EXAMINING THE EXTENT TO WHICH AUSTRALIAN UNIVERSITIES ARE DELIVERING SUSTAINABILITY ACCOUNTING EDUCATION: THE PERSPECTIVES OF ACADEMIC STAFF

A thesis submitted by

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DEDICATION

To my husband, and children: Ala’Eddin, Razan and Rayan

To my father soul, my mother, my sisters and my brother for their support

To all my friends

ABSTRACT

The purpose of this study is to evaluate the extent to which Australian universities provide sustainability accounting education and at the same time assess the level of effectiveness and commitment among university academic staff in implementing and enhancing sustainability accounting education. Both qualitative and quantitative research methodologies were used. Primary data were collected from randomly selected academic staff teaching in accounting faculties in different Australian universities. The study used survey questionnaires to gather responses from the target population. Also, a documentary analysis method was employed to compare the new findings with the findings of previous related studies. The data from primary sources were analysed through statistical tools while a content analysis approach was adopted in examining secondary data. The documentary analysis revealed that very few (that is, ten out of forty-one) Australian universities offered sustainability accounting. A significant number of participants stated that most of the academic staff were incompetent and not very effective in supporting the incorporation of sustainability accounting courses into their accounting curriculum. Study findings imply there are six hindrances subverting efforts of introducing sustainability accounting education in Australian universities: i. overcrowded accounting curriculum, ii. difficulty in creating an entirely new sustainability course, iii. lack of experts in the sustainability area, iv. financial issues, v. poor relations established between different stakeholders, and vi. lack of employer demand to hire graduates with sustainability reporting knowledge. Proposed practical and proven solutions to such hindrances are: i. establish a stronger relationship between stakeholders, ii. outsource experts in sustainability accounting from other countries, iii. higher education should include reformulation of law and regulations to facilitate the incorporation of sustainability courses in its accounting programs, and iv. increase the demand for sustainability accounting knowledge by employers.

CERTIFICATION OF THESIS

This thesis is entirely the work of Sahar Alazzeh except where otherwise acknowledged. The work is original and has not previously been submitted for any other award, except where acknowledged.

Principal Supervisor: Profesor Marie Kavanagh

Associate Supervisor: Dr Syed Shams

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

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CHAPTER ONE: INTRODUCTION

1.1. Background of the research

Traditionally, accounting has been a discipline that concentrated on economic value recognition. However, as time passed, people started viewing accounting as the origin of managerial capitalism. Since the start of 21st century, the world has experienced a massive expansion regarding technology and globalisation especially in the field of business and industrialisation. The resulting impacts have been both beneficial and detrimental to social and environmental issues. From a negative perspective, the developments have caused unexpected degradation of the natural environment, violation of civil rights, and promotion of social inequality among others (Ngwakwe, 2012). Such results have witnessed the concept of sustainable development being introduced across all disciplines involving all facets of human life and accounting not left behind. This study believes that the education is a powerful instrument to any changes required to the social behaviours and human development, also it is a powerful tool to cultivate values in an individual. Therefore, all the educational institutes have a great responsibility to impart the knowledge and cultivate the sustainability concept through education to prepare and produce a conscious generation aware of the social, environmental and moral issues that surrounded them. From accounting perspectives, professionals in this field who are trained in the institutes of higher learning have been observed to play a significant role in supporting sustainable development and directing corporate behaviours (Gray, 2013).Consequently, this study aims to shed the light on the sustainability accounting education in Australian universities and to determine the extent to which Australian universities are committed to delivering sustainability accounting education. Accounting students at both master's and Bachelor levels should be engaged and educated on principles of sustainability accounting so that they can take part in sustainability development campaigns. Although many studies related to sustainability accounting have been conducted recently such as Bebbington (2014) revealed that unless social and environmental accounting makes progress towards addressing sustainable development, accounting sustainability cannot grow sufficiently. A New Zealand-based study that used a mixed research method discovered that universities have to provide a higher undergraduate or post-graduate level paper in accounting sustainability to ensure social and environmental accounting make meaningful progress towards addressing sustainable development. An Australia-based expert opinion suggested that accounting sustainability be a compulsory course for all accounting students instead of being

offer to students that major in corporate sustainability only (Lodhia,2010). Chulián (2011) also attempted to address this issue and exposed a significant amount of knowledge where he discovered an accounting for sustainability course at the undergraduate or post-graduate level could boost social and environmental accounting to make meaningful progress towards addressing sustainable development.

1.2. Statement of the problem

Despite massive sustainability development campaigns over the last two decades, higher learning institutions have been responding slowly when it comes to incorporating sustainability accounting courses as part of their teaching curriculum. According to Gray (2013), most professionals in the accounting field tend to ignore the concept of sustainability despite regarding it as an essential element in the discipline. The underlying argument in this study is that accounting students at Masters and Bachelor accounting levels need to be engaged and educated on principles of sustainability accounting so that they can account for it adequately during their career as accountants. However, there is a critical lack of evidence in the literature to support or measure how well Australian universities coherently integrate sustainability-related educational contents in their accounting major. The role played by academic staff, and the extent of their influence on the incorporation of sustainability accounting programs in accounting education, has been neglected as well. Other studies have also shown that it is important for lecturers and students to gain a thorough understanding of the role played by accounting processes for social and environmental sustainability (Chulián, 2011; Schaltegger, 2013). This leads to the conclusion that unless lecturers and students appreciate the importance of the concept of accounting sustainability, they cannot gain a thorough understanding of the role accounting processes play in social and environmental sustainability. This is despite the fact that there is no study that has linked perception and understanding of the role of accounting processes in social and environmental sustainability.

1.3. Research objectives

The main aim is to provide adequate information regarding sustainability accounting in Australian universities by outlining principles and concepts associated with sustainability accounting in Australian universities. In line with this argument the objectives of this study have been drawn to be linked with the research questions and developing the hypothesis , this study's objectives are:

- To adequately explore the status of sustainability accounting in Masters and Bachelor accounting programs offered by public and private Australian universities.
- To state the contributions of academic staff in enhancing the incorporation of sustainability accounting in Masters and Bachelor accounting programs
- To create a better understanding of factors that hinder the inclusion of sustainability accounting in Masters and Bachelor programs offered by Australian universities.
- To provide recommendations/solutions for enhancing the incorporation of sustainability accounting in Masters and Bachelor programs.

1.4. Research questions

The study's research questions are tied to the previously highlighted objectives. In order to fulfil the study's objectives, the research questions ought to be answered. As mentioned, the main aims of this study are to examine the extent to which Australian universities are delivering sustainability accounting for their Masters and Bachelor programs and at the same time gauge the influence of academic staff in delivering sustainability accounting to Masters and Bachelor students in Australian universities. The following questions guided the study:

- To what extent are Australian universities offering sustainability accounting in Masters and Bachelor accounting programs?
- To what extent are the academic staff aware of the importance of sustainability accounting?
- How effective are academic staff in influencing the inclusion and teaching of sustainability accounting in Masters and Bachelor accounting programs?
- What are the challenges that are limiting Australian universities' efforts in incorporating sustainability accounting in Masters and Bachelor accounting programs?
- What are the potential solutions for enhancing the inclusion of sustainability accounting in Masters and Bachelor accounting programs?

1.5. Research motivation

There is a need to account for all detrimental effects of developmental activities and sensitise people to take responsibility for sustainability accounting. As the traditional accounting approaches were inadequate to address the new era's issues such as the urgent need to manage the environment in a sustainable manner. Accounting education has been faced with severe challenges in order to accommodate the new century's issues (Howieson, 2003).

Considering the inadequacy of the traditional accounting systems to face theses challenges , curriculum used by higher learning institutions should be reformed. Therefore, one of the aims of this study is to investigate how Australian universities are addressing such challenges. Business institutions and higher learning institutions are committed to overcoming these challenges, but a lack of direction, motivation, and abilities have always stunted these efforts (Lidgren, Rodhe & Huisingh, 2006). Sustainable development is one of the issues that have received significant attention from politicians and scholars (Lodhia, 2010). The motivation of this study based on the study by Apostolou et al.(2015). The author has identified the importance of sustainability accounting education. Thus, There is a need to incorporate environmental and social sustainability into various academic programs including accounting. To realise sustainable development in practice, people need knowledge about the concept so that knowledge influences people to embrace sustainability.

In Australia particularly, a pilot study conducted by the researcher shows that sustainability accounting education in higher learning institutions is not sufficient in many cases . However, one cannot generalise the problem and, in some countries, like Finland and New Zealand, learning institutions have made remarkable progress in teaching sustainability accounting. Many previous studies such as Dyball (2013), Ngwakwe (2012) and Manuel Fernadez (2011) have suggested that the concept of sustainability is insufficiently incorporated in accounting education and Australian universities lag behind universities from some countries in terms of accommodating the concepts of sustainability in their degree programs.

Accounting is one of the professions which can effectively foster and influence aspects of sustainability. Many studies emphasis on the fundamental role that accountants play in sustainability development process in organisations . For example ,one study conducts by Pierce and O'Dea, 2003 shows that accountants frequently advise top and middle management and may thus have a significant influence whether and how sustainability is considered in an organisation. Another example here is accounting professionals should integrate sustainability into businesses' decision-making system to direct their operations toward sustainable development (Özsözgün Çalişkan, 2014). Education of corporate accountants has a critical influence on sustainability accounting and sustainability reporting. Therefore, evidence from past studies in previous discussion there are lack of adequate education in this area presents a critical barrier to understanding and implementing sustainability principles. The current study investigates the role of academic staff in accounting faculties in ensuring successful incorporation of sustainability accounting principles into the teaching curriculum of accounting

programs taught at Masters and undergraduate levels. The findings of this study are expected to shed light on the current position of Australian universities regarding the delivery of sustainability accounting in Masters and Bachelor accounting programs, and the role played by academic staff towards developing sustainability accounting programs. The hindrances to the successful implementation of sustainability accounting, as well as their corresponding potential solutions, are covered. Stakeholder salience theory was applied to generate new insights regarding the issues around sustainability accounting in Australian universities.

1.6. Pervious studies

The advocates of sustainable development and sustainability accounting argue that the process of meeting the current needs is important, but it should be executed carefully in order to not negatively affect the availability of future needs (Moran & Rau, 2016). Sustainability accounting education has become one of the key areas of concern in recent academic research (Guthrie, Evans & Burritt, 2014). As part of the development of new ways of accounting, an emerging issue of concern is a problem in the accounting profession which concerns adequately taking into consideration developments that occur in corporate and public sectors. The need for sustainability accounting requires that the entrants in the accounting profession come with efficiency and effectiveness that can aid the improvement in the quality of the accounting profession in terms of the services offered as well as creates an enabling environment for the continuity of the profession (Kraten, 2018).Sustainability education aims to equip accountants with the knowledge and skills to solve accounting problems and provide accounting information which is not only considerate of the present situation but also sustainable into the future (Ceulemans, Molderez & Van Liedekerke, 2015).

According to Bebbington & Larrinaga (2014), people are increasingly becoming aware of sustainable development. Businesses and other organisations are urged to embrace corporate social responsibility. Sustainability accounting principles stress that economic, social and environmental value/quality is conserved if developmental activities do not overexploit the available natural resources. Sustainability accounting is therefore built upon the sustainable development concept, which is a framework that has commonly been used to reflect the social and environmental impact of businesses or companies. Sustainability accounting can be considered as an expansion of financial accounting to incorporate sustainability information for accountability purposes and to make an informed judgment on various organisational, business or company issues (Taleb, Gibson & Hovey, 2015). It concerns company or business

activities' non-financial aspects to ensure that sustainability is incorporated into the activities of the business entity.

The dynamic nature of business environments and its potential threats have necessitated the integration of sustainability concepts in accounting education. Sustainability accounting fosters corporate social responsibility and sustainable development. Since it is possible to classify all outcomes of developmental activities as beneficial or harmful/costly, even the non-financial details can be accounted for (Quarter & Richmond, 2001). Therefore, learning institutions which teach sustainability need to teach how non-financial impacts of any activity or business are accounted for (Botes, Low & Chapman, 2014). Accounting education should conform to the changing business environment, as traditional accounting approaches do not account for some critical aspects, and policymakers do not necessarily understand the line between sustainable and unsustainable developments (Musyarofah ,2012). To fulfil this objective, various accounting institutions offering accounting education need to pay attention to multiple aspects or issues of economic, social and environmental sustainability. One of the primary objectives of sustainability is to provide stakeholders with accurate information about a business' sustainability in terms of social and environmental impact, and if such impact can be sustained (James & Card, 2012).

