not at present an ascertained connotation, it is competent to anyone to give it such a connotation at his own choice. The meaning of a term actually in use is not an arbitrary quantity to be fixed, but an unknown quantity to be sought. … To fix the connotation of a concrete name, or the denotation of the corresponding abstract, is to define the name. When this can be done without rendering any received assertions inadmissible, the name can be defined in accordance with its received use (Mill 1874, pp. 469-70)

The PRINCE2 definition of a project is therefore obviously not generic. The best that can be said of it is that it does not well accommodate engineering infrastructure. The PMBOK definition is much better suited to engineering infrastructure projects.

This is not an encouraging start, when the definition of the very thing PRINCE2 is supposed to be about is so fundamentally flawed. It tempts the question that if PRINCE2 does not even know what a generic project is, how can it possibly be generically useful for any project at all, let alone for the whole project management world? However, to admit the possibility this may be a simple mislabelling, having little effect on the actual method, we will continue, but we will also consider the suitability for ICT of the remaining features examined. Given that it has taken this examination to bring this extraordinary fact to light, the suspicion arises as to what other non-generic things may have been assumed in long-forgotten times in PRINCE2 history and propagated to the current day, and whether any of these might also not be generic

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to ICT practice. Of course, full examination of its genericity for ICT in any other of its features is outside the scope of this investigation.

Lifecycle definition

Analysis

PRINCE2 defines a project lifecycle as "The period from initiation of a project to the acceptance of the project product" (AXELOS 2017, p. 381). It defines project lifecycle but not product lifecycle. Figure 13.1 labels the project lifecycle as excluding anything that is "pre-project" (AXELOS 2017, p. 158). This includes the "starting up a project" process which includes preparing a business case (AXELOS 2017, p. 172). It also says "The term 'project mandate' applies to whatever information is used to trigger the project, be it a feasibility study or the receipt of a 'request for proposal' in a supplier environment" (AXELOS 2017, pp. 166,7). This means that the lifecycle excludes both feasibility study and business case and does apply to delivery. It also says "Although PRINCE2 does not prescribe the use of any particular project lifecycle, it does require that one is used" (AXELOS 2017, p. 176). It also notes that "lifecycle models frequently address only one aspect of a project's scope" (AXELOS 2017, p. 108).

PMBOK defines project life cycle as "The series of phases that a project passes through from its start to its completion" (Project Management Institute 2017, p. 716). It also states "all projects can be mapped to the generic life cycle shown in Figure 1-5" (Project Management Institute 2017, p. 19). This does not exclude 'pre-project' activities and so actually refers to the full project lifecycle. The PMBOK also says:

> Project life cycles can be predictive or adaptive. Within a project life cycle, there are generally one or more phases that are associated with the development of the product, service or result. These are called a development life cycle. Development life cycles can be predictive, iterative, incremental, adaptive, or a hybrid model (Project Management Institute 2017, p. 19)

ISO 21500 2.12 defines project life cycle as a "defined set of phases from the start to the end of the project" (Australian Standards 2016).

The PMBOK and ISO definitions are quite similar in referring to phases of the whole project. However, the P2 definition is actually quite different, defining it as a period of time rather than as a series or set of phases. This contains the same basic error as its definition of a project, failing to define in terms of essence, resulting in defining it as something it is not. Any lifecycle takes a time period as does any other activity and this does not capture the essence of the term. A lifecycle covers some sort of growth or development or phases of life for which the time period is an incidental consequence.

The P2 definition also refers to the project product. This can be read to mean either the total, wholistic output of the project, or to every individual product the project may produce. The only circumstance where this project lifecycle is the same as the product lifecycle is where the project requires production of only one product. Where a project produces more than one product, the two are not the same. The P2 process flow, analysed in a separate section below, accommodates multiple iterations of the development of multiple products and is therefore

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based on an iterative, incremental or adaptive product development lifecycle rather than on a predictive or sequential project development lifecycle.

Discussion

This indicates that PRINCE2 adopts as its basic process model the delivery part only of the lifecycle for production of each of the project's products and not the lifecycle of the whole project itself. This confirms that the observations of Wideman (2002) in the literature review are still current.

The generic nature of the words used in Chapter 14 tempt the reader into thinking it applies to the full project lifecycle. P2 therefore blurs the distinction between project and product lifecycles. The P2 lifecycle is the equivalent of the PMBOK process groups – initiating, planning, executing, monitoring & controlling and closing, which PMBOK does not refer to as a lifecycle – applied to the delivery part of the project lifecycle. P2 is therefore not a project lifecycle model. It is a micro-product lifecycle that fits within a macro project lifecycle that it does not specify. It effectively gives the steps that an ICT shop would go through in producing computer code.

Using the PMBOK categorisation of development lifecycles under the project lifecycle enables what P2 labels as a 'project lifecycle' to be seen as a (micro) (product) development lifecycle within a full project lifecycle. The P2 basic process model can find a place within the iterative, incremental and adaptive lifecycles that occur within ICT delivery organisations but not within the predictive full project lifecycle. This carries the interesting implication that P2 is unsuitable for 'waterfall' application and that it has fallen for the trap as expressed in Project Management Institute (2013, Section 2.4) that "The project life cycle can be determined or shaped by the unique aspects of the organization, industry, or technology employed".

The requirement in P2 for the user to use its project lifecycle plus another perhaps acknowledges its own lifecycle definitional difficulty. But this begs the questions of how and where this is supposed to fit with P2's own project lifecycle, and why any practising project manager would want to use two different ones together in the same place on the same project - one whole one with one deficient one. P2 then advises organisations developing their methodology by saying "Standardization of project lifecycles can go a step further and, rather than just describing a generic project, can be made to reflect particular types of project by including the specialist activities in the appropriate stages" (AXELOS 2017, p. 276). This is rather disingenuous as P2 has an ICT speciality already inbuilt that may be quite inappropriate to many of the projects it may be applied to, and this inappropriately asserts that it is generic.

References to lifecycle in PRINCE2 are not generic and consequently it is unsuitable for use in managing projects from end to end, such as is necessary engineering infrastructure projects developed by either government or private enterprise or in any ICT project that is not concerned solely with the delivery of code. Being constrained inappropriately by a model covering only the delivery part of the cycle cannot do other than introduce complication and unnecessary confusion for other project types, raising the obvious question of how much the attempted usage of P2 in circumstances it was not designed for has adversely affected the success of ICT and other projects. We conclude that its lifecycle is inappropriate for engineering infrastructure projects.

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Product versus project focus

Analysis

PRINCE2 states:

> Projects that focus on what the project needs to produce are generally more successful than projects whose primary focus is the work activity. This is because the purpose of a project is to fulfil stakeholder expectations in accordance with the business justification, and to do this there must be a common understanding of the products required and the quality expectations for them… Under the principle of focus on products, PRINCE2 requires projects to be output oriented rather than work oriented. PRINCE2 calls these outputs 'products' (AXELOS 2017, p. 25).

P2-09 makes it evident that the products include various project management documents as well as various components of the total project output (Murray 2009, Section 19.8.1).

P2 originally encouraged separate products to be managed as separate projects Wideman (2002, p. 4).

Discussion

This reason given for success by P2 may be so for ICT projects, although it is asserted rather than substantiated, but it is clearly not the case for engineering infrastructure projects, as discussed below in the section dealing with specifications. P2 does not back up this assertion either and actually encourages the opposite by focusing on management products – that is internally produced documents – instead of what it curiously refers to as "specialist products" which are the actual outputs.

Furthermore, treating products as separate projects may have supported the view of the genericity of project management and the need at the time to convince general management of the need to regard the management of projects differently, but this approach of naïve enthusiasm also leads to convolution in application, with unnecessary iteration/ repetition of process, to the point of interminable confusion in attempting to sort out where the real project is and which one is being managed at what level in relation to the others and how multiple boards would relate – quite apart from ignoring its own flawed definition of a project in the first place, which would have required establishment of separate organisations. This also generates an artificial need for a higher-level method, namely MSP to compensate for the fact that P2 does not deal adequately with the project level.

Treating project management documents as products in the same way as various components of the total project output also fails to separate process from content.

Such confusion of two words is unnecessary. The need to focus on products may possibly be considered self-evident within an ICT delivery environment, but outside of this part of the ICT environment, it does not make sense to unnecessarily confuse the two by substituting one for the other. The obvious question is why, when the system is supposed to be about projects, P2 would focus somewhere else - on products? That may be quite difficult to answer as, given the long history of P2, whoever made that decision may well be long gone. P2-17 uses the terms product 246 times and project 394 times. A product development lifecycle is shorter than a project lifecycle which, in turn is shorter than a product lifecycle. The confusion of mixing these is unnecessary.

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The PRINCE2 process model

Analysis

The PRINCE2 process model has seven processes and various board requests, notifications, advices and approvals (AXELOS 2017, p. 161). Its seven processes are Starting up a project, Directing a project, Initiating a project, Controlling a stage, Managing product delivery, Managing a stage boundary and Closing a project. The core of the P2 model is based on developing a product, presuming projects are built around producing products. "The guidance uses the terms 'output' and 'deliverable' synonymously with the term 'product' " (AXELOS 2017, p. 26).

The PMBOK equivalent is a combination of its project lifecycle and its processes. It has five processes which are initiating, planning, executing, monitoring and controlling and closing (Project Management Institute 2017, p. 18)., which it applies to all of its ten knowledge areas. "The output of one process generally becomes an input to another process or is a deliverable of the project or project phase… Process groups are not phases… the Process Groups interact within each phase" (Project Management Institute 2017, p. 555). Nevertheless, its mapping of the process areas against the knowledge areas does effectively provide a process flow that approximates a methodology for the full project lifecycle (Project Management Institute 2017, p. 556).

Four processes are common to both - initiating, controlling, closing and P2's managing product delivery equates to PMBOK's executing. P2's starting a project is in the PMBOK's lifecycle rather than in its processes. P2 does not have a planning process and has the extra processes of directing a project and managing a stage boundary.

The two key differences between these two groups of processes are that PMBOK does not attempt to specify the minutiae of all the bureaucratic, hierarchical steps involved and PRINCE2, in choosing to do that and to use it as the base building block of its iterative product development process flow, takes a bottom up approach whereas the PMBOK approach is top-down, starting with the project lifecycle. There is a third difference with implications beyond process that concerns the 'stage' terminology which is considered in a separate section below.

Discussion

The bottom-up approach of PRINCE2 does not provide a macro focus and encourages a micro-focus on technical details. This may be appropriate where the features of the product are dependent upon user acceptance and there is a continual feedback loop with users/ customers, but this is not a universal characteristic of all projects. It effectively encourages users to focus on incidental bureaucratic processes rather than on producing the actual product, providing scope for unnecessary iterations and micro-management.

This choice of basic process assumes that a process applicable to one particular part of an ICT project (an ICT shop writing code for user acceptance) will be suitable and applicable to all aspects of all other projects. This is a bold assumption that accepts proof by induction. The starting logic does have some appeal - the bigger activity (project) will be simply a summation of all the process on all of the micro activities and when every product is produced, the project is finished. As P2-05 noted, and later editions did not, "Product is used to describe everything that the project has to create or change" (Office of Government

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Commerce 2005, p. 6). However the problem with P2 arises from the choice of the basic process of producing each such product. ICT products can be produced iteratively but structural products cannot; iteration 'until we get it right' isn't an option and the product has to be right first time otherwise people's lives will be lost and those involved subjected to litigation. No engineering standards dealing with safety depend upon user opinion. They are written by experts in the field. There will be a certification process by designer and verifier, not some stage authorisation process by some project board, containing people who don't really know, and which in many cases will not even need to exist. The ICT focus on the bureaucracy associated with getting multiple stakeholders/ users to agree on the features of an ICT project product, is understandable, but not generic to all product types. By adopting this as its basic process, P2 requires all users to accept that the generic process with all its requests, notifications, advices and approvals is actually generic to every other activity. This is a big ask with a big documentation overhead that is unnecessary for predictive projects. No amount of dressing up an inappropriate micro-model with surrounding generic terminology actually makes extrapolation of it generic. It just makes it appear to be so and risks causing confusion for other types of projects attempting to apply it.

Under a heading "What PRINCE2 does not provide" it rather immodestly claims:

> PRINCE2's strength is in its wide applicability. It is entirely generic and excludes industry-specific or type-specific activity. Engineering models, project lifecycles, agile methods or specific techniques (such as organizational change management or procurement) can readily be used alongside PRINCE2. PRINCE2 categorizes all these aspects of project work as 'specialist' in contrast to 'management products' which relate to those required to manage the project. This means that the specialist products concerned need to be identified and included within project scope and plans (AXELOS 2017, p. 408).

This means that the inclusion of an industry specific micro-model within its basic process, as detailed above, is denied, leaving potential non-ICT users empty-handed with nothing but unsubstantiated claims of genericity to contend with. It also does not address the question of why anyone who was not compelled to do so would want to use two parallel systems. This may be of great interest to theoreticians and marketers attempting to maintain a place for a commercial product, but the benefit to busy practitioners, subject to time constraints is not apparent. It also begs many questions such as why or how a project lifecycle, which is much broader than the P2 ICT micro-process, would be regarded as 'specialist' and falling under a P2 micro-process? Why procurement would be regarded as a specialist product when it is something that practically every generalist project manager outside an ICT shop needs to attend to? Why a system purporting to be about project management would arbitrarily start somewhere else – at the product level?

P2 leaves out much of what matters for generic project management. As Wideman (2002, p. 4) noted:

> The PRINCE2 project life cycle does not start with original need, solution generating and feasibility studies – these are considered as inputs to the project life cycle, perhaps as separate projects in their own right… Indeed, PRINCE2 assumes that the project is run within the context of a contract and does not include this activity within

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the method itself. However, it suggests that since contracting and procurement are specialist activities these can be managed separately using the method.

This reference to the project running within the context of a contract was in P2-05 Office of Government Commerce (2005, p. 8) but was removed in 2009. Note that we were unable to locate any version of PRINCE2 earlier than 2005 and so had to rely on Wideman for information on these. Also, superseded versions can still be in use, affecting current practice, and still form part of the history of the PRINCE indicating its earlier reasoning.

While it may not be completely impossible to manage engineering infrastructure projects using PRINCE2, much of it would have to be ignored and it is difficult to see any benefit from enduring the difficulty of attempting to do so as much of what is necessary is not to be found in PRINCE2. It would require iterating micro activities, all with their openings and closings, paperwork and board approvals that would be quite inimical to the completion of engineering infrastructure projects. Engineering infrastructure projects need so little of this as to make the PRINCE2 process almost superfluous.

The obvious response from P2 advocates that this can all be cut down begs the question of why bother to do that for a system that will still be incomplete after all that is done, when there is an alternative system, namely the PMBOK, readily available that does not have the same deficiencies. It covers both engineering infrastructure and ICT projects whereas PRINCE2 takes the approach that its terminology and the ICT iterative product development life-cycle are generic and all other project types should conform.

Further evidence of the over-reach of P2 can be found in its Chapter 3 detailing the seven principles that any project must follow to be a P2 project. It states:

"PRINCE2 is designed so that it can be applied to any type of project… without burdening it with bureaucracy. The themes, processes and product descriptions describe what should be done but, in general, not how" (AXELOS 2017, p. 20). This assertion is contradicted by having based the process flow at the very core of its method upon a highly bureaucratic process that specifies in great detail how administrative things should be done. This appears to be a marketing attempt to deflect criticism of its bureaucratic overhead. It appears to adopt a strategy similar to that proclaimed by Joseph Goebbles who once said:

> If you tell a lie big enough and keep repeating it, people will eventually come to believe it. The lie can be maintained only for such time as the State can shield the people from the political, economic and/or military consequences of the lie. It thus becomes vitally important for the State to use all of its powers to repress dissent, for the truth is the mortal enemy of the lie, and thus by extension, the truth is the greatest enemy of the State (ThinkExist 2018).

P2 continues:

> PRINCE2 is principle-based rather than prescriptive; the principles are:
> - universal in that they apply to every project
> - self-validating in that they have been proven in practice over many years
> - empowering because they give practitioners of the method added confidence and ability to influence and shape how the project will be managed.

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> The PRINCE2 principles provide a framework of good practice for people involved in a project and were developed from lessons taken from both successful and failed projects (AXELOS 2017, p. 20).

Whatever these 'self-validating' feel-good words actually mean, they set the scene for P2 to be able to claim anything anybody else has developed. Its seven principles are: continued business justification, learn from experience, defined roles and responsibilities, manage by stages, manage by exception, focus on products and tailor to suit the project. It states "To be following PRINCE2, these principles must be adopted when managing a project" (AXELOS 2017, p. 20). Apart from managing by stages and focusing on products, these things will be present in the management of almost any infrastructure project using any method. However the managing by stages and focusing on products should set PRINCE2 apart from other truly generic methods as these principles are not generic, as indicated by this investigation. One also wonders how a process that encourages work methods to be taken to board level can truly be regarded as managing by exception.

It is therefore evident that the PRINCE2 process flow and terminology is generic only to some aspects of ICT and not generic to engineering infrastructure. It therefore cannot be accepted as either generic or universal and cannot represent best project management practice.

Specifications

Analysis

PRINCE2 does not define the term specification in its glossary. It regards it as being associated with quality in its definition of "quality criteria" (AXELOS 2017, p. 382). The closest it comes to a definition is in saying "user assurance responsibilities include… ensuring that the specification of the user's needs is accurate, complete and unambiguous" (AXELOS 2017, p. 346), effectively saying specification equates to user needs. Under the heading "Writing product descriptions" it mentions "If a detailed requirements specification for a product is already available" (AXELOS 2017, p. 108) and says nothing about the process of developing them. The only references to 'requirements specification' in the whole document occur on that page. P2 therefore appears to use "product description" and "detailed requirements specification" interchangeably.

There are no occurrences of either of the terms 'business requirements specification' (BRS) or 'business process analysis' (BPA) in P2-17. This means that PRINCE2 regards them as inputs, which again clearly indicates that its focus is on ICT delivery rather than on business projects from an overall owner's perspective. This again confirms the observation of Wideman (2002) identified in the literature review.

It does not define specification but does define "off-specification" as "Something that should be provided by the project, but currently is not (or is forecast not to be). It might be a missing product or a product not meeting its specifications. It is one type of issue" (AXELOS 2017, p. 378).

PMBOK6 defines specification as "A precise statement of the needs to be satisfied and the essential characteristics that are required. This also accepts it equates with user needs.

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Discussion

In historical terms, the ICT field is relatively new and ICT projects have come relatively recently into project management. P2 takes on the engineering usage of the word but ascribes a totally different emphasis to it in ICT terms as being 'what the users want' - which may change during delivery of the project. This is totally different to the essence of engineering specifications which are fixed so that users' and suppliers' wants and commercial pressures do not compromise safety or functionality. Engineering layout drawings are used to depict what will be delivered, and these are used in communication with stakeholders. Specifications are generally not used for this purpose. Outside of the technical engineers in owner and delivery organisations, there are few stakeholders who take or need to take any interest whatsoever in engineering specifications.

Nevertheless, it is difficult to imagine how else the ICT field could have adopted this term, as showing users a few lines of code does not have the same visual impact as an engineering layout. Agile/ prototyping perhaps comes closest to having this capability to depict a completed product.

However, specifications of what users might want do not really compare with mature engineering specifications. Engineering projects require people with technical competence who know the characteristics of the materials or processes and are in a position to make decisions on them and accept the consequences. They do not need to run repeating surveys of opinions of people who do not know.

Basing a process for infrastructure upon such a non-generic process is introducing a convoluted loop that returns inappropriately to its origin in a way that can only cause confusion for engineering infrastructure projects. Engineering specifications are generally relatively stable and have associated processes for quality assurance and safety. The necessary testing is generally routine and will be called in without any "next stage plan" in accordance with some already existing form of quality plan covering all aspects of the output to be produced. Iteration or going over the same thing more than once is only necessary in engineering infrastructure projects if there's been a failure to get it right the first time. Conformance with specifications, as well as the form of the output is something that engineering project managers routinely manage without needing to re-invent a process by tailoring something inappropriately re-proposed from another field.

Having mature aspects of infrastructure project management over-ruled by the relatively adolescent ICT project management concept, inappropriately applied, is not a reasonable proposition.

P2 also mentions "a design is derived from a specification" (AXELOS 2017, p. 316). This is not the case for infrastructure where the design is derived from the functionality required and is constrained by the specification requirements for stability, safety etc.

A further aspect of the peculiarity of the ICT circumstance is highlighted in P2-09 in Section 19.8.2 titled "The evolving project", which says:

> *Rethinking Project Management* (Winter and Smith, 2006) identified that today's projects tend not to start with a predefined specification, but have specifications that evolve as the project progresses. Furthermore the specifications are often contestable and open to negotiation throughout the project's life. The implication is that because

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> the specification is driven by the Business Case, a project may not start with a predefined Business Case (Murray 2009, Section 19.8.2).

This contradicts its own definition of a project and means that not only is the business case is outside the project lifecycle, it may not even have one. Note that this is not present in P2-17. This would appear to be referring to the business requirement specifications (BRS) which effectively scope ICT projects. This would apply to very few infrastructure projects because their specifications have to be well developed beforehand, otherwise lives can be lost and litigation pursued. Scoping for infrastructure projects is not done through specifications. Once a contract is let, specification versions are locked in and an owner must pay (dearly) if any change in specification is deemed necessary after the contract is signed.

Having requirements and consequently scope varying during the project must make cost almost impossible to predict - which would seem to suggest a circumstance where the nature of the undertaking itself could be the principal cause of cost over-runs on ICT projects, rather than any of the failure/ success factors commonly researched. This would support the view expressed in one of the references identified in the literature review which rather fatalistically proposed to "argue the futility of the prevention narrative and present a more pragmatic approach recognising that failure within IS projects is inevitable at some level" (Hughes et al. 2017, p. 787).

The change in specifications during a project then leads to consideration of the rather odd term "specification-led" projects used in MSP 2011 referring to engineering infrastructure projects. This term was not used in any of the three PRINCE2 editions we had access to but its usage in MSP is indicative of the non-generic ICT way of thinking in PRINCE2. Infrastructure projects are not led by their specifications. They are led by some form of community need that they will fill. From an ICT perspective where the BRS may be continually variable, it may seem that the difference between project types relates to the characteristics of engineering specifications being fixed in advance. These projects may only appear from an ICT perspective to be led by their fixed specifications, but the term is not one that would be used or even recognised by engineering infrastructure project managers.

So, in summary, assuming that 'specification' means user needs is not generic to infrastructure. Use of the unqualified term will cause confusion for infrastructure users. However, where qualifiers like 'user requirements' are used before the term, this confusion would be avoided. In engineering projects, the user needs and project purposes such as health and safety are often simple and predictable, not requiring user opinions. Where user opinion is necessary, the impacts are generally known and obvious.

Stage

Analysis

P2-17 defines a 'stage' as a 'management stage', which in turn is defined as:

> The section of a project that the project manager is managing on behalf of the project board at any one time, at the end of which the project board will wish to review progress to date, the state of the project plan, the business case and risks and the next stage plan, in order to decide whether to continue with the project (AXELOS 2017, p. 377).

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P2-09 had previously defined a stage as a management stage or a technical stage, where a management stage was defined as above and a technical stage was defined as:

> A method of grouping work together by the set of techniques used, or the products created. This results in stages covering elements such as design, build and implementation. Such stages are technical stages and are a separate concept from management stages (Murray 2009, Glossary).

P2-17 does not mention 'technical stage'.

PMBOK does not define stage and its index lists only two occurrences of the term 'stage gate' which equate it with a phase gate or phase review (Project Management Institute 2017, pp. 21, 545). It uses the term phase many times.

The PRINCE2 stage would therefore appear to come under a PMBOK phase, but this is denied in P2-17 which says "Project lifecycles are often described in terms of project phases, where the term 'phase' is used as an alternative to 'stage' or 'management stage' " (AXELOS 2017, p. 96).

Discussion

While this usage of the term "management stage" is clear when the qualifier is used, use of the unqualified term "stage" normally means something different to project managers with an infrastructure project background. It has the connotation that some significant amount of work has been or will be completed - covering many of the steps that PRINCE2 refers to as stages. It is not just any component. In engineering infrastructure terms, a stage may have useful output and/or the possibility of a significant time lag for the following stage, to the point where the stages may be managed as completely separate projects. The P2 usage is clearly from an ICT perspective and its micro focus is not generic to infrastructure. In itself, this is unlikely to cause too much confusion.

The removal of reference to a "technical stage" in P2-17, removes possible conflict with PMBOK phases, while not explicitly mentioning that latter term.

PRINCE2 also allows for stages to be managed as separate projects, but in a quite confusing way – encouraging application of the whole process recursively at smaller levels, leaving the conundrum of where to stop the recursion, which can produce confusion and convolution of paperwork and board approvals. This also requires ignoring its own definition of a project, as at some point, the repeated establishment of new, separate organisations would start to become so contorted as to be impossible to apply. In PRINCE2, the term stage can refer to the completion of every single micro-product through the PRINCE2 process. It is dependent on its product lifecycle model, which, as shown above, is not generic. Its propensity to generate useless recursion requires every potential user to be constantly on the lookout for something that may well not exist in their project management world.

Phase

Analysis

The term 'phase' is undefined in the glossaries of both P2-09 and P2-17. P2-17 simply refers to a "phase of its life" (AXELOS 2017, p. 375) or a "phase of development" (AXELOS 2017,

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p. 389), but also says "the term 'phase' is used as an alternative to 'stage' or 'management stage' " (AXELOS 2017, p. 96).

PMBOK defines a project phase as "A collection of logically related project activities that culminates in the completion of one or more deliverables" (Project Management Institute 2017, p. 716), and "Phases are generally time bounded, with a start and ending or control point. A life cycle can be documented within a methodology" (Project Management Institute 2013, Section 2.4).

Discussion
PRINCE2 ignores phases, which is perhaps unsurprising, given that it was designed for an iterative product lifecycle rather than a project lifecycle.

As noted in the discussion of the term 'stage' P2 regards its 'stage' as being interchangeable with a phase rather than a subset of it. This appears to be incorrect. In P2 terms, a stage may equate to a phase where there is only the minimum number of stages, but stages will be sub-sets of a phase where there are more stages than phases.

Relationship to PMBOK and standards

Analysis
PRINCE2 differentiates itself from PMBOK and other bodies of knowledge (BOKs) by saying "A method, such as PRINCE2, provides not only a set of activities to be done, together with roles, but also techniques for undertaking these activities. A body of knowledge looks at what a competent project manager should know and focuses on what and how to do it" (AXELOS 2017, p. 14). This implies that, not being a BOK, P2 doesn't tell competent project managers what to do and how to do it. That is hardly credible.

P2-09 was more specific, adding PRINCE2 provides "a framework of **what** needs to be done, by **whom** and by **when**" (Murray 2009, Section 19.10). So the **what** overlaps and the difference is apparently in being told by **whom** and **when**. PRINCE2 also differentiates itself from standards by saying "A standard provides rules, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose; it does not, however, state how activities should be carried out to achieve this" (AXELOS 2017, p. 14). This cannot be fully correct as engineering standards can be either process or outcome based. Furthermore, the standard now included with the PMBOK orders knowledge area activities into process groups giving an order for them to occur in, effectively saying when activities should be done.

Discussion
The distinction between these types of documents (BOK, method and standard) therefore seems somewhat artificial and tenuous. This is not helpful in assisting project managers struggling to figure out what the real differences are and to implement the assertion that these documents can or should be used together.

The real difference appears to spring from the assumed starting model, with P2 using a product model and PMBOK using a project model. This results in PRINCE2 going to a micro-level of bureaucracy, specifying who does what on each product development iteration or stage whereas PMBOK keeps to the macro project lifecycle level. This leads P2 into directing, board and executive approvals. PMBOK does not presume a board exists for every

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project and so does not risk generating confusion around who (project manager, executive or board) approves what in every circumstance.

The tenuous distinctions offered are more relevant to the branding of two competing commercial products attempting to keep out of each other's way while both expanding adoption and attendant training revenue. Practitioners ignoring this confusion are unlikely to suffer adverse consequence. It may become problematic if attempting to satisfy multiple documents.

Configuration management

Analysis

P2-17 defines a 'configuration item' as "An entity that is subject to change control" and 'configuration management' as the "Technical and administrative activities concerned with the controlled change of a product" (AXELOS 2017, p. 373). The (Oxford) dictionary defines configuration as "an arrangement of parts or elements in a particular form, figure, or combination ".

Discussion

This is particularly important in ICT projects, but the terminology is unused in relation to engineering infrastructure projects where the terms 'change management' or 'variations' are more commonly used.

Again, the PRINCE2 terminology is not generic.

Product / Work breakdown structure.

PRINCE2 uses a product breakdown structure rather than a work breakdown structure, noting "PRINCE2 requires a product-oriented approach to decomposing the project product description into a product breakdown structure... Where an agile delivery approach is being used, the product breakdown structure could be represented by epics or user stories" (AXELOS 2017, p. 97).

Analysis & discussion

Showing this section of the PRINCE2 manual to engineering infrastructure project managers is highly likely to generate a reaction somewhere between astonishment and contempt, dismissing P2 as being completely inappropriate for their purposes. This is of no use to infrastructure project managers whose products are fairly obvious and not dependent on user opinion, requiring iterations of board approvals and diminution of the authority of the project manager. For infrastructure project managers a work breakdown structure (WBS) is necessary, whether product related or not.