In enhancing sustainability accounting education, one of the key aspects to consider is the role played by universities in supporting sustainability (Apostolou et al., 2015). Universities are the pivotal point through which accounting knowledge is shared or delivered. Learning institutions play a critical role in creating knowledge and informing the public, through research, development, and teaching. Sustainability accounting education provides students with an opportunity to look into various issues of sustainability as they relate to accounting, and which are the result of rapid changes in the business environment. It also provides practical solutions to unsustainable practices through the development of appropriate strategies. Lastly, universities are sources of human capital and consumers of products and therefore determine how accounting information for these factors can be improved through research and development (Apostolou et al., 2015). Higher learning institutions should invest in training and research, as well as developing new sustainability accounting courses and fitting them into the curriculum.

1.7. Structure of the study

This study has five main chapters: introduction, literature review, methodology, results and analysis, and conclusion recommendation.

Introduction: outlines the background of the study, and it outlines the research problem, the objectives, research questions, and motivation behind the study. This section is significant in informing the reader about the problem and justifies why it is worth researching.

Literature review: provides a comprehensive and detailed review of the existing literature on sustainability accounting aspects like definition, practices, principles and the state of sustainability accounting education in Australian universities.

Methodology: presents the methods used to conduct the study, such as methods of data collection, analysis, and presentation. The research protocols such as ethical considerations are also presented in this section.

Findings: presents an analytical summary of the results obtained from the field (primary) and secondary sources.

Conclusion: summarises the major aspects of the study. Detailed recommendations are then provided in the end proposing possible approaches that can be used to incorporate sustainability concepts within the academic curriculum taught to accounting students at Masters and Bachelor levels.

CHAPTER TWO: LITERATURE REVIEW

2.1. Introduction

Sustainability accounting is one of the issues that have received significant attention over the past two decades. This chapter explores in more detail the relevant studies published in the last decade. It focuses on understanding the concept of sustainability development and sustainability accounting in the education context. It explores the role of accountants in the sustainability development process .It examine the importance of incorporating sustainability accounting into the accounting curriculum. Furthermore, it investigates the challenges faced as a result of the incorporation of sustainability accounting courses into accounting programs. it suggests some solution to address these challenges , It explains the theoretical framework used in this study. It provides the hypothesis tested in the study. Finally, it identifies the gaps in the literature .

2.2. The general concept of sustainable development, sustainability accounting, and sustainability in accounting education

2.2.1. Sustainable development definition

The ideology of sustainable development influences the transformation of business operations and processes in companies and professional accountants play a critical role in the transformation process. In today's global market, sustainability is a way for organizations to gain a competitive advantage. The issue of sustainability over the last decades has increasingly become prominent in both at the corporate level and at national platforms (Thomson, 2010). Sustainable development concept is comprised of social progress, economic progress, and environmental progress. Some organizations have recently begun to adopt new techniques of sustainability accounting in their annual reports by disclosing the impact they have on the environment and their core activities. The main objective of an organization's sustainability accounting framework is to measure its performance towards accomplishing sustainability. The sustainability development goals were set up by the United Nations to help businesses face key challenges that may arise in future like responding to digitization and globalization, managing

reputational risks, meeting the demand of investors for greater transparency in reporting and countering policy change impact (Bebbington, 2000). Sustainability is important since its issues or concerns help in shaping the world in which organizations operate.

2.2.2. Sustainability development and sustainability accounting in the education context

Sustainability accounting phenomenon was introduced as a way for development in accounting and for improving sustainable development. The strategy of sustainability has been promoted through the development of systems for modifying conventional systems for financial accounting to encapsulate issues of sustainability. Sustainability reporting , (CSR) and triple bottom line accounting are the common and widely used measurements in sustainability accounting. The measurements show the extension of traditional accounting through the improvement of accountability and transparency and also recognize the role of financial information. In 2004, Accounting for Sustainability Project was established to enable the provision of better information which also helped in the establishment of the Accounting for Sustainability Forum (A4S) in 2008 aimed at accounting for sustainability (Lamberton, 2005, pp.11). In 2010, the International Integrated Reporting committee was created by the Global Reporting Initiative GRI and A4S to help develop a global accounting framework and integrate both non-financial and financial information.

Sustainability development is that which meets the present needs of people without compromising the future generations' ability to meet their own needs (Ngwakwe, 2012, pp.29). It implies the balance which is struck among economics, eco-system health, and improved justice and social wellbeing to prevent resource exhaustion which may negatively impact the continuation of life on earth. According to Lamberton (2005), the emerging literature on sustainability in education context varies and is dominated by descriptive and empirical studies of specific strategies, approaches, and initiatives involved in specific institutions. Through the understanding of how economic, social, political, cultural, and environmental factors interact, sustainability development helps to achieve and maintain ecological balance. Since the world is currently faced by challenges like environmental degradation, economic and social inequalities as well as biodiversity disruption and loss due to climate change and natural disasters, attention is focused on sustainability development to help in addressing them.

Good and quality education is a vital tool for the achievement of a more sustainable world. It plays an important role in sustainability development as it helps learners to acquire knowledge

and skills and develop values and attitudes necessary to discover sustainable solutions. Sustainability education not only provides expert knowledge for students to be informed about sustainability issues but also encourages transformative learning to enable them challenge practice, debate and critique sustainability issues (Ceulemans, Molderez & Van Liedekerke, 2015). Education for Sustainability Development should be equitable, easily accessible, and also be integrated to formal, informal, and non-formal education systems (Davies, 2009). Evidence is provided by research that the pedagogies of education for sustainable development facilitates the acquisition of knowledge, skills, values, and perspectives necessary for fostering and maintaining sustainable societies

Based on research, the inclusion of accounting for sustainability course in the accounting curriculum will stimulate change in the values of future leaders and managers and as a result, accounting and its role as an essential tool for society will be re-humanized (Hazelton & Haigh, 2010). The course is designed to be taught to accounting students through learning based on dialogical education and intellectual development. Through their direct engagement in changing or transforming values of the future generations of professional accountants.

2.3. The role of accountants in sustainability development

The traditional role of accountants has continued to expand to enable the provision of sustainability assurance and reporting services to stakeholders as sustainability is being integrated by most organizations into their business strategies. According to the Institute of Chartered Accountants in England and Wales (2004), accountancy plays a role in fuelling sustainable development for organizations, economies, and financial markets. Professional accountants play important roles in accounting for sustainable development. The skills, influence, and experience possessed by the accountants provide them with enormous scope to address sustainable development challenges.

2.3.1. Decision-making system of business activities

Accounting plays a crucial role in the decision-making system of business activities. Thus, accounting professionals should integrate sustainability into businesses' decision-making systems to direct their operations toward sustainable development (Özsözgün Çalişkan, 2014). Unless accountants use their sphere of influence to impact corporations' decision-making system positively, organizations will engage in activities that can create serious economic, social, and environmental problems. Sustainable business reporting is one of the ways accounting professionals can influence corporations' decision-making system.

In sustainability development, accounting professionals influence different areas such as developing new activity programs, highlighting risks, evidencing major successes, and proposing alternative courses of action (Bebbington, 1997). The management accountants play a key role in the broad areas of sustainability at every level including proposing a specific business case to help pursue appropriate sustainable development goals and aligning corporate activities with sustainability initiatives.

Professional accountants have a role in communicating clearly and effectively to ensure transparency, organise internal processes and systems to specify what is being measured, and manage and link the organisational resources and strategy to the creation of value for the stakeholders. Through effective governance and oversight, accountants provide credibility to the data and information provided and drive efficiency by controlling costs and reducing waste.

Sustainability involves specific areas of expertise, such as measuring, assuring and reporting, which naturally fall under the remit of accountants. Feedback on the performance of an organisation is provided by accountancy information, thus guiding management in making

decisions about the future of the organisation. For sustainability development to be achieved, the information provided needs to be of high quality, properly targeted, and trusted. Through the provision of reliable and readily accessible information, professional accountants support the engagement process of company stakeholders (Williams, Wilmshurst & Clift, 2010). While acting as auditors, they review the application and results of the process.

Accountants also provide high-quality reporting horizons to the management, which forms the basis for the development of sustainable development strategies. Organisations need to identify new opportunities in the changing environment, operate proactively, and pre-empt issues related to sustainability before they arise. For these mechanisms to function successfully, reliable and accurate information or non-financial data must be available and assured. Professional accountants provide information, devise the company strategy and assurance, and act as business decision-makers. They are involved in a range of sustainability activities like the implementation of measures for energy efficiency and cost-saving, Accountants develop policies to address social, economic, and environmental issues through their application across the company and in the management of associated business risks, thus protecting the corporate image of companies and helping to gain a competitive advantage.

Professional accountants are responsible for ensuring high-quality reporting to the company stakeholders. According to Williams, Wilmshurst and Clift (2010), the positions and functional roles of professional accountants correlate with the graduation of sustainable corporate development. Accountants exercise their authority in a company as creators of value at the strategic level, act as providers of sustainable development values at the operating level, and as reporters and keepers at the reporting level. Management accountants in every organisation need to be determined in their pursuit of the sustainability accounting to help drive prosperity and develop trust towards creating a sustainable future. In the emerging era, accountants need to understand how to measure and report activities associated with sustainability in order to be valuable advisors.

2.4. The importance of incorporating sustainability accounting in Masters and Bachelor accounting programs

The significance of social and environmental sustainability is irrefutable (Hahn & Reimsbach, 2014). The incorporation of developmental sustainability education component into accounting programs will help future business managers and accountants to understand deeply and sophisticatedly the process of sustainability reporting (Hahn & Reimsbach, 2014). There are several reasons associated with incorporating sustainability courses. Graduates who have done "pure" accounting process sustainability information superficially, which is worrying since accounting must be done sustainably for the sake of future generation (Bouten & Hoozée, 2015; Hahn & Reimsbach, 2014). The Australian higher education sector should look beyond sustainable development when incorporating environmental and social sustainability courses into accounting. One of the prominent reasons why sustainability courses should be incorporated into accounting programs in Australia is because of the mounting pressure from stakeholders for apt sustainable business reporting and improved ethical conduct. Traditionally, management accounting used to neglect the social cost and benefits of corporate activities (Milne, 1996). However, recently stakeholders in Australia are more concerned about sustainable business reporting and ethical business conduct in regard to social and corporate responsibility. The graduates do not meet the generic skills required by their employers because they are not adequately taught in their accounting degree programs (Jackling & De Lange, 2009).

2.4.1. Equip future accountants with required qualifications and sustainability skills necessary for businesses activities

Educate accounting students in institutions of higher education helps to develop the skills through the development of course contents to achieve sustenance. As stated by Schaltegger & Burritt, 2010, the inclusion of sustainability accounting education in accounting curricula has a major significance for the practice of accounting professionals and to the society since through the reliable and quality sustainability information gathered, the organizations' environmental and social performance is improved. As a result, the organizations' sustainability practices and strategies are also improved. Currently, most organizations outsource their reports and, therefore, adequately skilled and qualified accounting professionals are needed to help develop quality sustainability reports for the organizations. The trained

professional accountants are also able to provide unbiased sustainability reports as compared to those of contractors.

The integration of sustainability accounting in the accounting curriculum helps to sustain a continuous supply of highly qualified and skilled graduates or professional accountants to organizations who have the ability to be transparent and accountable about sustainability-related activities and also adapt to future changes that may be required (James, 2014). To limit the environmental impact and make changes that are sustainability strategic, organizations need to ensure that their business practices are sustainable and also that the sustainability non-financial and financial information provided is reliable and of high quality to enable managers make sound and appropriate decisions. Therefore, highly skilled and qualified accounting professional with necessary knowledge and skills required to address sustainability issues need to be available in the organizations. To meet the sustainability reporting requirements and address related challenges that may arise at the present and in future, it is imperative for the institutions of higher education to develop new skills in accounting students through sustainability accounting education. Equip future accountants with required qualifications and sustainability skills necessary for businesses activities.

The accounting profession is increasingly becoming important in the provision of both financial and non-financial information about sustainability activities to the managers of organisations to help make sound and strategic decisions. Organisations are required to report their environmental activities to stakeholders on a daily basis through sustainability reporting, but there is a shortage of skills among existing professional accountants to provide organisations with reliable financial and non-financial information on sustainability. This calls for the incorporation of sustainability accounting in Masters and Bachelor accounting programs in higher education institutions. There is a need to have a more holistic approach to ensure that future accountants have the necessary knowledge and skills to enable them to generate both financial and non-financial sustainability information to help organisations make sound and appropriate environmental decisions.