P2-17 makes a condescending attempt to get around this difficulty by saying "Users of PRINCE2 from a PMI background might find it useful to substitute the phrase 'product-oriented work breakdown structure' when they see product breakdown structure in the PRINCE2 manual". It then continues to irritate engineering infrastructure project managers with persistent expectation for them to use non-generic terminology by saying "PRINCE2 recommends, but does not require, that an additional product is created and maintained: the product flow diagram. This is a diagram showing the sequence of production and interdependencies of the products listed in a product breakdown structure" (AXELOS 2017, p. 98). Any infrastructure WBS or Gannt chart cannot help but have that in it.

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Again, the PRINCE2 terminology is not generic.

Project Plan

Analysis

PRINCE2 does not initially embrace the project plan terminology. To get the full sense of how it treats this subject, it is necessary to follow it through in page order. After noting "the project tolerances (time, cost, quality, scope, benefits and risk) defined in the PID (Project Initiation Diagram)" (AXELOS 2017, p. 14), it says "The PID should describe how PRINCE2 has been tailored for that particular project so that all those involved on the project understand how PRINCE2 is to be used and how to carry out their particular responsibilities" (AXELOS 2017, p. 27).

It starts to introduce the term in saying

> A project manager may need to use specific product naming terminology (e.g. to reflect customer needs or practice within their own organization). Examples include:
> ● the use of PMI's 'project management plan' instead of PRINCE2's 'PID' … Care should be taken when changing management product names to ensure that they still reflect the intended PRINCE2 purpose (AXELOS 2017, p. 32).

P2 then differentiates between the PID and a contract as follows:

> The PID and contract fulfil different purposes. One aspect of a contract is to describe who is liable if either party fails to fulfil its contractual obligations. The content of the PID should focus on practical management arrangements to make sure that each party can fulfil its obligations: the PID must reflect the contract conditions. Try to avoid including the PID as part of the contract documentation, as it may limit the project manager's ability to adapt it if the PID has to go through a formal contractual review for each change (AXELOS 2017, p. 36).

It then notes:

> PRINCE2 requires that two products are produced and maintained for the organization theme" one of which is the "PID In the context of the organization theme, this provides the single source of reference for how the project is to be managed. The PID sets out the project management team structure and roles (AXELOS 2017, p. 62).

P2 then defines a project plan as:

> A high-level plan showing the major products of the project, when they will be delivered and at what cost. An initial project plan is presented as part of the PID. This is revised as information on actual progress appears. It is a major control document for the project board to measure actual progress against expectations" (AXELOS 2017, p. 95).

However, P2 then actually appears to use the project plan, saying "The project plan is created during the initiating a project process and updated towards the end of each management stage during the managing a stage boundary process" (AXELOS 2017, p. 99). It continues:

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A Stage Plan is required for each management stage. The Stage Plan is similar to the project plan in content, but each element is broken down to the level of detail required for day-to-day control by the Project Manager… A stage plan is required for each management stage… stage plans are produced near the end of the current management stage. This approach allows the stage plan to:
- be produced close to the time when the planned events will take place
- exist for a much shorter duration than the Project Plan, overcoming the planning horizon issue
- be produced with the knowledge of the performance of earlier management stages (AXELOS 2017, p. 99).

Discussion

There is obvious internal confusion here in PRINCE2 in the relationship between a project plan and a PID. The term 'initiation document' has the connotation of being fixed, not something that is updated, and it seems rather strange to expect an initiation document to be used as the ongoing project plan.

Also, the requirement for a multiplicity of stage plans may be necessary when it is not known what the products are going to look like but is unnecessary when they are known. This invites production of unnecessary and unhelpful documentation. Formal updates in infrastructure projects are usually done continuously, periodically or at milestones rather than at the end of 'management stages', albeit that a management stage may correspond with a milestone. These updates will usually just be to schedule, cost and scope/ variations, as the products are neither unknown nor iteratively developed.

The requirement for the PID to detail how P2 has been tailored will also be unnecessary where an organisational methodology is used. This requirement seems to indicate an internal focus, again risking production of unnecessary documentation.

P2 also does not distinguish between work management and project management as it regards management documents as products like physical outputs. These two are quite distinct in engineering infrastructure projects.

The requirement for a PID to reflect contract conditions also indicates that P2 is designed for the delivery part of the project life-cycle and not the whole lifecycle. Any initiation document in an infrastructure project will be prepared well in advance of any delivery contract being signed.

It is again evident therefore that the PRINCE2 terminology is not generic. Perhaps P2 would do better to adopt generic terminology so that anyone managing a project as distinct from producing products would not have to translate from its specific product naming terminology.

Governance Requirement for a project board

Analysis

PRINCE2 does not give an option to not have a project board. It appears to assume that all projects need one, stating that "Tailoring requires the project board and the project manager to make proactive choices and decisions on" (AXELOS 2017, p. 27). This does not appear to leave room in tailoring for small projects to not have one. "The board delegates day-to-day

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control to the project manager on a management-stage by management-stage basis"
(AXELOS 2017, p. 159).

The PMBOK is silent on the need for a project board and the terms 'project board' and
'steering committee' are not included in its glossary. It gives priority to the authority of the
project manager, with a separate chapter (3) on the subject, which includes sections on
leadership and the exercise of power. Its Figure 3-1 and Standards Figure 1-4 do however
include a generic reference to steering committees (Project Management Institute 2017, pp.
53, 551).

Discussion

P2 requires all projects to have a board and to make decisions on what stages will have board
involvement. This is inappropriate for many routine infrastructure projects where a board is
not used as it would be an unnecessary and counter-productive overhead. It can also
potentially lead to micro-management by an over-zealous board or the diminution of the
authority of the project manager or both.

PMBOK makes no presumption that there must be a board or steering committee, thereby
accommodating engineering infrastructure projects. It also supports infrastructure practice by
placing accountability with and reinforcing the role of the project manager, rather than
potentially undermining it with multiple board approvals and attendant paperwork being
required at every stage for every product the project produces.

(Project board) accountability/ responsibility

Analysis

PRINCE2 in Section 5.3.2.2 lists the first duties of the Project Board as "Being accountable
for the success or failure of the project in terms of the business, user and supplier interests"
(Murray 2009). It also states under the heading of Authority that "the Project Board is
accountable for the project" (Murray 2009). However, having asserted this accountability, it
then goes on to say under the heading of Executive that "Although the Project Board is
responsible for the project, the Executive (supported by the Senior User(s) and Senior
Supplier(s)) is ultimately accountable for the project's success and is the key decision maker.
The Project Board is not a democracy controlled by votes. The Executive is the ultimate
decision maker" (Murray 2009). This is clearly contradictory and while the latter statement
distinguishes between accountability and responsibility, the earlier statements confuse these
concepts. The contributing committee roles and the committee itself have responsibilities but
not accountabilities.

AXELOS (2017) contains similar statements; "The project Board is accountable to corporate,
programme management or the customer for the success of the project, and has the authority
to direct the project within the remit set by corporate, programme management or the
customer as documented in the project mandate" (AXELOS 2017, p. 338). Again, having
asserted this accountability, it goes on to say "The Project Board is not a democracy
controlled by votes. The Executive is the ultimate decision maker and is supported by the
Senior User and Senior Supplier" (AXELOS 2017, p. 340).

Discussion

In P2, the Executive is the one who makes decisions on the project based on the
commitments given by the other two, who have full authority to make decisions in their own

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domain but none in the Executive's. However, just because people who can be labelled as decision makers in some circumstances happen to be together at a committee meeting where decisions are made by the Executive does not mean that the committee itself actually makes the decisions and can be labelled as such. Decisions may well come out of such a meeting but the committee meeting just provides the forum for the person with authority to make decisions and labelling such a committee as decision-making is a misnomer. Project boards are different to company boards which are properly constituted with statutory accountabilities. The analogy with company boards breaks down for projects in hierarchical organisations when it comes to voting and accountability.

The misconception of project boards or steering committees having accountability is a problem both accidentally created and denied in PRINCE2, as just demonstrated. This is a simple definitional error that has contributed to confusing governance in the project management field generally through application of the P2 model as universal best practice beyond ICT, leading to confusion through arrangements being established where committees were thought to have accountabilities.

Generic Nature

We examined all occurrences of the term 'generic' in both P2-17 and P2-09.

Analysis

PRINCE2 justifies its genericity on the basis of:

- separating the management of project work from the specialist contributions, such as design or construction. The specialist aspects of any type of project are easily integrated with the PRINCE2 method and, used alongside PRINCE2, provide a secure overall framework for the project work.
- focusing on describing what needs to be done, rather than prescribing how everything is done (AXELOS 2017, p. 2).

It states that it "can be applied to any type of project and can easily be implemented alongside specialist, industry-specific models (e.g. 'engineering models' or 'development life cycles')" (AXELOS 2017, p. 2). It them boldly claims "organizations adopting the method as a standard can substantially improve their organizational capability and maturity across multiple areas of business activity, such as business change, construction, IT, mergers and acquisitions, research and product development" (AXELOS 2017, p. 2). It further states under Section 1.2 "What PRINCE2 does not provide":

> **Specialist aspects**: PRINCE2's strength is in its wide applicability. It is entirely generic and excludes industry-specific or type-specific activity. Engineering models, project lifecycles, agile methods or specific techniques (such as organizational change management or procurement) can readily be used alongside PRINCE2. PRINCE2 categorizes all these aspects of project work as 'specialist' in contrast to 'management products' which relate to those required to manage the project. This means that the specialist products concerned need to be identified and included within project scope and plans (AXELOS 2017, p. 42).

P2-09 also says that "PRINCE2 is truly generic: it can be applied to any project regardless of project scale, type, organisation, geography or culture" (Murray 2009, 1.5).

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Discussion

Having examined all occurrences of the word, it is evident that the claims to genericity are asserted rather than substantiated.

While distinguishing generic process from the content that it is applied to is fundamental to the existence of project management as a field, this only works if the material considered to be generic is actually fully independent of its area of application or content. PRINCE2 also contradicts its own claim to not deal with 'how' by including a great deal on 'how in its bureaucratic stage-management process that prescribes in painful prescriptive detail how everything is to be done, as described in the process section above. The same contradiction is also present in the section above on its relationship to PMBOK, where it says it is a method which does specify how. Many other areas where non-generic assumptions have also been made are identified in the sections above.

Claims of applicability to engineering infrastructure

Analysis

We searched for all occurrences of infrastructure in P2-17 for evidence demonstrating this.

An example is given of a "Major infrastructure company ensuring scope integrity and quality" (AXELOS 2017, p. 280). It mentions a set of directive handbooks having been produced, which presumably satisfied the paperwork requirements of PRINCE2 but there was no mention of actual outcome. There is also a curious reference to other paperwork concerning product descriptions which would drive whether the product was needed or not. This would be most unusual for a project producing a physical product to start without knowing whether it was required or not. This must therefore refer to more paperwork output, and it is not clear at all whether this related to any particular product(s) or to a process for, as the sub-heading says "Ensuring scope integrity and quality" (AXELOS 2017, p. 280). This therefore appears to concern delivery of an ICT system within an infrastructure organisation and gives no evidence of application to delivering physical engineering output. It also appears from the text that the physical products were produced using a method independent of PRINCE2.

Similarly (AXELOS 2017, p. 286) describes "a major infrastructure company" which amalgamated eight previous organisational methods into one through internal negotiation. The impact and contribution of PRINCE2 to the system development and implementation is unclear, as is the outcome, apart from "the organisation achieved P3M3 maturity level 3 as a result".

A further example given in (AXELOS 2017, p. 287) describes development of a project management method for a "major engineering programme" which on the next line is referred to as "major system engineering programme" i.e. it was an ICT method transferred to other parts of the organisation. No details are given of its success, with the only success measure mentioned being that the Project Implementation Document (PID) "need only refer to the appropriate part of the method, rather than describe everything in full" and that "very few significant changes" were needed to make it applicable enterprise wide. There is very vague wording concerning how long it was actually in operation and no detail of the effectiveness of its implementation. It says it was used within three years of becoming available but did not say whether this was by compulsion or not.

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Discussion

The infrastructure examples given in PRINCE2 are therefore quite weak and do not demonstrate the genericity of the material to engineering infrastructure projects.

We also searched for the terms construction and all were references in passing, such as:

> ● a waterfall approach where each of the delivery steps to create the products takes place in sequence (e.g. in a construction project where requirements gathering and design take place before building begins) and the product is made available during or at the end of the project (AXELOS 2017, p. 15).

We therefore conclude that PRINCE2 claims of suitability for engineering infrastructure are unsubstantiated.

Summary of findings

The results of this examination are summarised in Table 1 below.

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Table 1

Summary of examination of PRINCE2

PRINCE2 feature	Suitability/ Genericity for engineering infrastructure (EI)	Suitability/ Genericity for ICT
Overall structure	Prescriptive, iterative & heavily bureaucratic approvals process unsuited to the predictive infrastructure lifecycle. Omits several PMBOK knowledge areas. Deals with deliverer rather than owner project management.	Its processes are based around iterative product development, suitable for ICT projects having high levels of user determination. Less suited to those that do not.
Project definition	Inappropriate definition as an organisation, with a limiting focus on micro-organisational aspects rather than on macro purpose.	Inappropriate but suits an introspective micro-view of the organisational mechanics of an ICT project with an accounting perspective.
Lifecycle	Unsuitable for predictive endeavours such as engineering infrastructure projects.	Suits iterative/ incremental/ adaptive ICT endeavours but not predictive ICT endeavours.
Product versus project focus	Produces unnecessary confusion.	Produces unnecessary confusion for ICT projects not in the delivery phase.
Methodology	Confused definition but with little adverse consequence to practitioners.	Confused definition but with little adverse consequence to practitioners.
Process model	Inefficient as every 'stage' has to be determined on every application when there is a fairly predictable set of activities.	Suitable for micro-iteration.
Specification	Inapplicable - Specifications are mature and do not scope the project.	Specifications do scope the project. However the absence of a BRS and the assumption that they are inputs does not assist owner project delivery.
Stage	Inappropriate to EI where stage refers to a significant amount of work having been completed and a major milestone reached, whereas here it Refers to every single micro-product or iteration through the PRINCE2 process.	Usage may not be confusing where the traditional software development lifecycle is followed.
Phase	Used (infrequently) as an alternative term to stage.	Usage may not be confusing.

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Relationship to PMBOK & Standards	Confusing but of no consequence if ignored. Problematic if attempting to satisfy multiple documents.	Confusing but of no consequence if ignored. Problematic if attempting to satisfy multiple documents.
Configuration management	Inappropriate & irrelevant.	Suitable for ICT.
Product Work Breakdown Structure	Superfluous to the WBS.	No comment
Project Plan	Confused application equating it with its PID in places, requiring both as well as separate stage management plans.	No comment
Governance requirement for a Project Board	Inappropriate for many projects that don't have or need one.	Inappropriate for small projects not needing one.
Project Board accountability/ responsibility	Inappropriate, confusing accountability and responsibility.	Inappropriate, confusing accountability and responsibility.
Claim for genericity	Unsubstantiated. Contains self-contradicting claims that it avoids 'how to'.	Generic for ICT shop delivery.
Infrastructure examples	No evidence of successful application to actual engineering infrastructure projects given. All references seem to be to the ICT area of engineering companies.	N/A

The above table can be further summarised as follows: PRINCE2 assumes:

- a product development rather than a project lifecycle
- a delivery process is a suitable model for all other project phases
- an iterative product development process.

None of these are generically appropriate to engineering infrastructure. It uses many ICT definitions that are not generic to other fields, such as project, specification and stage. It also assumes a non-generic governance model that confuses accountability.

Given the number of areas of difficulty identified, the answer to the RQ is clearly yes, there many features of PRINCE2 that make it difficult to apply to engineering infrastructure projects. Some of the difficulties identified also extend to some ICT projects as well.

Observations

This analysis of the PRINCE2 document identified many deficiencies that cannot have failed to adversely affect its implementation and operation, particularly in areas outside ICT, but also within ICT. The PRINCE2 project definition and claims to universality have produced a totally credible belief for those within ICT promoting the product as completely generic, while simultaneously producing a 'Catch 22' situation for any non-ICT project managers attempting to use it – who must ignore its definition of a project and all the other difficulties

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identified here, or risk being considered in some quarters to have failed to adopt so called 'best practice'. They are left with the comfort of following 'best practice' and looking elsewhere for reasons contributing to failure which could not possibly be due to the 'best practice' itself. This appears to be a wonderfully successful business model and outstanding marketing practice that seems heavily supported by an introspective ICT view of its own genericity. With the spread of PRINCE2 world-wide, this has the potential to have confused and mislead the entire project management field.

In our view it is most unfortunate that PRINCE2 has assumed so many things are generic to all project types that are only generic to ICT delivery projects. We are reminded of a similar initiative that attempted to mandate a PMM from a building construction state government department to all other departments in that government. That attempt foundered because doors and windows, which are vitally important to any building and upon which the whole project management system had been based, were a little hard to find on roads, bridges, railway lines and computer programs. Given the obvious inappropriateness and lack of success of that initiative, it is not difficult to understand why it went undocumented.

The major concerns with PRINCE2 identified above have very successfully hidden behind the pay-wall of commercial training. We only discovered them by accident, having not ever found it necessary to use PRINCE2 in our practice nor having observed it successfully used anywhere in the industries we work in. We just happened to be researching project methodology effectiveness, have a focus on definitional matters, which many others would not, and had access to academic sources not generally accessible to practitioners (meaning we were able to access the materials without having to pay for and attend additional training that would have otherwise been unnecessary to us or to industries outside ICT). This graphically highlights the dangers of de-facto standards being under commercial control and not being readily accessible to general critical scrutiny. There was little chance of any engineering practitioners paying for and then spending days attending training in a field they do not practise in, on the off-chance of finding some internal inconsistency in it. Even practitioners in that field needing certificates to gain or retain employment were unlikely to even look at, let alone question, its definitions or the basis of its theory.

Our analysis here indicates that PRINCE2 should be recognised as an ICT delivery product competing for more generic application, rather than the de-facto standard that it has become in the ICT world.

The definitional laxity in PRINCE2 demonstrates the dangers of the philosophical trend initiated by the family resemblance concept of definition Wittgenstein and Anscombe (1958) and continued to this day by Haugaard (2010) and others. This approach treats language as meaning, rather than as just another framework for representing meaning. It consequently excuses definitional looseness and ignores the importance of silent or assumed qualifiers, as pointed out by McGrath and Whitty (2017). It allows anybody to define anything they like without regard for the caution of John Stuart Mill mentioned above. This leads to the circumstance pointed out by Hobbes (1996, p. 24):

> For the errors of definitions multiply themselves, according as the reckoning proceeds, and lead men into absurdities, which at last they see, but cannot avoid, without reckoning anew from the beginning; in which lies the foundation of their errors.

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There is a further interesting consequence of PRINCE2 confusing the part of the lifecycle dealing with delivery of the project with the full project lifecycle. That part of the lifecycle may be appropriate for a government in-house ICT delivery shop but is severely lacking and inappropriate for broader government use. This indicates that the people who originally accepted this for universal British government application must not have been aware of this limitation and were not experienced enough in end-to-end project management to recognise that what was being promoted by the ICT area was not generically applicable to all other project types or to all other parts of the full project lifecycle.

PRINCE2 has now been reified to the point where certification is necessary to gain employment in many sections of the ICT industry. This provides an association with the self-assigned 'success' and 'best practice' labels before practitioners can do what really needs to be done. Such association is both false and totally unnecessary in environments outside ICT delivery shops.

Whether the features of using PRINCE2 identified here are viewed as just irritating or constitute show stoppers is up to the individual prospective user or organisation attempting to use it. However, given the number and nature of deficiencies identified here, we would certainly not recommend its adoption for infrastructure, or for ICT projects either, all of which have to have some pre-delivery work and where the initiating organisations don't deliver in-house, that will be contracted out anyway.

PRINCE2 appears to be a faulty product warranting total recall. We could not recommend if for use outside the ICT code delivery shop circumstance it was designed for.

One cannot help but marvel at such a stunning marketing achievement as mentioned in the introduction, for a product with so many basic flaws. This leads us to propose the following ten-phase lifecycle showing how an ideological error in a free society can progress from conception to mature solidity and grand disaster, based upon our examination here, combined with our experience and observation in practice:

1. Someone has an idea with some merit in some circumstances
2. The idea spreads within those circumstances
3. Wishful thinking occurs about its applicability to everyone/ everything else
4. The originator or early converts write a book and keep asserting its genericity
5. The idea becomes reified, attracting acolytes and commercial interest
6. Zealous, evangelistic marketing occurs and niggling difficulties are ignored
7. 'Thinking people', keeping up with modern trends, accept it as fact
8. It becomes a fad and peoples' livelihoods come to depend upon it
9. General delusion occurs and 'group think' suppresses any questioning
10. A paradigm/ quantum shift is then necessary to dislodge it.

Figure 1 lifecycle of an ideological error/ grand disaster

By the time an idea reaches Phase 10, it has solidified, and a new starting idea becomes quite difficult to generate.

Figure 1 parallels the Model for theory dynamics in Muller and Shao (2013, p. 141), but covers the circumstances where the paradigm has not developed from academic theory and/ or the discourse has not been sufficiently inclusive. It appears that a paradigm at the level of

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shared beliefs (as opposed to world view, epistemological stance or research model (Muller & Shao 2013, p. 145)) has been introduced and accepted within the project management field.

The results of this examination of PRINCE2 can perhaps serve as a wake-up call for the industry, both within infrastructure and ICT as well as within HR, procurement and stakeholder areas of project management and the wider field of general management.

The main lessons to be learned from our examination here of PRINCE2 may well be about the internal governance of the field in general that has allowed this to happen, and the impact of commercial influence upon 'standards' in a field looking to be regarded as a profession. We consider it undesirable for commercial marketing competition between rival products and the associated training industries that surround them to dominate the direction of the project management field. We also acknowledge the principle of caveat emptor. If the field had adopted or 'bought' an approach, it had some sort of responsibility to undertake due-diligence.

The engineering infrastructure area did not perceive the slow drift of its suppliers and support staff towards getting more and more out of control, as this was 'staff' and not 'line' activity, which wasn't the main infrastructure game; it was just 'management speak', which determined one's promotion, but there must have been some right answer for that determined by somebody else who knew about such things. That was not where the main procurement game with the big dollars and risks were perceived to be. This blindness by senior engineering infrastructure managers, metaphorically falling asleep at the project management wheel, considering the subject too theoretical and academic, allowed the developing adolescent area of ICT projects, struggling to propagate techniques born from its lack of success in achieving project management outcomes and self-labeling them as best practice for the rest of the field and all other project types to follow. Engineering infrastructure project management was already mature by that time but now has to deal with the confusion of inappropriate specialist ICT practices and terminology having been foist upon it.

The lack of academic scrutiny and failure to detect this trend which, to the principal author's knowledge, has been colloquially known to engineering project managers for nearly two decades perhaps indicates a similar degree of either slumber or blindness within the academic community and supports the need for 'pracademics' as advocated by Walker and Lloyd-Walker (2016).

Recommendations

In the spirit of its own words "In order to ensure that the project management method continues to be used effectively, the method must be managed on a day-to-day basis, with improvements being introduced, based both on experience in using it" (AXELOS 2017, p. 40), we recommend that:

1. the PRINCE2 definition of a project be amended from an organisation to an activity or undertaking and re-labelled as a definition of an ICT delivery project (for which PRINCE2 was designed),
2. all other occurrences of the word 'project' in PRINCE2 documentation be generally amended to 'ICT delivery sub-project',

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      3. the PMI definition of a generic project be inserted as the definition of a fully generic organisational project.

      4. the project board be re-labelled as an advisory group or co-ordinating committee

      5. all references to PRINCE2 being generic be replaced with 'generic to ICT delivery sub-projects'.

This would side-step the need to resolve the project-product conundrum and leave it to be dealt with back in the ICT delivery area where it originated.

We also recommend that non-ICT delivery projects use the PMBOK as it provides a much more appropriate framework with a full and clear lifecycle, uncluttered with a product versus project confusion and associated bureaucracy and unnecessary committees. This would also avoid the need for practitioners to resolve confusion over whether they need a guide, a standard or a body of knowledge or a methodology and over what combination of each might work best for them and how to put all that together into a PID and then figure out how that is supposed to work with a project plan. The average busy practitioner has little chance of doing this while delivering a project and it is not reasonable to expect this of every project manager, just so that one particular book can be used, and its associated training sold.

Limitations and future research

The limitation of this work is that it is based upon a document review. We were unaware of any successful infrastructure applications of PRINCE2 but that does not mean it is not possible that they may exist.

It may be of largely academic interest to attempt to determine the scale of possible losses resulting from attempts to apply non-generic theory. This would be a considerable challenge. Furthermore, surveying past troubled or failed implementations would also require a different paradigm of thinking; one that admitted the possibility that frameworks are fallible and should not be reified. It is likely that much of the necessary data would be unpublished, unavailable and difficult to obtain due to its potential for embarrassment and impact upon career and economic prospects. And if the data were available, it would be difficult to determine a proportion attributable to this cause. We consider it best approached by resolving definitions and standards as the past cannot be re-run, but we can, on the basis of new realisation make the future better.

It is also possible that this paper may tempt a commercial response in an alternative direction; by canvassing documented success stories. As observed above, much of the claims to best practise seems to have resulted from assumption, assertion and marketing, and it would be good to see some real data on actual delivery success. This would also test the proposition of Wells (2012) in the literature review regarding whether the frameworks or PMMs themselves may have contributed to project failures.

Observing the PRINCE2 looseness documented above, in not distinguishing between ICT projects in engineering infrastructure organisations and real engineering infrastructure projects, raises the question whether similar looseness may not have crept into categorisation of projects in success factor research. It is evident from our examination here that such research needs to clearly distinguish between true engineering infrastructure projects and ICT/ business type projects that just happen to be conducted within engineering infrastructure

organisations. Of course, it is also possible that engineering projects forced to adopt PRINCE2 may be reverting to the ICT success rates.

If the pattern identified in this paper represents a general human tendency, one wonders whether this same tendency for suppliers and support professions to get out of control to the point of seizing control, might not have occurred in other fields as well, where all the management 'stuff' is considered peripheral to the main game, such as in medicine. It is a potential danger in any field where the accountability for injury or loss of life that regulates the base profession, does not provide quite the same drivers to some suppliers and various support callings that may have no real accountability for this and can have the freedom to pursue economic drivers. Future research in that area may be useful.

Conclusion

This paper has found that there are quite significant areas of difficulty in applying PRINCE2 to engineering infrastructure projects, confirming the comments resulting from the practitioner interviews that prompted this research. It finds that PRINCE2 cannot claim to be generic in the engineering infrastructure space and therefore cannot reasonably claim be considered best practice for it.

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The suitability of MSP for engineering infrastructure

ABSTRACT

This paper arose from empirical investigations of practitioner views of both governance and program definitions together with investigations of practitioner reference documents. These investigations indicated that some confusion had arisen in infrastructure project management as a result of approaches used in IT. This paper contributes to the literature evaluating project standards and methodologies by conducting an examination of the suitability of one such source (MSP) for use in in engineering infrastructure program management. A deductive definitional approach is taken to identify features that could cause difficulty. Eight features were examined and six were found to have difficulty in application to engineering infrastructure. The remaining two were found to be terminology differences that are unlikely to cause too much difficulty. The features causing difficulty include inappropriate definition of a program, use of a non-generic process flow unsuitable for rolling programs, confusion of transformation projects with programs, presumption of a board governance model, and confusion of large projects with programs. The paper concludes that MSP is quite poorly suited to managing rolling programs, whether they are in engineering infrastructure or IT. Various changes to MSP and PMI publications are recommended.

KEYWORDS: benefits realisation, change management, portfolio management, program management, programme management, project management, transformation, definition

Introduction

Author-Withheld (Under submission-a) [Program practitioner - Part 3 Paper 5] interviewed a sample of experienced project management practitioners with backgrounds including engineering infrastructure and ICT and found a state of confusion around what a program actually is. This had reached the level where one engineering infrastructure organisation had actually attempted to ascribe different meanings to the two different nationality spellings of the word, program and programme. Some of the practitioners from this organisation said their terminology had originated from MSP. This raised the question of the suitability of MSP for engineering infrastructure use. The paper concluded:

> the notion that a program must be transformational is not generally accepted among practitioners. In some cases, in engineering infrastructure, it was unheard of and it was not even accepted by all ICT project practitioners interviewed. It also found that activities thought to be generic within ICT projects have been problematic when transferred to other fields. This indicates a need to agree and adopt an internally

consistent set of definitions of project, program and portfolio across the whole project management field.

This latter task has now been done by McGrath and Whitty (2019a) who developed a set of mutually consistent definitions of program and associated terms. They noted that adoption of these definitions would provide consistent terminology and would also require changes to all the documents examined, which included PRINCE2 and MSP. Their finding that these documents had defined the terms project and program in terms of an organisation, rather than of something to be achieved, is of concern for their application to infrastructure; it indicates an internal organisational focus, which IT projects must deal with, but this is not the case for many engineering infrastructure projects which are 'bread and butter' for their organisations and involve no process change within their organisations.

Similarly McGrath and Whitty (2019b) confirmed that the confusion in governance terminology present in academic publications was also present in their practitioner sample. They analysed factors contributing to this confusion and found altruistic desire for the greater good, mixed in with dogmatic belief in adopted frameworks being at the service of ego and promotion prospects. This is hardly a background for establishing objective truth and assertions of generality can serve the more base motives identified. This further indicates the advisability of subjecting well known IT documents to some scrutiny as to their actual universality/ genericity. They concluded there was a need to examine the definitions of governance terms in practitioner reference documents and methodologies. This was subsequently done by Author-Withheld (Under submission-b) [Governance Documents paper - Part 2 Paper 5] who assessed thirteen different documents and found inconsistent terminology across them. They noted that adopting the McGrath and Whitty (2015) definitions would provide consistent terminology and would also require changes to most of the documents examined including PRINCE2 and MSP.