The awareness in international policies, as well as those of specific countries, of the need to integrate sustainability into both educational and business arenas has grown. As a result of this growing awareness, organisations have hired sustainability literate graduates to help them achieve sustainability in their operations. Higher education institutions (HEI) help to promote sustainable development through the assessment of progress made to help address the

challenges faced in its implementation. Since HEIs carry the responsibility for training future decision-makers, they are essential avenues for sustainable development. Through research and teaching, insights and new knowledge are disseminated to students thus developing their sustainability capacity (Davies, 2009). Institutions of higher education help to ensure students acquire the necessary skills, knowledge, values, and competencies required for the development of a more sustainable society and provide the leadership needed for such development.

Many studies have been undertaken to investigate the role played by universities in sustainability education. According to Davies (2009), sustainability education responds to the growing concern of society about environmental degradation and the need for a more sustainable society. As a result of the increased awareness of sustainability, government policies have been shifted to address the need for integrating sustainability into the educational curriculum Universities are comprised of different individuals, and through interactions and their organisational cultural values they can foster change by promoting learning, which in turn helps to improve students' understanding of the interface between societal, environmental, and organisational change.

2.4.2. Introduce sustainability reporting in business activities

The first step to successful incorporation of sustainability courses in accounting programs in Australia is to let educators and students understand the importance of their role to integrate a sustainability component in their degree program. This is important because sustainability is likely to be the measure of business strategy and performance both locally and internationally (Persons, 2012). Gray (2013) finds that despite the concept of sustainability being acknowledged as relevant across all disciplines, accounting professionals, especially in higher education, tend to ignore it. This claim is evidenced by the lack of adequate research in this field for accounting education, particularly at undergraduate level. The author further argues that universities need to have a teaching curriculum for accounting education that portrays capacity building in regard to sustainability.

Dyball (2013) conducted a systematic review of four peer-reviewed journals that discussed the concept of sustainability in accounting education. The findings indicated that sustainability and environmental management need to be integrated into accounting education. Many universities and other institutes of higher learning were also found to ignore the discussion of human rights issues in their curriculum which is one of the essential elements of sustainability. Ngwakwe

(2012) argues that accounting as a discipline needs to respond urgently to sustainable development in a more pragmatic manner. In this respect, the universities and other institutions engaging in accounting education need to have a curriculum that captures important aspects of sustainable accounting such as regulated sustainability accounting and carbon accounting standards. Manuel Fernadez (2011) argues that most universities provide accounting syllabus that does not align with the aptitudes of sustainability. In most cases, accounting students are taught primarily on how to safeguard shareholders primacy and to understand how accounting is presented. There is an urge to have accounting students trained on intellectual development rather than just on how to acquire professional skills.

Lodhia (2010) find that majority of accounting of students in university of South Australia understood the concept of sustainability. Awareness of teaching staff on the issue of sustainable development and the courses that were included in the syllabus played a vital role in equipping students with knowledge about sustainability. There is a need for academics trained in the sustainability area as well. Botes et al. (2014) claim that New Zealand universities are still performing poorly in offering sustainable education despite the concept being identified to be of importance. Botes et al. (2014) Finds that integration of sustainability education needs to be wide and of sufficient depth to equip students with the right skills. In this respect, the finding of Botes et al. 2014 highly correlates with that Musyarofah 2012. Musyarofah (2012) finds that students have a better understanding of sustainability when the concept is included in the accounting course thus there is a need for a radical change of curricula. Haskin & Burke (2016) argues that sustainability accounting courses need to be offered as a special topic course to all accounting students. At an average, accounting students need to cover a course in sustainability at least three hours per week. Bebbington et al. (2014) argues that there should be sufficient coverage of CSR and social reporting courses for all undergraduate students in accounting. All institutes of higher learning need to create strong awareness among students regarding the wider obligation of corporate behaviour. Schaltegger (2013) finds similar results. The author concludes that integration of environmental and sustainability courses in accounting education are fundamental in ensuring that accounting students comprehend all aspects of sustainable development. Currently, most organisations outsource their reports and therefore, adequately skilled and qualified accounting professionals are needed to help develop quality sustainability reports for organisations. Trained professional accountants are also able to provide unbiased sustainability reports as compared to those of contractors. The integration of sustainability accounting in the accounting curriculum helps to sustain a continuous supply of highly qualified and skilled graduates or professional accountants for organisations who can be

transparent and accountable about sustainability-related activities and adapt to future changes that may be required (James, 2014). To limit the environmental impact and make changes that are sustainability-strategic, organisations need to ensure that their business practices are sustainable and that the non-financial and financial sustainability information provided is reliable and of high quality to enable managers to make sound and appropriate decisions. Therefore, highly skilled and qualified accounting professional with the necessary knowledge and skills required to address sustainability issues need to be available in organisations. To meet sustainability reporting requirements and address related challenges that may arise in the future, it is imperative for higher education institutions to develop new skills in accounting students through sustainability accounting education. According to James (2014), by integrating and implementing sustainability accounting in the accounting curriculum, the code of governance around sustainability reporting is adhered to.

2.5. The challenges hindering incorporation of sustainability accounting in Masters and Bachelor accounting programs

The reasons why very few universities in Australia have included sustainability courses into their accounting programs include the lack of motivation, ability, and direction (Lidgren, Rodhe & Huisingh, 2006). So many universities have put the effort into incorporating accounting sustainability into their programs, but most of them are unable to move forward. Guthrie, Evans & Burritt (2014) discover that there are high possibilities of integrating sustainability into accounting program in Australia, but this heavily relies on the symbiotic relationship between practitioners, policymakers, and academics. This relationship is poorly established in Australia leading to lack of direction on how to successfully incorporate sustainability courses into accounting programs. The three elements need to relate adequately to prepare future accounting professionals. In essence, the problems facing universities including financial hurdles, the extent in which accounting academics are in charge of their destiny, and inadequate support for academics from policymakers and policymakers (Guthrie, Evans & Burritt, 2014). The vocational orientation of students hampers the permanent integration of sustainability courses into accounting programs. Every university in Australia appreciates sustainability accounting, but they "lack the ability" to permanently incorporate sustainability courses into accounting programs. Lack of ability is defined as lack of knowledge to do something. An action research study discovered that students' vocational orientation hinders the permanent implementation of these courses into accounting programs (Hazelton & Haigh, 2010). Students have the traditional professional orientation to accounting hence

making it difficult for sustainability to infiltrate into already overcrowded curricula. Additionally, this challenge seems present not only in Australia but also in other developed countries. For instance, a Belgium-based study indicated that sustainable development related to system orientation, vocational orientation, and personal commitments. In addition, limited action was being taken to permanently integrate sustainability courses into accounting programs in Belgium universities (Lambrechts, Mulà, Ceulemans, Molderez & Gaeremynck, 2013). Some challenges or key issues inhibit the inclusion or the incorporation of sustainability accounting education into the Masters and Bachelor accounting curriculum. Significant limitations are identified as hindering the inclusion of sustainability accounting in accounting programs of universities around the world as follow

2.5.1. Overcrowded accounting curriculum.

The most immediate, and perhaps obvious, challenge is to find space within the accounting curriculum. In Australia, the professional accounting bodies (the Institute of Chartered Accountants in Australia (ICAA) and the Australian Society of Certified Practising Accountants (CPA)) dictate accounting curricula. The two bodies jointly specify the minimum number of subjects and content that must be covered within those courses in undergraduate and postgraduate accounting degree programs, and "the predominantly technical focus of these bodies means the curriculum of professional accounting degree programs is overwhelmingly comprised of technical subjects" (Hazelton & Haigh, 2010).

2.5.2. Difficulty in creating an entirely new sustainability course

The lack of instructional resources may be a barrier to the adoption of a new topic or the creation of an entirely new course. Since sustainability accounting is a relatively new subject, textbooks and other course materials may not be easy to find (Pippin, Weber, Wong & Bergner, 2016).

2.5.3. Lack of experts in the sustainability area

There are few accounting academics involved in the discourse of sustainability accounting (Mohamed & Lashine, 2003). Most of the institutions of higher education lack sustainability accounting in their accounting curriculum used for training accounting graduates, due to the unavailability of accounting academics with experience in the area. Lack of competent and qualified academics to help in training future accounting graduates in matters related to sustainability is a major challenge (Collison, Ferguson & Stevenson, 2007). Due to the unavailability of competent educators of sustainability accounting, most institutions of higher

education find it difficult to incorporate it into their accounting programs as students may lack teachers with the required sustainability skills and knowledge.

2.5.4. Financial issues

Most learning institutions lack the necessary financial resources, time and faculty required for teaching the entire sustainability accounting course, which hinders them in including the discipline in their accounting programs (Schaltegger, Bennett & Burritt, 2010). Lack of instructional resources for teaching sustainability accounting to learners is also a barrier to the adoption and incorporation of the discipline in the accounting curriculum. Sustainability accounting is a discipline that has been recently introduced in education and, therefore, course materials and textbooks may not be easily accessed.

2.5.5. Lack of employer demand to hire graduates with sustainability reporting knowledge

Employers do not yet demand that graduates have sustainability reporting knowledge. Milburn notes that while "general employers value students that are aware of current trends and can discuss coherently sustainability issues", CPA firms do not yet look for students with direct and in-depth sustainability knowledge (Seay & Sharon, 2015 p.65).

2.5.6. Poor relations established between different stakeholders

The reasons why very few universities in Australia have included sustainability courses in their accounting programs include the lack of motivation, ability, and direction (Lidgren, Rodhe & Huisingh, 2006). Many universities have put effort into incorporating accounting sustainability into their programs, but most of them are unable to move this forward. Guthrie, Evans and Burritt (2014) have discovered that there is high potential for integrating sustainability into accounting programs in Australia, but this heavily relies on the symbiotic relationship between practitioners, policymakers, and academics. This relationship is poorly established in Australia, leading to a lack of direction on how to successfully incorporate sustainability courses into accounting programs. The three elements need to relate to each other to adequately prepare future accounting professionals. The problems facing universities include financial hurdles, the extent to which accounting academics are in charge of their destiny, and inadequate support for academics from policymakers (Guthrie, Evans & Burritt, 2014).

2.6. Suggestions to enhance and incorporate sustainability accounting in the accounting curriculum evidence from the literature

The challenges inhibiting the incorporation or inclusion of sustainability accounting in the accounting programs of higher education institutions need to be addressed to help promote sustainable development, and to develop future generations of accountants who are literate in sustainability to providing sustainability reports of high quality. As stated by Gray, Bebbington and McPhail (1994), in order to ensure reliability and credibility of sustainability accounting and reporting, a skilled accounting professional should be developed. The development of future accounting graduates with the necessary skills required to provide financial and non-financial information about sustainability will greatly influence the reporting of social and sustainability issues in organisations. Accounting professionals who are sustainability literate need to be trained and educated on sustainability continuously in order to ensure consistency in reporting, high quality of material reported, and comparability of reports (Boyce et al., 2012). Furthermore, to be able to sustain the sustainability reporting trend, it is important to develop accounting professionals who have highly-specialised skills in comparison to regular accountants. Since the non-inclusion of sustainability accounting in universities' accounting programs or negatively affects both current and future sustainability reporting initiatives, it is important to ensure that sustainability accounting is incorporated in the curriculum of higher education institutions to help attain sustainable development. The inclusion of sustainability accounting in the accounting curriculum of higher education institutions is imperative in order to maintain sustainability reporting initiatives. Making the education of sustainability accounting part of the learning experience of accounting students is achievable. The incorporation can be made possible by addressing the challenges identified through the adoption of specific solutions.

2.6.1. Facilitate the resources and requirements to ensure incorporate sustainability in the accounting program

Institutions need to ensure that all the required resources are available for teaching and learning in sustainability accounting courses. For instance, the availability of accounting academic who are highly skilled and qualified needs to be ensured to enable the teaching of sustainability accounting for accounting students. Awareness of sustainability accounting needs to be created to ensure that people understand its importance and how it helps to improve sustainable development and to promote the achievement of sustainable development goals. Through awareness creation and better understanding about the discipline and its importance in their

lives, people will be more likely to adopt the concept and learning institutions are more likely to incorporate it in their accounting curricula (Ballou et al., 2012). Increased commitment of higher education institutions plays a major role in achieving effective sustainability integration. Researchers and practitioners need to explore new ways of integrating sustainability into the accounting curriculum and work across borders to provide opportunities for learning to future accountants, generalist managers, and financial managers. A conceptual framework needs to be developed to help in developing sustainable development.