Similarly, Author-Withheld (Under submission-c) [PMM Practitioner paper - Part 3 Paper 6] investigated practitioner use of PMMs and found explicit claims that PRINCE2 was unsuitable for engineering infrastructure. This has also subsequently been investigated by Author-Withheld (Under submission-d) [PRINCE2 paper – Part 3 Paper 8] and found many items of difficulty for engineering infrastructure. Given the problem with defining a project as an organisation in both PRINCE2 and MSP, and the problems with differing lifecycle and product versus project focus, and the lack of credible references in the PRINCE2 manual to engineering infrastructure projects and the fact that MSP was designed as a companion product for PRINCE2, this further highlights the need for independent review of MSP.

The benefits of using a project management methodology have been considered obvious, as is evident from the success of the worldwide marketing of PRINCE2, MSP and associated products. KnowledgeTRAIN (2017, p. 380) states under its FAQs for PRINCE2 online courses that "In total, more than 1.4 million examinations have been taken worldwide since 1996. Of these, almost half were taken in the UK". This comes despite a lack of empirical evidence as to their efficacy and views having been published to the contrary as noted by Wells (2012). It was not until some years later that Joslin and Müller (2015) were able to quantitatively demonstrate some positive impact of a project management methodology (PMM) on project success. They found that "the application of a PMM accounts for 22.3% of the variation in project success". This was hardly a resounding endorsement. MSP and

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PRINCE2 came from the ICT area in the British Government Office of Government and Commerce (OGC). PRINCE2 evolved from PROMPT which was released in 1975 according to (McKenna & Whitty 2012, p. 9) who noted that it was developed to save money in ICT projects. Marketing it beyond IT therefore presumes that it is suitable for universal application, yet the above references indicate the possibility this may not actually be so.

Introducing MSP into an engineering infrastructure organisation will generally involve replacing some existing method or practices, as such organisations generally have rolling programs of work. The question of replacement of methodologies is current, as the following quotation indicates:

> When an organization is considering the replacement of an institutionalized project methodology (including a project methodology with derivatives), the importance of context should be understood and how this is reflected in the incumbent methodology. With this information, an informed decision can be made. For project managers using a project methodology, there is a risk of suboptimal project performance, because the effectiveness of methodology elements may be negatively impacted by environmental factors (Joslin & Müller 2016, p. 380).

Program management standards have been published in both the United Kingdom and in the United States of America. The English MSP has had four editions - 1999, 2003, 2007 and 2011. The American Standard for program management has also had four editions - 2006, 2008, 2013 and 2017. The 2006 edition refined a rather coarse treatment of program and portfolio management in Project Management Institute (2003), which contained exactly the same processes for portfolio and program management as for projects, with word substitutions for each management type.

Dale (2007) noted "there are serious underlying, structural problems to PRINCE2 and related methodologies". MSP is a methodology closely related to PRINCE2. Wells (2012) concluded "Most project managers perceived the prime purpose of PMM to be management, control, and compliance rather than support and guidance... 47.9% of project managers… claimed that using PMMs hinders their project delivery"..

Given the doubt arising from the above sources, an explicit examination of the suitability of MSP for engineering infrastructure use appears warranted.

It goes without saying that practitioners are not academics; they therefore do not have free access to academic databases. For them to access the MSP manual, they would have to attend an ICT project management training course, a prospect with little appeal to engineering infrastructure project managers. This results in the details of its contents being outside their field of view. We therefore assess the suitability of MSP for engineering infrastructure use by examining the contents of various editions of its manual.

Before doing so, we first review the literature to see what other previous such reviews may have been undertaken. We then design the research, examine the MSP manual and report our findings.

Literature review

This paper contributes to the literature evaluating project standards and methodologies and so its purpose is quite narrow; it is to determine if any previous examinations of this nature have been conducted. This requires careful consideration of database search terms. We first establish the structure of a systematic literature review and then conduct it.

Search structure

Any review of the suitability of MSP for engineering infrastructure use would have to mention its acronym as well as "program management" and infrastructure or engineering somewhere in its abstract. We refer to the first two of these search terms as Group 1 and the second two as Group 2. The abstract would also have to use the word evaluate or evaluation, examine, examination, assess or review, as such an exercise could not be undertaken to the necessary depth as a by-the-by on something else. We refer to these search terms as Group 3. Group 4 search terms would then include value, effectiveness, success, define or definition, methodology. The search method was to progress through these from 1 to 4.

Search results

Searches of all <u>EBSCO</u> aggregator databases were conducted on 16/2/2018 for both Group 1 terms and one Group 2 term in the abstract. These returned no results for the meaning of the MSP acronym we are considering, precluding the need for further searching using any of the remaining groups.

Similar searches of Emerald databases were conducted with the same result. We also searched in Taylor and Francis, which does not support searching abstracts, so 'anywhere' was selected and the result was the same. This would seem to indicate the strong possibility that there have been no critical reviews of MSP from any perspective, ICT, engineering infrastructure or otherwise.

We then tested the search term selection by searching more generally in EBSCO for "program management" in titles and method in abstracts. This located 79 items, 42 of which were non-duplicates. All abstracts were inspected. Many evaluated program performance rather than any program management method, and none dealt with evaluating MSP. One of these papers by Todorov (2014, p. 822) was instructive on the lack of definitional agreement on program management. He noted there were many definitions of program and project management, acknowledged the need to analyse and investigate the differences between them, but said that was outside his study scope. This further and more general search did not therefore indicate any problem with the search terms.

Having therefore established as far as can reasonably be determined that there had been no previous reviews along the line we are investigating, we will proceed.

Research Question (RQ)

Posing a research question inductively would require establishing probabilities and confidence limits to ultimately making a subjective value judgement. This would not be appropriate for our purpose and ultimately the research question needs to be such that any features that may be unsuitable are identified. The research question is therefore posed deductively as follows: Are there any features of MSP that make it difficult to apply to engineering infrastructure programs?

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Research Design

As we are seeking to review using deduction rather than induction, use of a qualitative approach is appropriate.

Determination of source documents together with the methods of analysis and evaluation are set out below.

Sources selected for examination

We will principally examine the latest (2011) version of the MSP manual. We also consider the 2007 and 2003 versions where appropriate due to their impact upon current practice.

Method of analysis

We analyse key features of MSP and its definitions of terms that are likely to differ between engineering infrastructure and the ICT area where it originated.

We also compare MSP principally with the standard for program management from PMI, which we will term TSPGM, to provide an independent comparison for reference purposes. We will refer principally to the latest (2017) edition but will reference earlier editions where appropriate and will also draw from the PMBOK where necessary.

We then determine whether the particular feature being considered is actually generic, applicable to all project/ program types including engineering infrastructure, or something peculiar to the nature or content of ICT.

Evaluation method

If we cannot find anything that would make application to engineering infrastructure difficult, then the answer to the research question will be 'none that we have been able to determine'. If we do find any, then the proposition is established that there is some difficulty in applying MSP to the program management of engineering infrastructure and we will then assess the degree of difficulty they may cause.

Presentation method

Some of the features examined are interrelated and the order of reporting has been selected so there is a flow to the pattern that emerges.

The examination of each feature is presented in a format that has an analysis section with quotation(s) from MSP, quotation(s) from the Standard for Program Management (TSPGM) and other relevant sources, and analysis of these quotations followed by a discussion section to identify any inconsistencies, trace their origin and explore their implications.

This is done progressively for each feature examined. This is quite different to the conventional academic paper format of reporting numbers of observations and then discussing them collectively at the end. To have followed that format would have resulted in a disjointed presentation without flow, containing unnecessary repetition and irritation for the reader, constantly having to refer back to earlier pages. An overall summary Table 1 is then presented before the implications are holistically assessed in the observations section at the end.

Examination of MSP

Eight features of MSP are considered in the following sections.

Overall structure of the manual

Analysis

MSP has ten chapters on 'The Governance Themes" (Overview, Programme Organisation, Vision, Leadership and Stakeholder Engagement, Benefits Management, Blueprint design and Delivery, Planning and Control, The Business Case, Risk and Issue management and Quality and Assurance management) and seven chapters on 'The Transformational Flow'. This flow is given as the program process flow (Office of Government Commerce (OGC) 2011).

The Standard for Program Management (TSPGM) 2017 has sections titled program management performance domains, with these domains following on as section headings; program strategy alignment, program benefits management, program stakeholder engagement, program governance, program lifecycle management and program activities (Project Management Institute 2017a). This was a change from the 2008 edition which had two principal sections, one dealing with the program management framework and the other dealing with the program management process. The framework set out the program lifecycle and had three themes across it (benefits management, stakeholder management and governance). The process section set out the five process groups which aligned with the PMBOK (Initiating, planning, executing, monitoring/ controlling and closing). It noted "These Process Groups are not linear and… do not bear any direct relationship to phases of a program life cycle" (Project Management Institute 2008, Section 3.2).

Discussion

The principal difference is that MSP is based upon 'transformation' whereas TSPGM is not. This is discussed in detail under the transformation heading below.

Some of the themes, when TSPGM had themes, were common. TSPGM now has them as performance domains, but still does not label them as governance, as MSP does. MSP includes under its governance themes many things which, according to McGrath and Whitty (2015), do not constitute governance. Only part of two of the items MSP lists meet their definition of governance; these are control and assurance, with the rest being elements of either strategy or project management. MSP therefore constitutes some combination of differing, overlapping frameworks, tempting confusion of the nature documented in McGrath and Whitty (2015).

Program Definition

Analysis

MSP defines a Programme as:

> A temporary flexible organization structure created to coordinate, direct and oversee the implementation of a set of related projects and activities in order to deliver outcomes and benefits related to an organization's strategic objectives. A programme is likely to have a life that spans several years (Office of Government Commerce (OGC) 2011, Glossary).

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MSP defines program management as: "The coordinated organization, direction and implementation of a dossier of projects and transformation activities (i.e. the programme) to achieve outcomes and realize benefits of strategic importance" (Office of Government Commerce (OGC) 2011, Glossary).

TSPGM 2017 defines a program as "Related projects, subsidiary programs, and program activities managed in a coordinated manner to obtain benefits not available from managing them individually" ogc2017 P164. TSPGM 2008 defined a program as "A group of related projects managed in a coordinated way to obtain benefits and control not available from managing them individually. Programs may include elements of related work outside of the scope of the discrete projects in the program" (Project Management Institute 2008, Glossary).

TSPGM 2017 defines program management as "The application of knowledge, skills, and principles to a program to achieve the program objectives and to obtain benefits and control not available by managing program components individually" (Project Management Institute 2017a, p. 166). TSPGM 2008 defined program management as "the centralized coordinated management of a program to achieve the program's strategic objectives and benefits" (Project Management Institute 2008, Glossary).

Discussion

MSP provides a definition of a programme that restricts it to those large enough to require establishment of a separate organisation. This describes a program in terms of one facet of its delivery rather than reaching into, going beyond self-absorption with how we do what we do, and describing its essence. This definitional error appears to be a flow-on from the PRINCE2 definition of a project as an organisation (AXELOS 2017; Murray 2009).

A programme has to have some sort of purpose to produce some outcome and it is the realising or the delivering of that purpose, in other words, the activity or the endeavour to produce it, which is its essence, not the incidental organisation that happens to become an administrative necessity to deliver anything of any size. The existence of an organisation provides evidence that a program exists at the time the assets, products, services or results are being created; but this is not the essence of what it is. A program does not have to have an organisation built around it to be a program, as anyone who has single-handedly managed a program can attest. A program administered by one person does not become not a program just because there may be no recognised organisation attached to it. Of course, the important matter of studying programs from an organisational perspective is a completely different matter to actually defining them as their organisations.

This is not an encouraging start, when the definition of the very thing MSP is supposed to be about is so fundamentally flawed. It tempts the question that if MSP does not even know what a generic program is, how can it possibly be generically useful for any program at all, let alone for the whole project management world? However, to admit the possibility this may be a simple mislabelling, having little effect on the actual method, we will continue, but we will also consider the suitability for ICT of the features examined. Given that it has taken this examination to bring this to light, the suspicion arises as to what other non-generic things may have been assumed in long-forgotten times in PRINCE2/ MSP history and propagated to the current day, and whether any of these might also not be generic to non-ICT practice. Of course, full examination of the genericity of MSP for ICT in any other of its features is outside the scope of this investigation.

The PMI definitions at least attempt to define what it is rather than how it may be implemented. The 2008 TSPGM definition of a program at least referred to a group of projects which it then qualified, unlike its 2017 edition, which effectively just says it is 'this, that and the other' and would qualify as a non-definition. Its 2017 definition of program management as an 'application of' is also non-definitional.

Process flow

Analysis

MSP uses a transformational flow which has steps of policy/ strategy/ vision driving identifying a programme, defining a programme, managing the tranches, delivering the capability, realising the benefit and closing (Office of Government Commerce (OGC) 2011, Section 13.1).

TSPGM 2017 contains no mention at all of process flow. TSPGM of 2008 had a process flow with three phases – definition, delivery and closure (Project Management Institute 2008). TSPGM 2017 instead re-labels these process flow phases as program lifecycle phases in a section on program lifecycle management, with the same phases of definition, delivery and closure.

Discussion

Note that MSP was first published in 2003 and the first edition of TSPGM was published three years later in 2006. It therefore had the opportunity to be influenced by MSP. Both are concerned with program establishment and closing, both of which are unnecessary for and not generic to rolling programs. If a program is accepted as a collection of projects (rather than an organisational transformation), then individual projects can come into a program, be completed and go out of that program. In our experience, many engineering infrastructure programs have no recent start and no anticipated end. Organisational transformational change generally has a start and an end. This means for the term program to be generic, it must have a different timescale to a project or a transformational change and does not have to have an intended end. It may have an accounting end each financial year but not an actual end. Any power or road authority has an ongoing rolling program that will have been running in some form since its establishment and will be expected to continue indefinitely to meet increasing demands of population growth. Here, the program start or end will be so far away as to be irrelevant, so a methodology based around transformation, where such activities may well predominate is likely to be quite skewed in a non-useful direction. In these types of organisations, new names may be given to new buckets of money, but often the only establishment needed will be to allocate the charge code so that the organisation that is already established to deliver can just get on with it. So it is evident that MSP has been based on a particular program characteristic that is not generic.

While the possibility that opening and/ or closing may not be required is alluded to in Office of Government Commerce (OGC) (2011, Section 1.7), overlooking this may well lead to inappropriate adoption and to difficulties if the methodology is rigorously applied such that these establishment and closing processes are artificially created regardless of appropriateness. The technique of allowing omission of sections inapplicable to particular project types or scale does provide a means of adapting methodology to circumstances, but it can also indicate that a non-generic characteristic has been chosen as the base model. The

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latter is indicated if the key features selected for inclusion in the generic model are optional, as is the case here.