2.6.2. Improve academic accounting staff's knowledge about sustainability accounting

The level of awareness and commitment to sustainability accounting needs to be improved to enable the incorporation of sustainability accounting in the accounting curriculum and thereby help to provide quality sustainability accounting education for accounting students. Specialised workshops for accounting teachers should be carried out to raise awareness among accounting professionals and academics on about the moral and social implications related to issues of sustainability in the professional practice of accountancy. Accounting academics need to be trained to be able to deliver enriched curriculum, and they should also improve their engagement with, and commitment to, sustainability accounting education (Lawson et al., 2013). They need to gain experience in sustainability issues and incorporate these in the accounting curriculum to help develop accounting graduates with the attribute of self-efficacy and with improved capacity in the discipline of sustainability accounting. They also need to have a framework that is clearly articulated for sustainability accounting education to help educate and train accounting students on the importance of sustainability accounting and the connections between sustainability and the accounting profession.

2.6.3. Increase employer demand to hire graduates with sustainability reporting knowledge

Employers should understand the importance of sustainability accounting in their organisations, ensure that positions for sustainability professional accountants are reserved, and that qualified applicants are recruited to take up those jobs. Through increased demand for sustainability accounting knowledge by employers, the inclusion of sustainability accounting in accounting programs of learning institutions will be promoted.

Businesses are expected by society to take responsibility for and address sustainability-related issues. Companies need to be more accountable for their impact on the environment and society. Over time, embracing sustainability helps to improve the financial performance of an organisation (Lawson et al., 2013). More skilled accounting graduates need to be developed to

enable the sustenance of sustainability accounting and reporting. The development of future accounting graduates with the knowledge and skills required in the provision of financial and non-financial information will greatly influence the manner of reporting on economic, social, and environmental issues in companies.

In conclusion, The integration of sustainability accounting into Masters and Bachelor accounting programs in Australian universities is an important strategy as it helps to promote sustainability reporting (Thomson, 2010). Through this strategy, sustainability awareness among learners and educators is lifted. Sustainability accounting education helps to emphasise or promote the interdependencies and linkages between social, economic, and environmental dimensions involved in the accounting profession. By teaching sustainability accounting, learners can gain an understanding about how their accounting profession, the environment and organisations in which they work are interrelated. The provision of sustainability information in the annual reports of organisations helps the accounting professional to understand how resources are used and shared by organisations as well as how their activities and operations affect the environment. Therefore, efforts from different stakeholders should be gathered to overcome the challenges that hinder the incorporation of sustainability accounting in accounting curriculum.

2.7. Theoretical framework and hypotheses development

2.7.1. . Stakeholder salience theory

Stakeholder salience theory was developed by Mitchell, Angle and Wood (1997). It involves three different types of stakeholder characteristics - power, legitimacy, and urgency - which refer to the various stakeholders' influence on the outcomes of an organisation. The power lies in the ability of stakeholders to impose their influence on the outcomes of different projects of the organisation, mostly through coercive means. Legitimacy type refers to the authority as well as the level of involvement stakeholders are allowed to have in projects of the organisation. Finally, urgency type refers to the time in which stakeholders expect a response to their expectations. Stakeholder salience theory leads to different categories of stakeholders, including external stakeholders such as government agencies, competitors, students, employers, professional accounting bodies, the Australian Greens party, and the principles for responsible management education. Internal stakeholders include university management and academic staff.

2.7.2. External Stakeholders

2.7.2.1. The role of government agencies

Government agencies are the most critical stakeholders in most higher education institutions mainly because of their task of formulating laws and regulations. Various government agencies influence accounting education in Australia in different ways. First, government agencies set accounting standards within the country; consequently, they determine the nature of accounting education in Australia. Furthermore, government agencies facilitate the administration of state funds to various schools within countries, and such resources could be used to improve accounting education within Australia. A key strategy of the Australian government is to foster sustainability in industries and businesses through education and learning. To ensure that all accountants take sustainability courses, laws can make this compulsory for all institutions. Mandatory requirements for the introduction of sustainability accounting reporting in the public sector can also work to ensure more people take up the course (Bui et al., 2017).

2.7.2.2. The role played by competitors and students

Some universities offer courses dedicated to accounting for sustainability. However, it would seem that only a small number of schools provide such courses. The level of competition between various universities can shape an individual university's approach to student attraction and retention, including the way the curriculum is designed and managed (Bui et al., 2017). With increased competition, more universities will strive to develop a curriculum that includes sustainability accounting, which will attract more students, thus equipping more people with the ability to deal with accounting for sustainability reporting. Students play a role in accounting education in Australian universities. Ideas and inputs from students towards the concept of sustainability in accounting education is a starting point for the realistic and practical integration of sustainable development in the accounting curriculum. A university student cannot gain a thorough understanding of the role social and environmental sustainability plays in accounting unless they have a positive perception and view towards the concept of sustainability accounting education. An Indonesian based study by Musyarofah (2011) shows that both students and lecturers consider the idea of sustainability accounting to be crucial and paramount, especially in relation to environmental and social dimensions in the accounting curriculum. Similarly, a New Zealand based study found that accounting students support the idea of including sustainability development in the accounting syllabus and that they felt that the idea was a "good thing" (Sharma & Kelly,2014). Seemingly, students who take accounting

courses that integrate sustainability concepts have a higher likelihood of success in their future careers. For example, a study by Pesonen (2003) that involved Finish graduates of corporate environmental management from a school of business and economics showed that graduates had a successful start in their careers during the first year after their graduation. The study further showed that the graduates had no problem in finding a job as was evident by their presence in various organisations.

2.7.2.3. The role played by employers and professional accounting bodies

Accounting bodies have oversight of the state of the accounting profession within a country. For example, in 2010, various professional accounting bodies reported on the challenges that faced accounting in Australia (De Lange & Watty, 2011). Additionally, by spotting the gaps in accounting education, they recommend what various institutions of learning could do to make their accounting courses better. Accounting bodies suggested in their 2010 report that Australia should hold annual meetings where experts in the field of accounting can discuss a way forward in accounting education (De Lange & Watty, 2011). If such meetings were to be implemented, the professional accounting bodies would be charged with the responsibility of providing professionals to attend the annual meetings (De Lange & Watty, 2011). Accounting reforms around the world have been called for by professional pressure mainly from employers and professional organisations. Universities have therefore had to make changes in most of their accounting programs to fit the demand of professionals. Employers are considered powerful and legitimate stakeholders and they mostly exercise their power and legitimacy through participation in higher education institutions' boards of government and management.

CPA (Certified Public Accountants) is one of the most significant professional accounting bodies in Australia, which ensures the inclusivity of all accountants from different regions. Their assessment suggests that professional academics in accounting and consultants should join forces with other disciplines if skills are to be in line with the demands of clients to attain sustainability, because employers are also looking to hire employees with a transdisciplinary attitude.

2.7.2.4. The role played by The Greens political party.

The Australian Greens[1] are a political party based on four key principles: ecological sustainability, grassroots democracy, social justice, and peace and non-violence. They were formed with the aim of improving the living standards of people by addressing environmental problems or other issues that affect people. This party can partner with different universities and companies in Australia to encourage employees and students to join in their activities of work or do some work elsewhere during their study period. By doing so, the levels of awareness of the sustainability issues will increase, and students will gain some skills which they can apply in their studies or at work.

2.7.2.5. The role played by the Principles for Responsible Management Education (PRME)

The United Nations developed the Principles for Responsible Management Education (PRME) in 2007 with the main aim of raising the profile of sustainability in different schools globally and equip business students with enough understanding and ability to deliver a change for a better future. It is a voluntary initiative and has over 650 signatories globally. There are six clearly defined principles for the PRME: purpose, values, method, research, partnership, and dialogue. Purpose entails developing the capabilities of students so they will be the future generators of a sustainable global economy. As part of values, higher education institutions will incorporate required good social values in their academic activities, in their curriculum activities, and in their organisational practices. With regards to methods, the relevant educational frameworks, processes, materials, and environments required for effective learning will be provided. In research, higher education institutions will be involved in conceptual and empirical research that improves their thinking about the role and impact of corporations in the creation of sustainable social, environmental and economic value. In terms of partnership, higher learning institutions will interact with managers of various corporations and extend their knowledge to solve most of the challenges of their businesses. A dialogue amongst educators, students, the government, businesses, consumers, the media, and many other orders will be stimulated to address the critical issues of global social responsibility and sustainability. The

[1] Source Australian greens website https://greens.org.au/

Principles for Responsible Management Education are fundamental to the improvement of the quality of education offered in higher education institutions.[2] The main commitment of any institution that participates in the PRME initiative is to regularly share information on its progress in implementing these principles with various stakeholders using the Sharing Information on Progress (SIP) platform. There are currently 18 business schools in Australian universities that participate in these principles.

2.7.3. Internal stakeholders

2.7.3.1. The role played by university management

The university management plays a large role in balancing all of the other stakeholders. It possesses power through its formal authority to make specific changes and provide legitimacy, as most of the decisions they take must be in line with the core values and objectives of the university, and they are urgent as most of their policies counter market forces and contend with demands from stakeholders. The university management also plays a critical role in ensuring that quality education programs are offered in schools which attract more students.

2.7.3.2. The role played by academics

Academics play a significant role in ensuring the success of different higher education institutions. Academics are considered legitimate stakeholders in learning institutions because most of the professional work they do is in line with the school's values. However, they can also function independently without the influence of the institution's management by exercising self-sufficiency in how they teach. Derahim et al. (2011) have advocated that academic and administrative staff should play a significant role in helping a university realise sustainability. In this respect, they identified staff perceptions and awareness around sustainability as vital in the implementation of the concept of sustainability in accounting schools.

Figure[3] 1 below represents the theoretical framework for this study. The stakeholders are powerful, but the question is to what extent they can exercise that power in relation to affecting different accounting curricula. What power do they enjoy when it comes to their influence in

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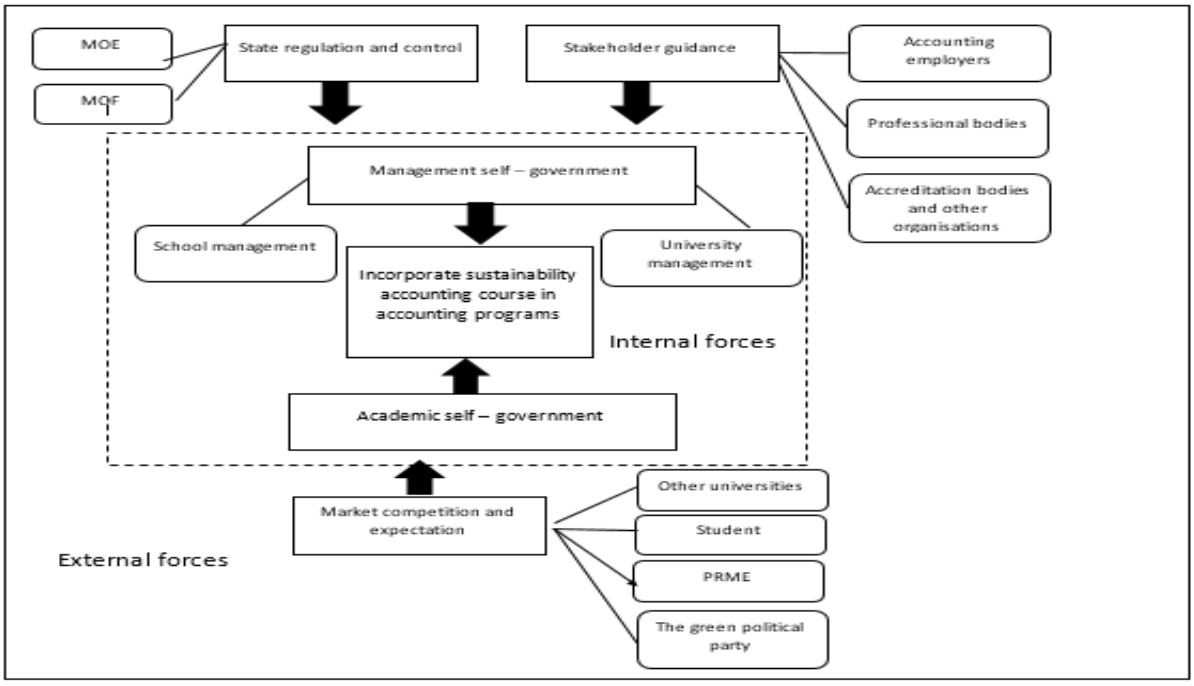
[2] Source: http://www.unprme.org/

MOE: Ministry of education
MOF: Ministry of Finance
PRME: The Principles for Responsible Management Education

the process of sustainability accounting education? To answer these questions, this study uses De Boer et al.'s (2007) framework. The model represents five dimensions: (i) government agencies, (ii) managerial self-governance, (iii) external guidance, (iv) market competition, and (v) academic self- governance.

Figure 1: Theoretical framework - stakeholder role influence on incorporating sustainability accounting courses in accounting program. Adapted from De Boer et al.'s (2007) model.



Government agencies in this model are responsible for the formulation of laws and regulations and use their power to influence the incorporation of sustainability accounting education within accounting programs in Australian universities.