Any project team bringing about a change to program management (such as introducing MSP) will need to be established but whatever existing program team that is already there does not. To avoid this problem, the project introducing the change needs to be managed separately from the subject program being changed. But by regarding transformation as a program, MSP in its process flow invites management of that project into the workings of the program, where imposing artificial creation of establishment activities upon an organisation that is already established runs the risk of ridicule, convolution, confusion and organisational rejection.

The process flow effectively assumes that whatever is being done is new and that any other program management system needs to be supplanted or 'transformed', requiring this establishment or takeover activity. It does not allow for prior existence. This may have been the case within ICT at the time MSP was developed but was certainly not the case for engineering infrastructure, which was well established at the time when ICT was developing.

Any system claiming to be generic would have to have its key process applicable to either new or existing programs. We therefore conclude that the MSP process flow is not generic.

Transformation

Analysis

"MSP programmes are all about delivering transformational change" (Office of Government Commerce (OGC) 2011, Section 13.1). MSP's association of programs with transformation was present in the UK Government Office of Government and Commerce (2003, pp. 469,70) definition of programme management as "the co-ordinated management of a portfolio of projects that change organisations to achieve benefits that are of strategic importance". This implied a definition of programme as something that changes organisations. This definition later changed to "the action of carrying out the coordinated organisation, direction and implementation of a dossier of projects and transformation activities (i.e. the programme) to achieve outcomes and realise benefits of strategic importance to the business" (Office of Government Commerce 2007, p. 4). This introduced transformation into the definition, which later changed marginally to "The coordinated organization, direction and implementation of a dossier of projects and transformation activities (i.e. the programme) to achieve outcomes and realize benefits of strategic importance" in Office of Government Commerce (OGC) (2011, Glossary).

TSPGM 2017 does not require a program to be transformational. It mentions the word 'transform' only once, and that is incidentally in discussing complexity (Project Management Institute 2017a, p. 32). TSPGM 2008 did not require a program to be transformational, saying:

> Managing multiple projects by means of a program allows for optimized or integrated cost, schedules, or effort; integrated or dependent deliverables across the program, delivery of incremental benefits, and optimization of staffing in the context of the overall program's needs. Projects may be interdependent because of the collective

capability that is delivered, or they may share a common attribute such as client, customer, seller, technology, or resource. (Project Management Institute 2008, Section 1.2).

Discussion

Engineering infrastructure projects and programs are not about changing organisations and so this basic premise of MSP is not generic.

There is a further problem with grouping. The 2003 MSP definition made it clear that the intent was to coordinate a group of projects that would change an organisation. The 2007 definition appeared to somewhat inconclusively relax this requirement, allowing inclusion of a group of projects as well as transformation activities, provided they all served some strategic intent for the business. It also corrected the earlier positioning of the portfolio level below the project level by replacing 'portfolio' with 'dossier'. The 2011 change broadened the program management ambit beyond a single organisation and removed reference to it as an action, reverting to the original coordinated management type definition. So the 2003 misconceptions appear to have cast a long shadow which still causes confusion, as is evident from this sequence of changes as well as from the data collection which prompted this examination (McGrath & Whitty 2019b). Furthermore, the 2007 change (to accept a group of projects whether they are transformational for the business or not) appears to have been cosmetic rather than substantial as indicated by its basic reliance on programs being transformational remaining in the structure of its manual. Its statement of intent quoted at the beginning of this section clearly has not changed. It is evident that transformation was integral to the design of MSP and is still a key feature and so any suitability for application to non-transformational programs is accidental rather than by design.

While it is likely that any sizeable ICT project that may be labelled as a program will change an organisation internally, to generalise that all types of programs are transformational, is false. Engineering infrastructure projects and programs are transformative for the communities they are delivered in but are not generally so for the organisations delivering them. Engineering infrastructure projects are generally business as usual (BAU) for these organisations and so do not require some different technique appropriate for internal transformation from some other field to be inappropriately applied, regardless of whether it has been labelled as best practice within that other area or not. MSP does not use generic characteristics of programs. It uses a sub-set suitable for use in ICT programs managing development of multiple products with a common transformational purpose within a single organisation. Organisational transformation is not integral to engineering infrastructure projects and programs.

MSP's table of contents indicates that transformation is central to the document, with the only flow given being that for transformational flow. It asserts "MSP represents proven good practice in programme management in successfully delivering transformational change" (Office of Government Commerce (OGC) 2011, Section 1.1). It also says "Programmes may be set up to deliver change in parts of an organization, across the entire organization, across more than one organization, or in the environment in which the organization operates" (Office of Government Commerce (OGC) 2011, Section 1.7). There is no distinction made here between internal or external transformation. However, there is a statement on programme impacts which does differentiate between what is rather awkwardly termed

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"specification-led" programmes and those which are transformational: "A major capital construction programme" is given as an example of a "specification-led" programme and the following (under) statement is made: "MSP's approach can be used in this type of programme but may need to be scaled down, as some of its elements may not be required" (Office of Government Commerce (OGC) 2011, Section 1.7).

MSP is thus heavily weighted towards transformation and therefore towards an ICT environment. Its applicability within an engineering infrastructure project environment must consequently be considered limited and if it is used in that environment, then considerable caution needs to be exercised regarding underlying methodology, terminology and assumptions. MSP actually provides a process for managing organisational transformational projects and would be best labelled as such (MTP) to avoid confusion in non-ICT areas as well as non-transformational areas within ICT. Note we have deliberately used the term 'project' here rather than 'program'. Puffing up the importance of an undertaking by attaching a higher-level label to it may advantage its proponents and fascinate those being influenced but does not produce clarity. MSP has two instances of this 'upwardly mobile' labelling; one in mislabelling a transformational project as a program and another in capitalising on the label by adding some cosmetic words to make its existing process look more generic than it actually is to all other project types. PRINCE2, from whence MSP came, encouraged multiple separate micro-level product development projects to be created, as noted by Wideman (2002), producing a management gap which MSP filled by bringing their management together under the banner of dealing with a single organisational transformation.

The process flow makes it obvious that it was designed for a single large organisational transformational project. It has a start and an end like a project, not a program (which, as discussed in the previous section, does not need to have a start or an end).

Specification-led projects

Analysis
MSP uses the term "specification-led" projects (Office of Government Commerce (OGC) 2011, Sections 1.7, 1.8) referring to engineering infrastructure projects.

TSPGM 2017 does not use this term.

Discussion
Infrastructure projects are not led by their specifications. They are led by some form of community need that they will fill. From an ICT perspective where the business requirements specifications (BRS) may be continually variable, it may seem that the difference between project types relates to the characteristics of engineering specifications being fixed in advance. These projects may appear from an ICT perspective to be led by their fixed specifications, but the term is not one that would be used or even recognised by engineering infrastructure project managers. Engineering specifications ensure people don't get killed. ICT specifications ensure people don't become unhappy.

Governance board requirement

Analysis
MSP defines a Programme Board as "a group that is established to support an SRO in delivering a programme" (Office of Government Commerce (OGC) 2011, Glossary), and

says "The SRO will be personally accountable for the programme's success. The SRO… should be appointed by the sponsoring group at the earliest opportunity" (Office of Government Commerce (OGC) 2011, Section 14.4).

TSPGM 2017 allows either a board or a steering committee P2, 61, 78, 167. It alludes to the possibility of optionality in places, for example in saying "Most organisations seek to ensure appropriate program governance by establishing program steering committees" (Project Management Institute 2017a, p. 81), although this could also be interpreted as asserting it is universally good because most do it and so the reader should also do it. It mostly seems to presume existence of such a body, saying, for example in Section 3.2 that it authorises the program by means of the program charter and that "The program steering committee is responsible for defining the types of changes that a program manager would be independently authorised to approve" (Project Management Institute 2017a, pp. 36,74).

Discussion

MSP therefore makes a similar type of presumption that (Author-Withheld Under submission-d) noted PRINCE2 does; that a program board is actually required for all programs. Furthermore, by saying the SRO is accountable, it is saying that the board is not. Corporate boards have accountability so labelling this committee as a board is over-labelling.

While many ICT programs may require a committee to provide advice and coordinate users, such a board or steering or advising committee is unnecessary for many small to medium sized engineering programs. In our experience, many such programs are successfully managed by one person, without a board. The governance model of PRINCE2 therefore appears to have infected MSP. The requirement for a board is not generic.

TSPGM 2017 appears to have followed a similar approach of presuming a board or steering group is necessary while admitting a small possibility of flexibility on this.

A program as a large project

Analysis

MSP offers Table B.2 which "will help to differentiate a programme from a corporate portfolio or a large project" (Office of Government Commerce (OGC) 2011) Appendix B2. This table lists programme characteristics as including" there will be an end point at which the programme will be focused" and "Planning will be oriented to delivering outcomes through tranches and managing project interdependencies".

TSPGM 2017 contains no mention of 'large project'. The PMBOK simply states "programs are not large projects" (Project Management Institute 2017b, p. 11). TSPGM 2013 said:

> "programs" include large individual projects or a single large project that is broken into more easily managed subordinate projects. Because these efforts are more accurately characterized as projects—not programs—they remain within the discipline of project management and, as such, are addressed in the PMBOK Guide. When the management of these efforts results in the delivery of an individual or collection of benefits, and effective control is not achievable by managing the individual projects or components as separate initiatives, the effort may be defined and managed as a program as described in this standard" (Project Management Institute 2013, Chapter 1).

Discussion

These MSP statements are at odds with it being used for rolling programs where there is not a single focused endpoint, or for programs with projects that are not interdependent. MSP through its basis in the transformational process, in effect self-declares its unsuitability for these purposes.

Infrastructure programs usually have projects that are effectively competing for inclusion (= funding). Omission may have serious consequences for individual project proponents, but the program can easily include other projects. Project independence and competition signal the existence of a program, whereas project interdependency signals the existence of a (complex) project. The notion of interdependent projects comprising a program is inapplicable to engineering infrastructure. While there may be network interdependencies between the competing projects, this is completely different to management interdependency, which is what we are considering here.

Regarding a program as a large project also risks confusion over what methodology to use – program or project. This was unnecessarily tempted by labelling an organisational change project as transformational and therefore a program, rather than a project.

Further to the observation in the transformation section above that PRINCE2 left a project level management gap for filling by MSP, we also note that although PRINCE2 gives a process for managing iterations of the production of product(s) it does not say how these might be brought together. It calls upon external means, saying "Although PRINCE2 does not prescribe the use of any particular project lifecycle, it does require that one be used" (AXELOS 2017, p. 276). This means that PRINCE2 effectively self acknowledges it has a project level gap but has been 'upwardly labelled' as a project methodology. Re-labelling MSP as suggested above would remove the interactions between activities that industries outside ICT would regard as being within the ambit of project management and take them out of the program arena where they can cause confusion.

Use of the term infrastructure

Analysis

All occurrences of the word infrastructure in the document were examined. Most of these refer to the program infrastructure such as office accommodation, computers, office equipment and configuration management (Office of Government Commerce (OGC) 2011, Section 15.2). None provide any evidence of demonstrated suitability for engineering infrastructure.

TSPGM 2017 refers many times to 'program infrastructure', once to financial infrastructure but not at all to engineering infrastructure. TSPGM 2008 similarly had references to "technical infrastructure to support the program" (Project Management Institute 2008, Section 2.3.6) and no references demonstrating suitability for engineering infrastructure.

Discussion

This usage of the term, although unusual, is unlikely to cause serious difficulty as it stays within the bounds of what can legitimately be labelled as infrastructure, albeit over-blown or over-labelled. Simple use of the term program resources would be more appropriate. Use of the term infrastructure does not transmute into applicability for engineering infrastructure, which usage of the words may tempt the reader to believe.

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Summary of findings

The results of this examination are summarised in Table 1 below.

Table 1

Summary of examination of MSP

MSP feature	Suitability/ Genericity for engineering infrastructure (EI)	Suitability/ Genericity for ICT
Overall structure	Based on a program being transformational. Governance processes include many things that are strategy or project management rather than governance, tempting confusion with overlapping frameworks.	Not designed for non-transformational ICT projects/ programs. Governance processes include many things that are strategy or project management rather than governance, tempting confusion with overlapping frameworks.
Program definition	Inappropriate definition of a program as an organisation.	Inappropriate definition of a program as an organisation.
Process model/ flow	The focus on establishment and closing activities is irrelevant to rolling programs.	The focus on establishment and closing activities is irrelevant to rolling programs.
Transformation	Inappropriate as most engineering infrastructure programs are transformational for the community and not for the organisation they are delivered within.	Inappropriate for non-transformational ICT projects/ programs.
Specification-led	Inapplicable – Engineering infrastructure specifications are mature and do not scope the projects.	
Governance requirement for a Project Board	Inappropriate for many programs that don't have or need one.	Inappropriate for any ICT project/ program not needing one.
A program as a large project	Inappropriate as large engineering infrastructure projects are not managed as programs. Confuses transformation projects with a program.	Fills the project management gap for PRINCE2 product-based component projects needing coordination but causes/ contributes to confusion on whether a large project = a program.
Use of the term infrastructure	Used to mean office accommodation, computers, office equipment and configuration management.	

Table 1 can be further summarised as follows: MSP assumes:

- Transformational projects are programs

- Programs have a similar timescale to projects, as its process requires openings and closings
- All programs require boards

None of these are generically appropriate to engineering infrastructure. MSP also uses ICT definitions that are not generic to other fields, such as program infrastructure and specification-led projects.

Given the nature and the number of areas of difficulty identified, the answer to the RQ is clearly yes, there multiple features of MSP that make it difficult to apply to engineering infrastructure projects. Furthermore, some of the difficulties identified also extend to some ICT projects as well. MSP is not generic for engineering infrastructure and therefore cannot be considered best practice for it.

Observations

A pattern of sequential compounding mistakes emerged from this analysis and that of PRINCE2 by (Author-Withheld Under submission-d), which we now attempt to make some sense of. It appears to have commenced with PRINCE2 assuming a product rather than a project base, leading to a project level gap that MSP filled by collecting the product delivery cycles together that PRINCE2 had labelled as projects. This created the illusion that MSP was designed for the program level. The opening and closing mirrored the selection of the product delivery cycle, rather than a project cycle as the basic PRINCE2 process. The relativity of the timescales actually looks right, with program being longer than project. However, the time taken to produce any single product will always be shorter than the project which it is part of anyway, and so this does not 'transform' a project into a program. This inconsistency had to have been either not noticed or overlooked, as MSP's design for and labelling as organisational transformation, meant that these projects had to then be (mistakenly) labelled as programs. This confirmed the mistake of regarding a large project as a program. Having made this mistake and based the whole framework on it, there was no turning back. Definitions were changed in 2007 to allow groups of projects as programs, but this was cosmetic as the process it was based on did not change. This then tempted the further mistake of applying MSP to a long-standing program by looking for and creating artificial openings and closings when it is the project that is to install MSP that has the opening and the closing, not the base rolling program that it is being applied to.

MSP has assumed some things are generic to all program types that are only generic to some ICT delivery projects. This highlights the dangers of assuming things that may seem generic in one field and applying them without adequate checking across all others. This can be very difficult to detect, requiring a forensic examination such as this to uncover.

The issues identified with MSP have hidden behind the pay-wall of commercial training. We only discovered them by accident, having never found it necessary to use MSP in our practice nor having observed it successfully used anywhere in the industries we work in. We just happened to be researching project methodology effectiveness, have a focus on definitional matters, which many others would not, and had access to academic sources not generally accessible to practitioners. This meant we had free access to the materials without having to pay for and attend training that would have otherwise been unnecessary for us. This highlights the dangers of de-facto standards being under commercial control and not being

readily accessible to general critical scrutiny. There was little chance of engineering practitioners paying for and then spending days attending training in a field they do not practise in, on the off-chance of finding some internal inconsistency in it. Even practitioners in the ICT field needing certificates to gain or retain employment were unlikely to even look at, let alone question, its definitions or the basis of its theory.

Our analysis here indicates that MSP should be recognised as an ICT delivery product competing for more generic application, rather than the de-facto standard that it has become in and beyond the ICT world. It is not generic for engineering infrastructure and therefore cannot be considered best practice for it.

Whether the features of using MSP identified here are viewed as just irritating or constitute show stoppers for individual prospective engineering infrastructure users or organisations attempting to use it is up to them. However, given the nature of deficiencies identified here, we would certainly not recommend its adoption for engineering infrastructure. It may not be impossible to manage an engineering infrastructure program using MSP, but it would be painfully irritating because of its transformational assumption, non-generic process flow, odd terminology, sweeping statements about project inter-relationship/ common transformational purpose, and its concomitant invitation into bureaucratic ICT micro-management. It has, of course, incorporated generic material sufficient to make it not impossible to apply, but much of the document would have to be ignored, and the user may not have the background theoretical knowledge to know which sections are inappropriate and in what way.

We also note the implications of the differences between engineering and ICT specifications. Engineering specifications result in large measure from past disasters. When people's lives are at stake, piercing research is done into the failure. The causes are identified, published widely and incorporated into future specifications. There is nowhere to hide. While some ICT specifications certainly may have similar consequences, most do not and are largely about satisfying user requirements, i.e. making people happy. When an ICT disaster occurs, the public interest in the scandal blows over. Blame disbursement and avoidance is possible and can be subject to influence. This difference perhaps indicates a need for increased academic vigilance and investigation in these areas, together with a need for 'pracademics' in project management (Walker & Lloyd-Walker 2016) to even locate the areas needing (perhaps unwelcome) attention.

We also note that the long period of consensus making in developing ISO21500 between 2007 and 2012 (Sadeanu, Candea & Bodea 2013) was primarily concerned with keeping the field together, as noted by Crawford, Pollack and England (2007). That meant that no outcome critical of any commercially available product was likely to see the light of day at that time. However, political compromise does not necessarily produce coherent consistency, which we can now seek.

Recommendations

Our recommendations for any engineering infrastructure organisation being forced to adopt MSP to manage existing ongoing programs are as follows:

1. Ignore the definition of a program as being an organisation
2. Ignore all sections dealing with establishment, openings and closings
3. Ensure continued alignment with strategic direction

4. Continue doing what you have already found to work
5. Monitor, review and evaluate and
6. Use the new label for appearance and to appease higher management.

These recommendations will do nothing to advance the field of study (which should substantially be the province of academics anyway) but may assist practitioners to both survive organisationally and avoid creating new disasters with the changeover.

Our recommendation for MSP is that it be revised as follows:

1. The definition of a program be amended to those recommended by McGrath and Whitty (2019a) as
   a. Program(me) = a planned series of related things.
   b. Organizational program = a group of related projects.
2. MSP be re-labelled as MTP, Management of Transformational Projects, to reflect its true design, consistent with the product rather than project base of PRINCE2
3. The program board be made optional and re-labelled as an advisory group or co-ordinating committee to avoid dispersing accountability.

Note that use of the word 'related' rather than 'interdependent' in the suggested definitions above this leaves the nature of the relationship completely open. Note also that the suggested definitions also contain no mention of transformation.

We also recommend that PMI revise its Standard for Program Management to add optionality to the program definition and program closing processes, as well as ongoing review of effectiveness to accommodate the timescale of rolling programs. Furthermore, any establishment of a new program can be handled by a project process anyway. It is the projects that are temporary, not the programs. While engineering infrastructure programs to satisfy ongoing long-term needs may, on occasion, end up being short-lived (temporary), this is generally the result of political mishap rather than design. We suggest inclusion of more generic activities such as ensuring a clear business need has been articulated to provide direction to the program, analysing delivery options and alternative combinations of projects, monitoring program implementation and evaluating outcomes. These all need to occur over the top of projects and to not duplicate project activities under a different framework causing unnecessary confusion. The current circumstance of having an intervening temporary program level in between temporary projects and long-term rolling programs is hair-splitting and introduces unnecessary and avoidable complexity of administration to project managers. Large projects are complex enough without introducing the complication for the project manager of deciding which management method to use – project or program – or worse still, having to alternate between them.

Limitations and future research

The limitation of this work is that it is based upon document review. We were unaware of any successful infrastructure applications of MSP but that does not mean that such instances do not exist. This paper may prompt identification of such cases and assessment against the issues identified here. This may also test the proposition of Wells (2012) in the literature review regarding whether frameworks themselves may have contributed to project failures.

The suitability of MSP for engineering infrastructure

It may be of largely academic interest to attempt to determine the scale of possible losses resulting from attempts to apply non-generic theory. This would be a considerable challenge. Furthermore, surveying past troubled or failed implementations would also require a different paradigm of thinking; one that admitted the possibility that frameworks are fallible and should not be reified. It is also likely that much of the necessary data would be unpublished, unavailable and difficult to obtain due to its potential for embarrassment and impact upon career and economic prospects. And if the data were available, it would be difficult to determine a proportion attributable to this cause. We consider it best approached by resolving definitions and standards as the past cannot be re-run, but we can rectify previous mistakes once they are realized.

This research also raises the question of what other derivative products might have similar difficulties and that is a further possible future research subject.

Conclusion

This paper has found that there are quite significant areas of difficulty in applying MSP to engineering infrastructure projects. These are due to three assumptions that are not generic, namely that transformational projects are programs, that programs have a similar timescale to projects, that all programs require opening and closing and that all programs require boards. MSP also uses ICT definitions that are not generic to other fields, such as program infrastructure and specification-led projects. The paper concludes that MSP is not generic for engineering infrastructure and therefore cannot be considered best practice for it.

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The exercise of organisational power

Presented to PM1World Seminar
At Sanctuary Cove
On 31 May 2018
By Steve McGrath

Agenda

Governance

What is it?

Accountability

vs Responsibility

and Steering Committees

Do we need them?

What is power?

Power is: the capacity to act

Power can be exercised using authority, influence or force.

This talk addresses the exercise of power through authority and organisation.

Authority to exercise power

The exercise of organisational power affects projects.

The means of exercising power in organisations is called governance.

Governance arrangements between organisations and their projects are important for project success.

Key governance arrangements that can affect success are the allocation of responsibility and accountability and steering committees

Audience feedback (2)

Governance is a commonly used term, but if I was to ask you what is governance, what would you say?
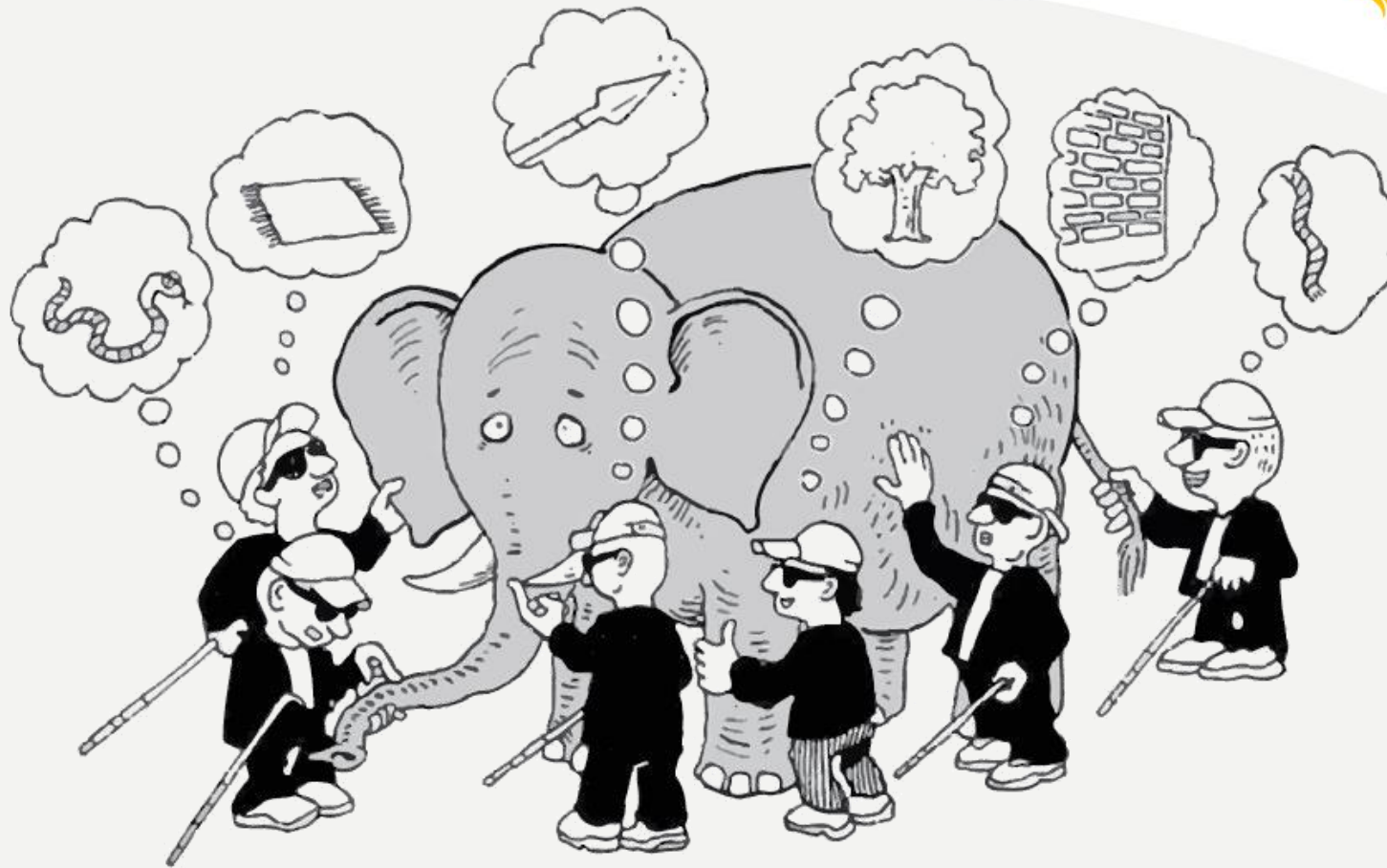
No one has ever seen a governance – it's a concept.

There's a poem by John Godfrey Saxe about an ancient parable of the blind men and the elephant which is found in Hunduism, Jainism, Buddhism and Sufism.

It describes well how we view things we cannot see.

I will read it to you in full. You can find it on the internet.

Blind Men and the Elephant

Conceptual Blindness

Overcoming conceptual blindness

Governance is a concept whose description is very like the parable.

The first part of my research was therefore to define it and related terms.

I searched for a suitable method but could not locate any, so had to develop one myself.

I refer to it as 'the mangle' using the analogy of a pastry mangle which takes a variety of ingredients and produces a smooth, homogeneous output.

I applied this to a group of governance terms and the outcome is shown on the next slide.

The McGrath Mangle

The way that a city, company, etc., is controlled by the people who run it.

The way that organizations or countries are managed at the highest level and the systems for doing this.

The way that organizations implementation proper continuous monitoring of policies and their

Establishment of policies and continuous monitoring of their proper implementation

Refining Definitional Method
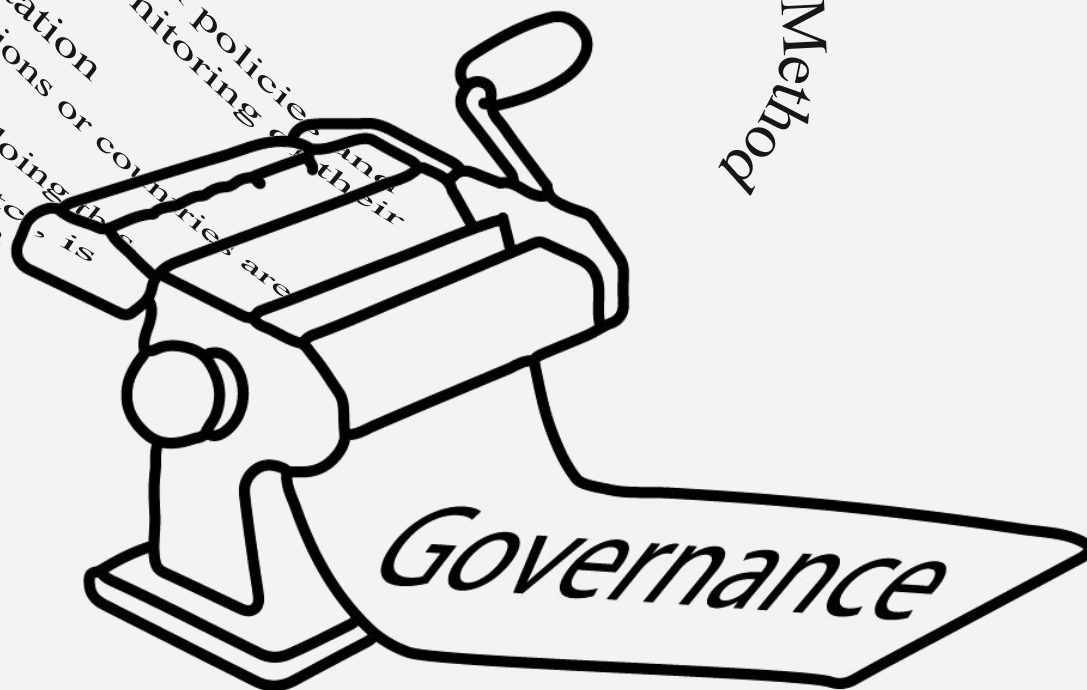
Governance

Definition of governance terms

Govern = direct and control.

Governance = the system by which an entity is directed and controlled.

Government = an entity that controls a geographic area.