1. **Managerial self-governance** refers to university management and their authority to make changes in the accounting curriculum in Australian universities.
2. **Stakeholder guidance** refers to the influence that external stakeholders have on universities to make changes in their accounting programs to fit the demand of professionals.
3. **Market competition** among and within universities has an impact on developing a curriculum with embedded sustainability accounting, which will attract more students, thus equipping more people with the ability to deal with sustainability account reporting.

4. **Academic self-governance** refers to the power to teach independently without the influence of the university's authority. This study focuses on academic self-governance.

2.8. Hypothesis development

This study indicates in its theoretical framing section, that internal and external stakeholders play a significant role in the process of incorporating sustainability accounting courses in accounting programs. Therefore, the main stakeholder in this study is academic staff. Development of the hypothesis of the study and the research objectives and the research questions are drawn from the past studies in the same area. In a study by Derahim (2011) advocated that academic and administrative staffs play a significant role in helping a university to realize sustainability. Lodhia (2010) finds that awareness of teaching staffs on the issue of sustainable development and the courses that were included in the curriculum played a vital role in equipping students with knowledge about sustainability.

Guthrie, Evans & Burritt, 2014 discover that there are high possibilities of integrating sustainability into accounting program in Australia, but this heavily relies on the symbiotic relationship between practitioners, policymakers, and academics. This relationship is poorly established in Australia leading to lack of direction on how to successfully incorporate sustainability courses into accounting programs. The three elements need to relate adequately to prepare future accounting professionals. In essence, the problems facing universities including financial hurdles, the extent in which accounting academics are in charge of their destiny, and inadequate support for academics from policymakers. Therefore , The following hypothesis developed as follow:

H1a: There is awareness among academic staff of the importance of incorporating sustainability accounting in Masters and Bachelor accounting programs.

H1b: There is awareness among academic staff of their role to offer sustainability accounting in Masters and Bachelor accounting programs.

H2: There is a lack of support and resources in higher education institutions and accountancy bodies which is limiting efforts of academic staff to incorporate sustainability accounting in Masters and Bachelor accounting programs.

2.9. The gap in the literature

A research gap or a gap in literature refers to a research problem or question which has not been appropriately answered or not addressed at all in a specific field (Ekins & Simon, 1999). Some areas regarding sustainability accounting have been under-explored or may not yet explored through research. For instance, the concept of sustainability in other disciplines. For example, The review of the literature has categorised into three main issues the first one , the current extent of accounting sustainability education in Australia the second one is the perception of academic staff towards the concept of accounting sustainability in Australia. and the last one is the challenges faced the incorporation of sustainability accounting in accounting program. The three categories were obtained by reviewing various pieces of literature associated with this research topic. Therefore The extent of accounting sustainability education in Australia showed that many researchers emphasised the need to integrate sustainability in accounting programs (Lodhia, 2010), (Botes et al.2014) and (Haskin & Burke 2016). Additionally, the literature has focused on the reasons why most of universities fail to incorporate sustainable development into their accounting curriculum. However, the literature has failed to outline the extent to which Australian universities offer sustainability accounting programs. Also, the literature has failed to identify the role that stakeholders play in driving the incorporation of sustainability accounting courses in accounting programs. The existing studies and research have not expanded on the application of stakeholder salience theory to sustainability accounting in higher education. Therefore, this study applied the theory of stakeholder salience by focusing on the elements of urgency, power, and legitimation as influences on sustainability accounting curricula in higher education. Challenges faced the incorporation of sustainability accounting in Australian accounting program are not clearly provided in the literature. Therefore, there is a necessity to identify and deeply explore the specific challenges faced or likely to be faced in sustainability accounting in order to help develop appropriate solutions to address them.

2.10. Summary

This chapter has reviewed the literature to support the development of research in the area of sustainability accounting education and has highlighted gaps in the literature. Sustainability accounting education plays a critical role in sustainable development and needs to be incorporated by universities to enable students to learn how to effectively address sustainability issues. Although over the last two decades sustainability accounting has received significant attention, much more needs to be done. Sustainability accounting has been adopted and

incorporated by very few institutions due to the challenges faced. For instance, some institutions lack the resources required and adequate academics who are skilled and qualified to deliver an entire sustainability accounting course. There are also signs that the discipline and awareness around sustainability accounting have not been adequately created to increase its popularity and inclusion in the accounting programs of institutions. These challenges need to be addressed to enable the integration of sustainability accounting in institutions' accounting curricula. For instance, training workshops can be organised to help create awareness about the issue and educate people about the importance of sustainable development. Institutions of higher learning need to ensure the availability of necessary resources, like instructional materials, and that adequate and qualified educators are available to facilitate sustainability accounting education. Based on a review of the literature on sustainability accounting, the discipline needs to be integrated into the accounting curriculum at schools to help promote sustainability both at schools and in society. The existing studies and research have not expanded on the application of stakeholder salience theory on sustainability accounting in higher education. The gaps identified are addressed in the current study which provides missing information about sustainability accounting and its incorporation in accounting curricula.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1. Introduction

Based on the previously highlighted research gaps and questions, data had to be collected and analysed to create a better understanding of the research problem and draw informed conclusions. This chapter outlines the approaches employed during data collection and data analysis to investigate the subject matter. The study borrows some design and methodological concepts from related past studies (Botes, Low & Chapman, 2014) and use such methodologies to address the research gaps ignored by the previous studies. The philosophical assumptions underpinning each methodological approach are explained.

The broad range of questions required to analyse the research problem necessitated the use of a mixed research methodology in this case. Data were collected in two phases whereby a document analysis was first done to test the feasibility of the entire research process. Survey questionnaires were subsequently distributed to the participants who were selected from the target population (academic staff). A semi-structured questionnaire was developed that facilitated the data collection to enable the study to relate theory to the selected participants' insights.

This chapter provides a brief description of the mixed methods that have been used in this study. First, this chapter will explain the pilot study, its objectives, data collection process, and the main limitations of the pilot study. In the second phase, the survey questionnaire, its objectives, the survey participants, the survey setting, data collection and analysis, demographics, and the survey limitations are discussed. Finally, the ethical considerations for this study are explained.

3.2. Pilot study

Before the full-scale research project began, this study engaged in a small-scale preliminary study in the intended field in order to establish the time needed to conduct the research, the probable expense of the survey, feasibility, adverse events and expected challenges, and any improvement areas of the design of the project execution model. The pilot study in this project was aimed at (i) determining the feasibility of the study and the validity of instruments used in collecting the data, as the validity shows how effectively the research questions can capture the required information for the study; (ii) checking to what extent public and private Australian universities offer sustainability accounting courses/ in Bachelor and Masters degrees.

3.2.1. Preliminary Data collection

The qualitative method in this study involved archival data collection. Through archival data collection, this study has reviewed the websites of all the main universities (higher education institutions) in Australia to identify: (i) the number of Australian universities offering accounting programs, and (ii) the number of universities in Australia offering sustainability accounting education.

3.2.2. Data analysis

3.2.2.1 Document analysis

Document analysis involves evaluating and reviewing documents from electronic and printed material. Document analysis requires that data be analysed and interpreted to obtain meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008). The documentary sources utilised in this study were sourced from public and private Australian universities' websites and they focused on their Masters and Bachelor accounting curricula, teaching methods currently employed, and course contents. The aim of secondary data, in this case, was to gain a deeper understanding of the status of sustainability education in Masters and Bachelor accounting programs offered by both public and private Australian universities.

3.2.2.2 Audit tool

An audit tool was developed for this study and used to measure the accountability of curricula in different universities. In developing the audit tool, the study identified key sustainability terms such as environmental reports, corporate social responsibility, and triple bottom line. The study analysed the formal descriptions of the accounting programs in all the selected universities and compared such descriptions with regards to the identified terms. Based on the frequency with which the three terms were mentioned in the description, the study assigned each university a sustainability score. Whether the programs score low or high on sustainability depends on the scale one chooses to set, which in turn is determined by the number of key sustainability terms identified by the audit tool. The main themes used in identifying the level of sustainability accounting in the selected higher learning institutions were corporate social responsibility, environmental reporting, and triple line bottom. The purpose of this analysis was to determine the extent to which each university offered sustainability accounting courses at Masters and Bachelor degree level.

3.3. The questionnaire

3.3.1. Questionnaire objectives

After examining the research questions carefully, this study developed a questionnaire to test the research hypothesis to help answer the research questions and draw a clear conclusion ,the questionnaire was intended:

- To capture the perceptions of the academic staff about their level of awareness, their roles and their effectiveness in enhancing sustainability accounting education in Australian universities.
- To examine the factors facilitating or inhibiting the successful adoption of sustainability accounting education in different universities.
- To examine aspects like qualifications of the academic staff, institutional policies, and efficiency of the administration system, as well as the commitment of the senior management, in capturing issues related to sustainability accounting education.

3.3.2. Questionnaire participants

The study obtained the list of potential universities from the *Study in Australia* website[4], to choose universities for the survey. All the universities that offered undergraduate or postgraduate accounting programs were listed amongst the national educational institutions. Only the institutions which met these criteria were selected:

- The universities had to offer approved degree programs in accounting (undergraduate and postgraduate degrees)
- The study utilised only academic staff in accounting faculties of identified Australian universities.

The universities were selected using a stratified sampling method. The target population was divided into two groups: (i) academic staff randomly selected from the ten universities offering sustainable accounting education, and (ii) academic staff from another ten universities that offered accounting programs but without any aspect of sustainability.

[4] https://www.studyinaustralia.gov.au/english/australian-education/universities-and-higher-education/list-of-australian-universities

3.3.3. [5]Questionnaire setting

A quantitative and partly qualitative survey was conducted, with the approval of the university's Human Research Ethics Committee, to ensure a representative sample of the research population was selected using stratified sampling. The characteristic of importance was the level of incorporation of sustainability accounting in their Masters and Bachelor accounting curriculum. Then, randomly chosen participants (academics) were responded to the survey. The survey was conducted from 19 November 2018 through to 17 January 2019. The closed-ended question responses were ranked using a Likert Scale with a numeric code ranging from 1 to 5, where one meant "not significant" and five meant "very significant."

The survey was administered online using the *LimeSurvey* tool[6]. The tool was considered most convenient because it is easy to use, produces a comprehensive report and is accessible without charge. The questionnaires were issued to the target population in a random manner giving each potential respondent an equal chance of participation (Creswell, 2014).

3.3.4. Questionnaire data collection

After the survey questions were developed, a web link was sent to the emails of the selected academic staff to solicit their understanding and perceptions of sustainability accounting as well as their contributions to enhancing sustainability accounting. The study sent several follow-up messages with the intention of obtaining more responses. In cases of delayed response, respondents were sent reminders by email.

3.3.5. Questionnaire data analysis

When the participants completed the questionnaire, the response data could be accessed through the same web link. With the help of a statistical analysis tool, the study categorised responses to different descriptive questions into categories of a varied magnitude, such as strongly agree, agree and neutral responses. Based on the count of responses in each category, the corresponding percentages were determined. The category with the largest percentage represented the majority opinion.

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[5] The questionnaire questions have included in appendix

[6] www.limesurvey.org

A descriptive analysis of the collected data was done and measures of mean and standard deviations were used to continuously describe measured variables, such as the perceived indicators of sustainable accounting importance, and the categorically measured variables were then described with frequencies and percentages.

Cronbach's alpha test of internal consistency was used to assess the reliability of the Likert-like questionnaire, which in turn was used to measure the academic staff's agreeability with sustainability accounting education in Australia.

A multiple response dichotomies analysis was used to describe the academic staff's educational units and types of topics on sustainable accounting, which were measured with 'select all that applies' questions to help us account for the dependency between educational units and topic types selected by academic staff. The Chi-squared Goodness-Of-Fit (χ2-G.O.F) test and an adjusted residuals analysis were used to assess the distribution of each obstacle (hindering factors) the academic staff had perceived for statistical significance, assuming an orderly ranking of the academic staff responses to the hindering factors was selected in a meaningful manner (from top hindering factor to bottom one) .

The Relative Importance Index (RII) was used to describe the relative importance of the academic staff's perceived indicators of sustainable accounting education within their university. The RII is a weighted mean analysis method (Holt, 2014) that is expressed as a percentage to compute the relative importance.

A Likert measured indicator with an RII index of between 0-25% is considered very insignificant, or insubstantial; an item within an RII of between 25-50% is still considered insignificant, but an indicator with an RII of between 50-75% is considered significant, and those indicators with an RII >75% are considered very significant or substantive.

The Relative Importance Index was ranked in an ascending order to help discern the teachers' top to bottom perceptions, or agreeability to the statements that measured sustainability accounting education. In short, the RII can be considered as a qualitative and quantitative descriptive statistic (Aziz, 2016). The compute command in the analytical program was used to compute the overall mean of the Likert-like items that measured the academic staff's perceptions (agreeability) with regards to sustainability accounting. Then, the independent group's t-test and one-way ANOVA tests were used to assess the academic staff's demographic, academic and educational factors for statistically significant differences on the mean of perceived agreeability with sustainability accounting (Field, 2012).

3.3.6. Demographics

Demographically, academic staff were adequately diverse. In the selected group of respondents, both males and females were nominated. This also concentrated on the regions, age and years of experience in the academic field of accounting as the main demographic characteristics of the participants.

3.3.7. Questionnaire limitations

Although the questionnaire was widely distributed, there was a relatively small response, with 86 out of the potential 503 participants responding.

3.4. Ethical considerations

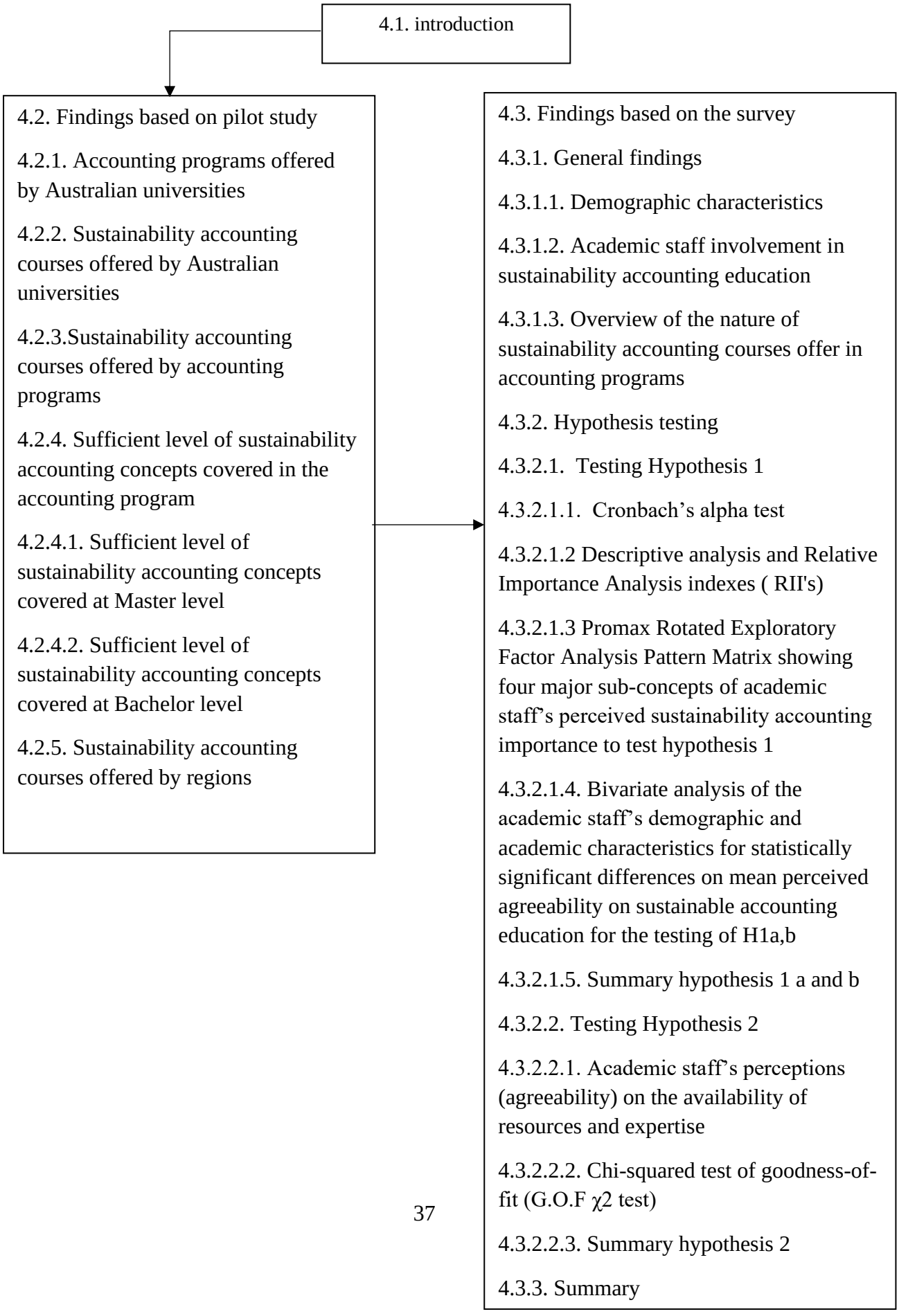
The study considered all ethical issues when framing the study. First, participation in the research as a respondent was voluntary in the sense that only individuals expressing willingness were requested to participate. The culture, norms, and ethics of the target population were considered in designing the survey questions such that none of the questions would intimidate or emotionally affect the respondents negatively. The personal details of each respondent, as well as their responses, were kept confidential and the respondents were assured of their confidentiality before they engaged in the study. Also, the study was approved by the USQ Human Research Ethics Committee (HREC). The ethics approval number is H18REA230. The HREC went through the research purpose, questionnaire, and the participant's consent forms and approved each of these. The study applied basic ethical principles that ensured the success of the data collection process. Through the autonomy principle, the study ensured that every participant was given an equal chance to participate and to quit from the survey of their own free will. The study ensured that all the researcher participants were well informed about the importance of the study.

3.5. Summary

As has been stated, a mixed research method has been used in this study. The approaches were used for this study has described and discussed in chapter 3. In addition, the objectives, data collection process and the limitation of the pilot study were provided and discussed. This chapter also outlines the questionnaire setting, objectives, participants, demographic, limitation and the data collection and analyse have discussed. The findings of this study, followed by the conclusion, will be presented in the following Chapters Four, Five respectively

CHAPTER FOUR: FINDINGS

Figure 2: Outline of the sections and sub-sections for chapter 4



The figure 2 shows the headings and subheadings outline in the findings chapter . This chapter comprises three main headings : (i) introduction, (ii) the findings based on pilot study and (iii) findings based on the survey. To begin with findings based on pilot study which includes five subheadings which elaborate firstly accounting programs offered by Australian universities. Secondly, sustainability accounting courses offered by Australian universities. Thirdly, sustainability accounting courses offered by accounting programs. Fourthly , it discuses sufficient level of sustainability accounting concepts covered in the accounting program for master and bachelor programs. Finally, it shows the sustainability accounting courses offered by regions. The second main heading elaborates the findings based on the survey which covers three main headings : general findings, hypothesis testing and summary. The general findings heading covers the main issues (i)demographic characteristics, (ii)academic staff involvement in sustainability accounting education and (iii)overview of the nature of sustainability accounting courses offer in accounting programs. However, hypothesis testing comprises two subheadings these are testing hypothesis 1 and testing hypothesis 2.

Testing hypothesis 1 provides various analyses tools that used to test the hypothesis such as Cronbach's alpha test, descriptive analysis , Relative Importance Analysis indexes (RII's), Promax Rotated Exploratory Factor Analysis ,Bivariate analysis and conclude it with summary. Testing Hypothesis 2 shows various analyses tools that used to test the hypothesis such as academic staff's perceptions (agreeability) on the availability of resources and expertise and Chi-squared test of goodness-of-fit (G.O.F $\chi 2$ test) and conclude it with summary. The summary of the main finding's places in the end of the chapter.

4.1. Introduction

The findings presented in this chapter are assumed to create insights and logically address the research questions. Although some details outlined may not address the research questions directly. The information provided creates an understanding of the extent to which Australian universities are committed to facilitating effective sustainability accounting education, the contributions of academic staff to enhancing sustainability accounting as well as their effectiveness in fulfilling the role, the hindrances to realising this objective, and the potential solutions to the research problem. In this chapter the findings of the study will be discussed in two phases: the first phase's findings are based on the pilot study, while the second phase consists of findings based on the survey.

4.2. Findings based on pilot study

4.2.1. Accounting programs offered by Australian universities

The preliminary document analysis using the universities website shows that there were forty-four Australian universities (forty public universities, three private universities and one international university). Forty-one out of the forty-four universities (representing 93% of all universities in the country) offer accounting programs. Almost all Australian universities offer an accounting program, either at Bachelor or Masters level. The total number of Bachelor and Masters accounting programs offered by these universities is one hundred and seventy-eight out of which eighty-five are Bachelor programs and ninety-three Masters programs.

4.2.2. Sustainability accounting courses offered by Australian universities

In Australia, sustainability accounting programs are offered in only ten universities, either as a unit under the main Bachelor/Master's program or as a separate program. About 76% (31 out of 41) of the Australian universities offering accounting programs disregard the sustainability part. The accounting programs incorporating sustainability accounting /courses make up only eleven out of the one hundred and seventy-eight programs.

The table below show all the forty-four Australian universities with their respective accounting programs at both Bachelor and Masters levels. The data further shows the universities incorporating sustainability accounting course for Masters and undergraduate degrees. Out of the forty-one universities offering accounting programs, only ten teach sustainability aspects of accounting.

Table 4.1 Australian universities with their respective accounting programs at both Bachelor and Masters levels

No.	University name	Type	Accounting program		Offers sustainability accounting topics	
			Bachelor	Masters	Bachelor	Masters
1	Australian National University	Public	2	2	Yes	Yes
2	University of Canberra	Public	3	1	No	No
3	Australian Catholic University	Public	2	1	No	No
4	Charles Sturt University	Public	1	2	Yes	No
5	Macquarie University	Public	3	10	Yes	Yes
6	Southern Cross University	Public	1	1	No	No
7	University of New England	Public	2	2	No	No
8	University of New South Wales	Public	1	3	No	Yes
9	University of Newcastle	Public	1	4	No	No
10	University of Technology, Sydney	Public	1	1	No	No
11	University of Sydney	Public	1	1	No	No
12	Western Sydney University	Public	2	2	No	No
13	University of Wollongong	Public	1	2	No	No
14	Charles Darwin University	Public	1	2	No	No
15	Bond University	Private	1	3	No	No

No.	University name	Type	Accounting program		Offers sustainability accounting topics	
			Bachelor	Masters	Bachelor	Masters
16	CQ University	Public	2	1	No	No
17	Federation University of Australia	Public	1	1	No	No
18	Griffith University	Public	1	2	No	No
19	James Cook University	Public	1	2	No	No
20	Queensland University of Technology	Public	1	2	No	No
21	UQ	Public	7	2	No	No
22	USQ	Public	2	2	No	No
23	Sunshine cost university	Public	1	1	No	No
24	Carnegie Mellon University	Public	No accounting program			
25	Flinders University	Public	3	3	No	Yes
26	Torrens University Australia	Private	1	1	No	No
27	University College London	Public	No accounting program			
28	University of Adelaide	Public	1	5	No	No
29	University of South Australia	Public	2	1	Yes	No
30	University of Tasmania	Public	1	2	No	No
31	Deakin University	Public	1	4	No	no
32	Federation University of Australia	Public	3	1	No	No
33	La Trobe University	Public	5	5	Yes	Yes
34	Monash University	Public	4	3	Yes	No
35	RMIT University	Public	3	2	No	Yes

No.	University name	Type	Accounting program		Offers sustainability accounting topics	
			Bachelor	Masters	Bachelor	Masters
36	Swinburne University of Technology	Public	6	4	No	No
37	University of Divinity	Public	No accounting program			
38	University of Melbourne	Public	1	2	No	No
39	Victoria University	Public	1	2	No	No
40	Curtin University	Public	8	2	No	No
41	Edith Cowan University	Public	1	1	No	Yes
42	Murdoch University	Public	1	2	No	No
43	University of Notre Dame Australia	Private	2	1	No	No
44	University of Western Australia	Public	2	2	No	No
Total Number Public = 40 Private = 3 International =1		44	85	93	6	7

4.2.3. Sustainability accounting courses offered by accounting programs

Given that Australian universities offered sustainability accounting courses at varying degrees, the study also assessed the extent to which each university taught sustainability accounting based on three measures: (i) corporate social responsibility, (ii) environmental reporting, and (iii) triple line bottom.

There is one university, the University of New South Wales, which offers sustainability accounting as an elective unit/course at Masters level. One university, Monash University, offers sustainability accounting as an elective unit/course at Bachelor level. Two universities, RMIT University and Edith Cowan University, offer sustainability accounting as a compulsory

unit/course at Masters level. The study found that four universities, Charles Sturt University, Macquarie University, University of South Australia and La Trobe University, offered sustainability accounting courses to every accounting student at Bachelor level. In other words, sustainability accounting is compulsory in those four universities. There are two universities, the Australian National University and Flinders University, that teach sustainability accounting courses at both Bachelor and Masters levels. At Flinders University, the sustainability accounting course are compulsory at Bachelor level and Flinders offers an elective sustainability course at Masters level. The Australian National University offers sustainability accounting at both Bachelor and Masters levels as elective courses.