Organisational governance = the system by which an organisation is directed, controlled and held to account.
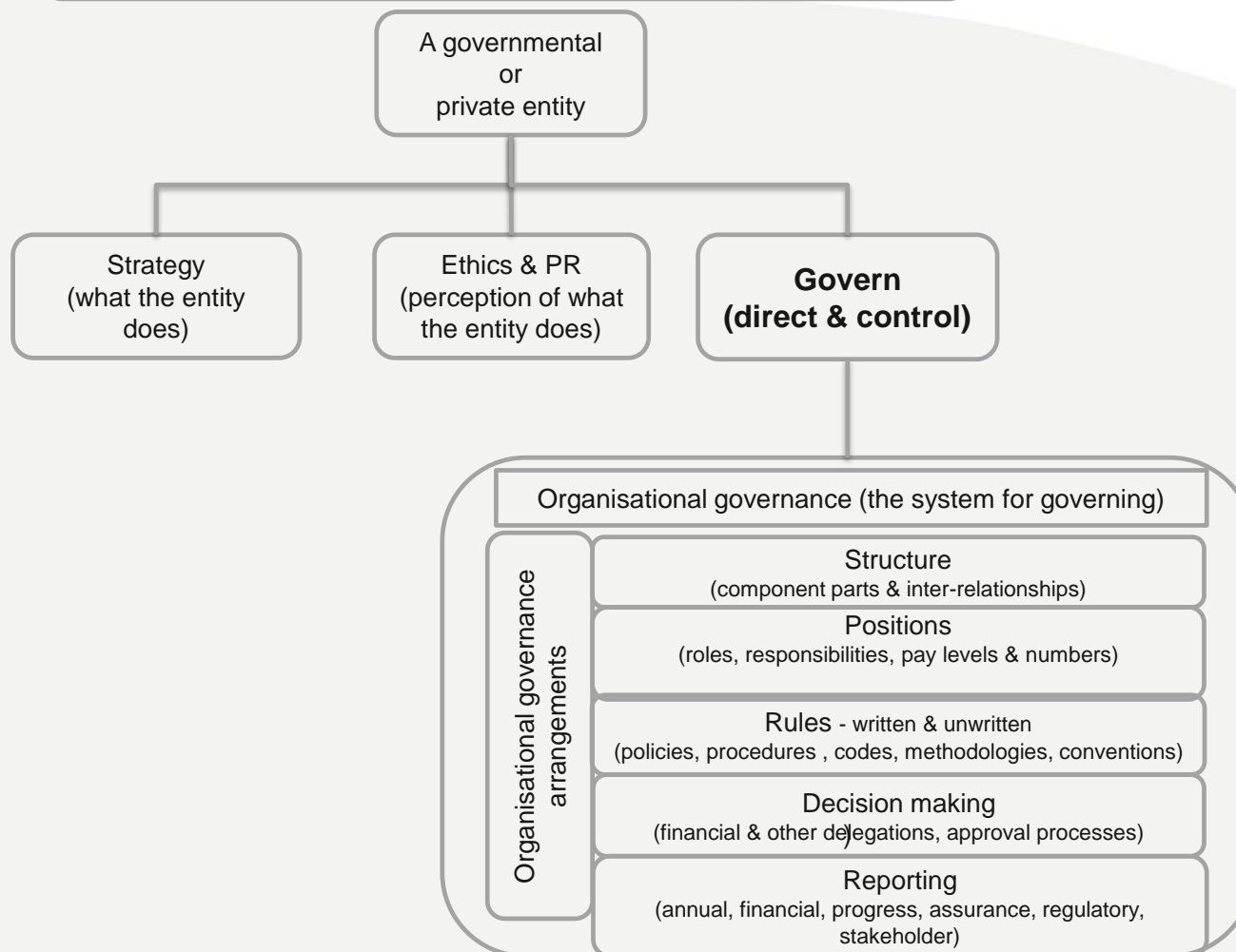
Organisational governance arrangements = an entity's <u>structure</u> (component parts, inter-relationships), <u>positions</u> (roles, responsibilities, pay levels and numbers), <u>rules</u> (written and unwritten, including policies, procedures, codes, methodologies and conventions), <u>decision making processes</u> (including financial and other delegations, as well as approval processes) and <u>reporting arrangements</u> (annual, financial, progress, assurance, regulatory, stakeholder).

Corporate governance = the organisational governance of a corporation = the system by which a corporation is directed and controlled and held to account.

Project governance = the organisational governance of a project = the system by which a project is directed and controlled and held to account.

Framework for governing an organisational entity

A governmental
or
private entity

Strategy
(what the entity
does)

Ethics & PR
(perception of what
the entity does)

**Govern
(direct & control)**

Organisational governance (the system for governing)

Organisational governance arrangements

Structure
(component parts & inter-relationships)

Positions
(roles, responsibilities, pay levels & numbers)

Rules - written & unwritten
(policies, procedures , codes, methodologies, conventions)

Decision making
(financial & other delegations, approval processes)

Reporting
(annual, financial, progress, assurance, regulatory,
stakeholder)

Exclusions from governance

Notable exclusions from governing and governance are:

- Strategy
- Ethics
- Public Relations
- Leadership
- Management

These things are all about <u>what</u> we do.

Governance is about <u>how</u> we do it – the mechanisms or tools we develop and use (+) and the constraints upon us (-).

Corporate governance

Coprorate governance is often used synonymously with governance but does not appear in my list of definitions.

My research found this definitional looseness was an error introduced by the two fathers of corporate governance, Lord Cadbury and Tricker.

Their environment was the joint-stock company model with shareholders and they did not anticipate it's application to government departments.

My definitions use the word organisational to cover both and introduces accountability when organisational governance is being referred to.

The term 'public governance' simply states the type of entity the concept is being applied to.

Responsibility and accountability

The concept of accountability starts to become important where there is more than one person involved.

This raises the question of what is accountability and how does it differ from responsibility?

Would anyone like to offer a definition?

I applied the mangle to develop the following definitions:

Accountability/ Responsibility definitions

Responsibility: an <u>obligation</u> to satisfactorily perform a task.

Responsible: accepting responsibility = accepting an <u>obligation</u> to satisfactorily perform a task.

Accountability: <u>liability</u> for ensuring a task is satisfactorily done.

Accountable: having accountability = having <u>liability</u> for ensuring a task is satisfactorily done.

Steering Committees

I can now turn to the subject of steering committees.

My literature research found the term was garnered by ICT in the 1980s to mean any committee associated with ICT.

My data collection found proliferation of steering committees to be a problem:

- One organisation had 25 ICT committees and
- One respondent mentioned the constant vigilance required to stop the establishment of unnecessary committees.
- Another mentioned they provide a means of obstruction

Are steering committees about power?

Do steering committees really have the power to decide?

How many people do we need to steer?

Hierarchy versus democracy

Project steering committees provide an environment for a myriad of agendas, power plays, motivations, emotions and career progressions within their parent organisation.

These may have little to do with, but can have a large impact upon, individual projects.

I found it necessary to develop some way of determining when authoritarian and participatory modes of operation were appropriate.

This led me to look at the most widely used governance model through the lens of accountability.

Who is accountable?

The PRINCE2 manual says "the steering group is equivalent to PRINCE2's Project Board" and "the Project Board is accountable for the project".

However it also says "Although the Project Board is responsible for the project, the Executive (supported by the Senior User(s) and Senior Supplier(s)) is ultimately accountable for the project's success and is the key decision maker".

This is clearly internally contradictory and while the latter statement distinguishes between accountability and responsibility, the earlier statement confuses these concepts.

The PRINCE2 governance model has been adopted around the world, well beyond the boundaries of usage of the full PRINCE2 system.

Group accountability

This raised the question of how a 'deciding' committee can constitute good project governance when it is:

- not legally constituted,

- has no financial delegation or accountability, and

- has responsibilities overlapping with existing organisational roles?

The authority of boards

A proper board can authorise implementation of decisions.

If a board or committee can decide something but cannot authorise its implementation, then it is advisory.

Most PRINCE2 project boards cannot decide on implementation as the authority is with the chair, who just happens to be there, and so the label of the group is a misnomer.

This confusion has become 'generic' 'best practice' through being marketed as such.

Basis of accountability

How can a 'deciding' committee constitute good project governance when it is:

- not legally constituted,
- has no financial delegation or accountability, and
- has responsibilities overlapping with existing organisational roles?

I developed the following accountability based model for determining whether a committee should be set up as steering or not:
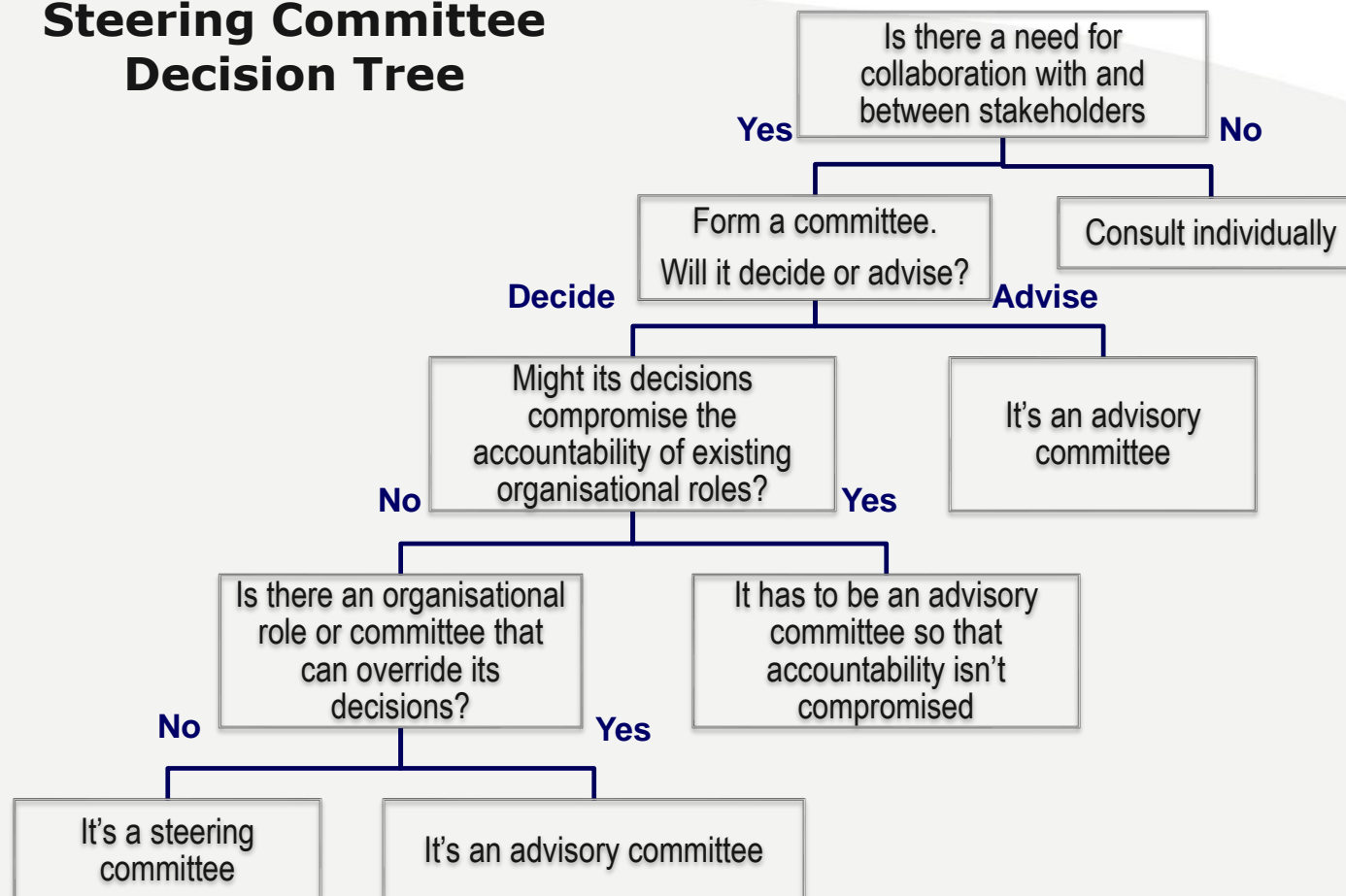
Committee decision tree features

This model has the potential to reduce the number of steering committees and increase productivity by:

- Removing voting and veto removes the potential to frustrate. Labelling a committee 'advisory' fundamentally changes the committee dynamic towards collaboration.

- Reducing senior executive time attending steering committee meetings. Membership of advisory committees can be delegated.

- Placing the onus back on to project managers to carry out effective stakeholder consultation.

- Conversely, removing the hindrance that the existence of a steering committee can provide to a project manager in consulting with affected stakeholders.

- Mitigating the tendency to set up a steering committee whenever there's an organisational problem to be solved.

Recommendations

The following recommendations flow from this model:

- That advisory committees be labelled 'advisory' rather than 'steering' and

- that committees with 'steering' in their name not be given any mandate that overlaps with existing delegated organisational authority

- That project committees be labelled as 'project coordinating committees'.

Examples

The model provides a means of checking a committee's TOR before establishment

Examples of true steering committees that slip straight down the left-hand side are:

- joint-stock company boards of directors and
- judiciaries including juries; even where an appeal mechanism exists, some penalty or sanction or threat of same will remain until or unless overturned as the committee does have authority and can authorise.
- Joint-Venture (JV) arrangements, including alliances. (Note that 'democratic' voting within these arrangements is likely to operate on an 'all have veto' arrangement rather than a simple majority, to avoid relative strength or contribution issues, with discussion continuing until a resolution is reached that all can live with).

Implications (1)

Committees other than judiciaries and JVs within a bureaucracy cannot slip down the left-hand side. They may seem to operate like a JV but the key difference is that their members can be directed, unlike a JV or company board.

None of these true steering committees actually have the label 'steering' and any change of name would be most unlikely as their other names sound more important anyway.

This leaves practically nowhere that the steering committee title is actually useful.

The same applies to boards within a bureaucracy, whether public or private.

Implications (2)

There are circumstances where authoritarian/ autocratic governance works best and others where consultation/ democracy works best.

Combining them within project and organisational environments requires paying very close attention to accountabilities.

This is in turn dependent upon appropriate definitions so that we all know what it is we are talking about in the first place.

As Thomas Hobbs said:

> For the errors of definitions multiply themselves, according as the reckoning proceeds, and lead men into absurdities, which at last they see, but cannot avoid, without reckoning anew from the beginning; in which lies the foundation of their errors. … So that in the right definition of names lies the first use of speech; which is the acquisition of science: and in wrong, or no definitions, lies the first abuse; from which proceed all false and senseless tenets.

Implications (3)

It is but a small step to speculate from project management to the wider world and wonder about the appropriateness of developing dogmatic positions around labels such as totalitarianism and democracy when there are circumstances in which both will work best and it is really just the balance in particular circumstances that is being debated.

Conclusion

In summary, I have spoken about three things that may be of use to you:

- A map of governance, showing what it is and what it isn't

- Definitions of accountability and responsibility

- Steering committee decision tree

I would finally like to thank Gina for the invitation to speak.

Could a steering committee produce this result?

Follow-up

Links to publications

Redefining governance:
https://eprints.usq.edu.au/27853/

Accountability/ Responsibility:
https://eprints.usq.edu.au/xxxxx/

Steering Committees: https://eprints.usq.edu.au/23648/

Questions?