The table below shows the ten Australian universities that offer sustainability accounting courses for accounting programs at both Bachelor and Masters levels.

Table 4.2 Australian universities offer sustainability accounting courses

No.	University name	Sustainability accounting courses	Bachelor		Master	
			Elective	Compulsory	Elective	Compulsory
1	Australian National University	Corporate Social Responsibility,	✓			
		Sustainability and Corporate Social Responsibility, Accountability & Reporting			✓	
2	Charles Sturt University	Strategic and sustainable accounting		✓		
3	Macquarie University	Accounting in society		✓		

No.	University name	Sustainability accounting courses	Bachelor		Master	
			Elective	Compulsory	Elective	Compulsory
4	University of New South Wales	Reporting for climate change and sustainability			✓	
5	Flinders University	Governance, sustainability and ethics		✓	✓	
6	University of South Australia	Sustainability accounting and reporting		✓		
7	La Trobe University	Sustainability		✓		
8	Monash University	Accounting for sustainability	✓			
9	RMIT University	Accounting, accountability and society				✓
10	Edith Cowan University	Contemporary issues in sustainability accounting				✓
Total number of Australian universities that offer sustainability		11 sustainability courses	2 Elective	5 Compulsory	3 Elective	2 Compulsory

No.	University name	Sustainability accounting courses	Bachelor		Master	
			Elective	Compulsory	Elective	Compulsory
accounting courses = 10						

4.2.4. Sufficient level of sustainability accounting concepts covered in the accounting program

The triple bottom line, environmental reporting, and corporate social responsibility are the main themes utilised as an explicit and implicit reference to identify the sufficient level of sustainability accounting concepts covered in the accounting program among the ten universities that have integrated sustainable accounting education in their Masters and Bachelor accounting programs.

Within the content analysis method, the coverage level in the study was based on the themes of triple line bottom, environmental reporting, and corporate social responsibility. The study checked each sustainability course and compared how many concepts from the three themes or variables were covered before coming up with the percentages that reflected sufficient levels in the curriculum. A score of 1 outlined that the accounting course did not mention any aspect of the three themes. A score of 2 showed that the accounting course displayed some elements of the themes. Finally, a score of 3 indicated that the accounting course incorporated all aspects of the three themes. Thus, a score of 3 outlined good integration of the three themes; a score of 2 indicated a moderate integration of some of the themes, and a score of 1 had no integration of the three themes.

4.2.4.1. Sufficient level of sustainability accounting concepts covered at Master level

The total number of universities offering sustainability accounting courses in their Masters accounting programs was five.

- Three universities (60%) out of the five Australian universities that offered sustainability accounting courses within their Masters programs covered some aspect of sustainability accounting education.
- Two universities (40%) out of the five covered all aspects of sustainability accounting education.

4.2.4.2. Sufficient level of sustainability accounting concepts covered at Bachelor level

The total number of universities that offered sustainability accounting courses in their Bachelor accounting programs was seven.

- One university (14%) out of the seven universities offered all aspects of sustainability accounting education.
- Three universities (43%) out of the seven covered some aspects of sustainability accounting education.
- Three universities (43%) out of the seven did not cover any aspects of sustainability accounting education.

Table 4.3 Sufficient level of sustainability accounting concepts covered in Masters and Bachelor accounting programs

Panel A: Scope of sustainability accounting concepts covered in Bachelor accounting program				
University name	Rating			Average
	3	2	1	
Australian National University		✓		2
Charles Sturt University			✓	1
Macquarie University			✓	1
Flinders University	✓			3
La Trobe University			✓	1
University of South Australia university		✓		2
Monash University		✓		2
Total	1 (14 %)	3(43%)	3(43%)	
Panel B: Scope of sustainability accounting concepts covered in the master's accounting program				
University name	Rating			Average
	3	2	1	

Australian National		✓		2
New South Wales		✓		2
Flinders	✓			3
RMIT		✓		2
Edith Cowan University	✓			3
Total	2 (40%)	3(60%)	0	

4.2.5. Sustainability accounting courses offered by regions

The geographical distribution of universities offering sustainability accounting programs throughout the country is a matter of concern. The initial research showed that Australian universities offering accounting programs were highly concentrated in regions like the Australian Capital Territory, Western Australia, South Australia, New South Wales, and Victoria. By contrast, the Australian universities in the Northern Territory, Tasmania, and Queensland tended to ignore sustainability accounting. The table below shows the Australian universities that offer sustainability accounting courses at Masters and Bachelor level by region.

Table 4.4 Sustainability accounting courses offered by geographical region

Number	University name	Region
1	Australian National University	Australian Capital Territory
2	Charles Sturt University	New South Wales
3	Macquarie University	New South Wales
4	University of New South Wales	New South Wales
5	Flinders University	South Australia
6	University of South Australia	South Australia
7	La Trobe University	Victoria

8	Monash University	Victoria
9	RMIT University	Victoria
10	Edith Cowan University	Western Australia

4.3. Findings based on the survey

The questionnaire survey was developed to be link with the research objectives and to address the research questions. and to investigate the perceptions, understandings and roles of academics regarding accounting sustainability education in Australian universities. The survey intended to obtain information around the following categories:

4.3.1. General findings

4.3.1.1. Demographic characteristics

Eighty-six academic staff in accounting schools in Australian universities responded to the survey, and their demographic and academic characteristics are shown in Table 4.5 and summarised as follows:

Table 4.5 Frequencies of respondents' gender, age, teaching experience and university location

Panel A: Participants gender profile						
Gender	Male		Female		Total	
	N = 46	53.5%	N=40	46.5%	N = 86	100 %
Panel B: Participants age profile						
Age	24-41 years		42-49 years		>=50 years		Total	
	N=25	29.1%	N=23	26.7%	N=38	44.2%	N=86	100%
Panel C: Participants years of experience profile						
years of experience profile		N	%			
	1-10 years	22	25.6%			
	11-15 years	19	22.1%			
	16-20 years	11	12.8%			
	21-25 years	11	12.8%			
	26-30 years	8	9.3%			
	> 30 years	15	17.4%			
	Total	86	100%			

Panel D : Participants university location profile										
University location	East		West		North		South-South East		Total	
	N=26	30.2%	N =6	7%	N=6	7%	N= 48	55.8%	N=86	100%

Panel A: Participants gender profile

Table 4.6 shows the gender distribution. Most of the academic staff who responded to the survey questions (n= 46, 53.5%) were male while the remainders of them (n= 40, 46.5%) were female.

Panel B: Participants age profile

Most of the academic staff who responded to the survey questions (n= 38, 44.2%) were aged fifty or over.

Panel C: Participants years of experience profile

Most of the academic staff who responded to the survey questions (n= 22, 25.6%) were years of experience range between one to 10 years.

Panel D : Participants university location profile

Most of the academic staff who responded to the survey questions (n= 27, 31.18%) were located in south-south east Australia.

4.3.1.2. Academic staff involvement *in sustainability accounting education*

Table 4.6 Academic staff involvement in sustainability accounting education

Panel A: Academic staff involvement in teaching sustainability accounting						
Teaching sustainability accounting courses	No		Yes		Total	
	N= 53	61.6%	N=33	38.4%	86	100%

Panel B :The levels at which academic staff teach sustainable accounting										
The levels academic staff teach sustainable accounting	Other		Bachelor		Masters		Both		Total	
	N=53	61.6	N=15	17.4	N= 7	8.1	N=11	12.8%	86	100%

Panel A of Table 4.6 shows the academic staff involvement in teaching sustainability accounting.

Academic staff were asked to indicate whether they taught any topics or courses in sustainability accounting, and most of them (61.6%) advised they did not teach sustainability accounting, but 38.4% of them agreed they had been involved in sustainability accounting education.

Panel B of Table 4.6 discuss the levels at which academic staff teach sustainable accounting. The survey data indicates that the 17.4% of the them had taught sustainability topics to Bachelor of accounting students.

4.3.1.3. Overview of the nature of sustainability accounting courses offer in accounting programs

Table 4.7 Overview of the nature of sustainability accounting courses offer in accounting programs

Panel A: The extent of sustainability accounting courses offered in accounting program									
Whole course		A topic in one course		A topic in several courses		A topic in two or more courses		Total	
N=24	24.2%	N= 20	20.2%	N=47	47.5%	N= 8	8.1 %	N=99	100%
Panel B: Sustainability accounting topics or courses covered/taught in a master's degree and bachelor's degree									
						Master		Bachelor	
Not involved in teaching sustainability accounting						N= 60	69.8%	N= 68	79.1%
1-2 topics in a single course						N=19	22.1%	N=15	17.4%
3-4 topics in a single course						N=2	2.3%	N=0	0.00
More than 6 topics						N=1	1.2%	N=0	0.00
1-2 courses across the programs						N=1	1.2%	N=0	0.00
More than six courses across the programs						N= 0	0.00	N=1	1.2%
1-2 topics in a number of courses						N=2	2.3%	N=1	1.2%
3-4 topics in a number of courses						N= 1	1.2%	N= 1	1.2%
Panel C: Name of sustainability accounting topics or courses covered/taught in a master's degree and bachelor's degree									

Course/ unit name	N	%
Corporate social responsibility	18	56.2%
Environmental accounting	9	28.1%
Reporting for climate change	2	6.2%
Sustainability accounting and reporting	11	34.4%
Accounting in society	7	21.9%
TBL	9	28.1%
Accounting for sustainability	7	21.9%
Other courses in accounting programs	11	34.4%

Table 4.8 A multiple response dichotomy analysis (MDA)

Dichotomy group tabulated at value 2						
	Valid		Missing		Total	
Course type 2[a]	N=81	94.2%	N= 5	5.8%	N= 86	100%

Panel A of Table 4.7 explains the extent of sustainability accounting courses offered in accounting program.

The academic staff were asked to select out of a list of various course types all those that applied at their university in relation to offered sustainability accounting topics. A multiple response dichotomy analysis (MDA) was used to assess and count the percentages of academic staff who had selected various course types based on dependency between their responses, and the resulting analysis suggested that 99 course types were selected by 81 academic staff see (table 4.8). The overall findings are shown in Table 4.7 and show that the majority of (n=47,47.5 %) of the respondents stated that sustainability accounting education was offered as a topic in various courses.

Panel B of Table 4.7 shows sustainability accounting topics or courses covered/taught in a master's degree and bachelor's degree.

The study was interested in assessing the number of topics or courses that staff teaches in a master's and bachelor's degree.

Master's degree level

Fifty-three (61.6%) of the academic staff was not involved in teaching sustainability accounting in any way. With regards to the number of courses taught to master's degree students by teachers who were involved, 69.8% was either not involved or did not answer. The results show that the majority of (n=19, 22.1%) of the respondents stated that they covered 1-2 topics of sustainability accounting topics in a single course.

Bachelor's degree level

With regards to the number of course types the academic staff were involved in with regards to teaching sustainability accounting to bachelor's degree students, the majority of the academic staff (79.1%) were either not involved in bachelor's degree accounting education or did not teach the sustainability accounting to those students. The results show that the majority (n=15,17.4%)of the respondents stated that they covered 1-2 topics of sustainability accounting topics in a single course.

Panel C of table 4.7 demonstrates the sustainability accounting courses/topics offered by accounting programs

Based on the results from the pilot study there were seven main courses which involved teaching sustainability accounting in Australian universities. These courses included Accounting for Sustainability, Triple Bottom Line (TBL), Sustainability Accounting and Reporting, Accounting in Society, Reporting for Climate Change, Environmental Accounting, and Corporate Social Responsibility. Academic staff were asked to indicate (i.e., select out of a list) in which unit courses they believed the content of sustainability accounting was covered, and multiple response dichotomy analysis was used to describe the participants' responses. The resulting findings suggested that only 32 participants had selected more than one option from the listed courses they believed had covered sustainability accounting.

The results show that the majority (n=18, 56.2%) of participants indicated that corporate social responsibility courses covered a topic related to sustainability. Moreover, the academic staff were also asked to specify any other courses that covered sustainability accounting aspects. (n=11,34 %) of them named other courses in accounting programs that covered topics related to sustainability accounting, such as (i) management accounting, (ii) greenhouse gas reporting, (iii) critical accounting, (iv) accounting theory, (v) managerial planning and control, (vi) issues

in financial accounting, (vii) contemporary issues in accounting, (ix) theoretical framework, and (x) a capstone unit in the Master of Accounting program.

4.3.2. *Hypothesis* testing :

In order to answer research questions (i) To what extent are academic staff aware of the importance of sustainability accounting? (ii) How effective are academic staff in influencing the inclusion and teaching of sustainability accounting courses in Masters and Bachelor accounting programs?, and (iii) What are the challenges that are limiting Australian universities' efforts in incorporating sustainability in Masters and Bachelor accounting programs?, this study employs a number of statistical methods such as descriptive statistics (Mean and SD), a Relative Importance Index (RII), a chi- a chi-squared test of goodness-of-fit (G.O.F $\chi 2$ test), a t- test, and an exploratory factor analysis (EFA) were used to test the hypotheses.

H1a: There is awareness among academic staff of the importance of incorporating sustainability accounting in Masters and Bachelor accounting programs.

H1b: There is awareness among academic staff of their role in offering sustainability accounting in Masters and Bachelor accounting programs.

4.3.2.1. Testing Hypothesis 1:

4.3.2.1.1. Cronbach's alpha test

Hypothesis 1a proposed that the academic staff would show significant (substantive) perceived importance of the importance of incorporation sustainability accounting in Masters and Bachelor programs, while hypothesis 1b asserted that the academic staff would understand their role in offering sustainability accounting in Masters and Bachelor accounting programs.

In order to understand how the academic staff had perceived the value and importance of sustainability accounting the study measured the Cronbach's alpha. The perceptions of academics (agreeability) on twelve indicators (perceptions of the sustainability accounting importance, usefulness, availability of resources and expertise, beside the academic staff's ability /self-confidence in teaching Sustainability accounting) measured with an 1-5 agreement Likert-like scale (1= Strongly disagree, 5= Strongly agree) were used to test the Cronbach's test of internal consistency to assess the reliability of the questionnaire and the result showed the scale was reliable, **Cronbach's alpha=0.7**1.

4.3.2.1.2. Descriptive analysis and Relative Importance Analysis indexes (RII's)

Table 4.9 shows the descriptive statistics (Mean & SD) of those measured indicators beside the Relative Importance Index (RII) analysis score with the ascending rank of those RII scores shown in column four.

Table 4.9 Descriptive analysis and Relative Importance Analysis indexes (RII's) of the academic staff perceived indicators of sustainable accounting education according to the academic staff. N=86.

	Mean (SD)	**RII-%**	**Rank**
I fully understand the role of accountants in sustainability reporting.	**3.79 (0.98)**	**63.2**	***2***
The economic, social and environmental aspects of sustainability are important areas that need to be understood by any accounting student.	**4.35 (0.81)**	**72.5**	***1***
There is an increased demand in the Australian job market for accounting professionals with skills in sustainability.	**3.51 (0.81)**	**58.5**	***5***
A shift to the inclusion of sustainability in the master's curricula of the accounting courses is a decision that can be made independently by your institution.	**3.67 (0.99)**	**61.2**	***3***
A shift to the inclusion of sustainability in the bachelor's curricula of the accounting courses is a decision that can be made independently by your institution	**3.72 (0.93)**	**61.2**	***4***
Ensuring accounting graduates are equipped with knowledge on sustainability concepts and practices is an area of priority in my school.	**3.3 (0.95)**	**55.0**	***7***
I have an integral role in influencing the inclusion of sustainability accounting courses in master and bachelor accounting programs	**2.66 (0.95)**	**44.4**	***9***
I am able to influence the university administration about the programmes and activities related to sustainability	**2.35 (0.92)**	**39.1**	***11***
Regarding the hiring process for teaching staff, your institution takes into account the candidate's knowledge, and contributions made towards sustainability accounting education.	**2.31 (0.90)**	**38.6**	***12***
The institution provides the teaching staff with opportunities such as workshops and training to enhance their understanding of sustainability.	**2.66 (1)**	**44.4**	***10***
Most Australian universities seek guidance from professional bodies when developing accounting sustainability programs.	**2.95 (0.87)**	**49.2**	***8***
A stronger partnership between professional bodies and academic accounting will improve the inclusion of sustainability accounting courses in master and bachelor in the university	**3.47 (1)**	**57.8**	***6***

The results in Table 4.9 shows that the top perceived indicator of **academic staff** agreeability to sustainability accounting education was their agreement with "***The economic, social and environmental aspects of sustainability are important areas that need to be understood by any accounting student***" which received a collective mean agreement by the **academic staff** equal to 4.35 points out of 5 maximum Likert points, and an relatives importance index equivalence that was significant/substantive (RII=72.5% out of a hundred maximum points , this is >50%) , this indicates that the **academic staff** had strongly agreed on average to the importance of sustainability accounting to economic, social as well as environmental aspects

The next top **academic staff** perception of sustainability accounting was their agreement on whether they had "***.. fully understand the role of accountants in sustainability reporting***." was rated by 3.79 points out of 5 maximum Likert points on average, which is between neutral to agree , suggesting those **academic staff** had generally a good understanding of sustainability accounting. The relative index of importance of the teachers understanding of the role of accountants in sustainability reporting was significant, RII=63.2% out of 100%.

The third most important perceived indicator of **academic staff** perception on a shift to the inclusion of sustainability in the master's curricula of the accounting courses is a decision that can be made independently by your institution. This indicator received a mean agreement of 3.67 points out 5 on average. The RII index of relative importance was significant and took the third rank from the top weighted indicators , RII=61.2% out of a hundred maximum points, see table-4 top half

Finally the last indicator is a ***shift to the inclusion of sustainability in the bachelor's curricula of the accounting courses is a decision that can be made independently by your institution***" which had received a collective mean agreement equal to 3.72 out of 5.,The equivalence relative importance index was significant , or substantive , RII =(61.2% out of 100%), denoting the **academic staff** had a substantive belief in the importance of independent decision by the university to include sustainability accounting in their curricula.

The above findings clearly provide support for our hypothesis H1(a) and H1 (b) that There is awareness among academic staff of the importance of incorporating sustainability accounting in Masters and Bachelor accounting programs and their role in offering sustainability accounting in Masters and Bachelor accounting programs.

4.3.2.1.3. Promax Rotated Exploratory Factor Analysis Pattern Matrix showing four major sub-concepts of academic staff's perceived sustainability accounting importance to test hypothesis 1

An exploratory factor analysis (EFA) was conducted with a principal components analysis on the twelve indicators measuring the academic staff's perceived importance of sustainability accounting, and these items were measured with a 1-5 Likert-like agreement scale. The analysis summarised in table 4.10

Table 4.10: Promax Rotated Exploratory Factor analysis

	Extracted Factors			
	1-Inclusion	**2-importance**	**3-expertise**	**4-teahcing ability**
Q2_11 A shift to the inclusion of sustainability in the master's curricula of the accounting courses is a decision that can be made independently by your institution	**.877**			
Q2_12 A shift to the inclusion of sustainability in the bachelor's curricula of the accounting courses is a decision that can be made independently by your institution	**.873**			
Q2_13 Ensuring accounting graduates are equipped with knowledge on sustainability concepts and practices is an area of priority in my school.	**.311**			
Q2_9 The economic, social and environmental aspects of sustainability are important areas that need to be understood by any accounting student.		**.731**		
Q2_8 I fully understand the role of accountants in sustainability reporting.		**.640**		
Q2_10 There is an increased demand in the Australian job market for accounting professionals with skills in sustainability.		**.398**		
Q2_17 The institution provides the teaching staff with opportunities such as workshops and training to enhance their understanding of sustainability			**.668**	
Q2_16 Regarding the hiring process for teaching staff, your institution takes into account the candidate's knowledge, and contributions made towards sustainability accounting education.			**.597**	
Q2_19 A stronger partnership between professional bodies and academic accounting will improve the inclusion of sustainability accounting courses in master and bachelor in the university		**.319**	**.489**	
Q2_18 Most Australian universities seek guidance from professional bodies when developing accounting sustainability programs.			**.410**	

Q2_14 I have an integral role in influencing the inclusion of sustainability accounting courses in master and bachelor accounting programs				**.866**
Q2_15 I am able to influence the university administration about the programmes and activities related to sustainability				**.556**
Extraction Method: Principal Axis Factoring. Rotation Method: Promax with Kaiser Normalization. A. Rotation converged in 6 iterations.				

- The findings reported in Table 4.10 suggested that a total of 64% of correlations between the twelve measured indicators of academic staff's perceptions of sustainability accounting education, denoting that they can be characterised in further analysis despite the low sample size.
- items that measured the academic staff's perceived importance of sustainability accounting's inclusion and/or addition to the curricula correlated significantly and positively to the first factor, which was named as academic staff's perceived importance of inclusion of sustainability accounting. The academic staff's perceived importance of sustainability accounting curriculum inclusion correlated with the academic staff's perceived importance of sustainability accounting at r=0.220.

In addition, it shows that the second factor

- that measured the academic staff's perceived importance of the topics of sustainability accounting loaded positively and significantly, to the second factor, which was named as perceived importance/benefit of sustainability accounting. The third factor measuring the institutional challenges and expertise requirements loaded positively and significantly to the third factor, which was named institutional expertise on sustainability accounting. Finally, the last and fourth factor was comprised of two items that measured the academic staff's self-confidence and ability to teach sustainability accounting and was named as sustainability accounting ability/teaching confidence. The academic staff's perceived importance of sustainability accounting correlated positively with their perceived ability. Those who perceived more importance also tended to perceive their ability to teach sustainability accounting to be greater, at r=0.244.

Those academic staff who scored higher on those factors tended to perceive more importance of including the sustainability accounting, and they perceived greater importance as well of university human resource and expertise development and ability to teach the sustainability accounting courses, and vice versa which support H1 (a) and H1 (b).

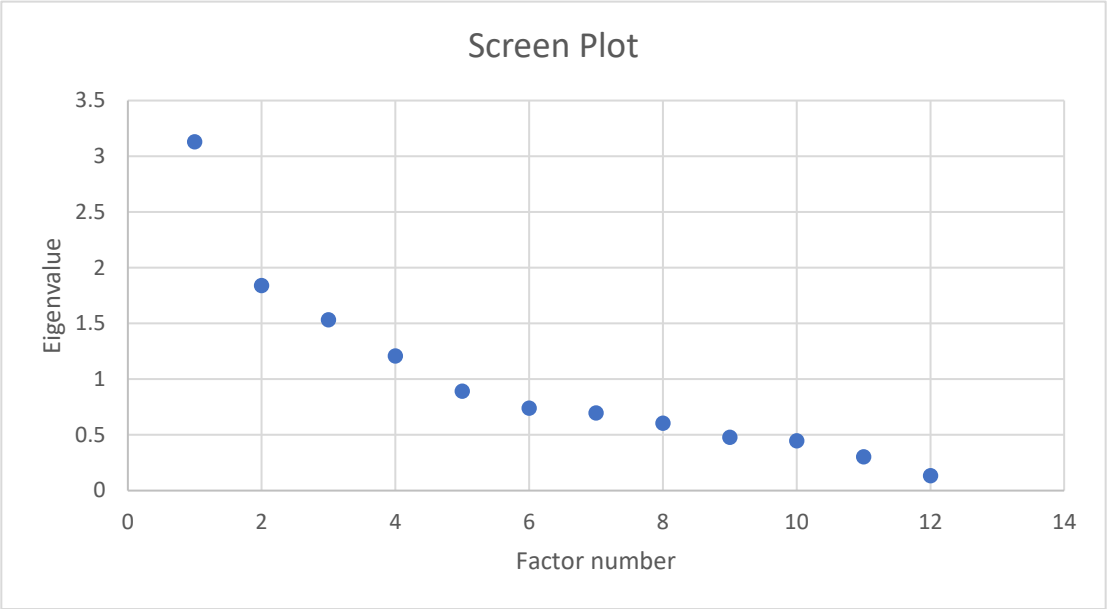
The four factors were significantly correlated as following

Table 4.11 shows the KMO and Bartlett's test. Although the samples size was relatively small but the factor solution converged significantly on four sub-concepts, and the Bartellets test of sphericity was statistically significant denoting the items were factorable, $\chi 2(66)=291.02$, $p<0.001$.The determinant factor index was sufficient with determinant=0.02 suggesting the presence of sizable correlations between those items that could be analysed with the factor analysis technique.

Table 4.11 KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of sampling adequacy		*.588*
Bartlett's Test of Sphericity	*Approx. Chi-Square*	*291.018*
	df	*66*
	Sig	*.000*
a.Determinant =.025		
KMO and Bartlett's Test		*.588*
Bartlett's Test of Sphericity	*Approx. Chi-Square*	*291.018*
	df	*66*
	Sig	*.000*

Figure 3 : EFA and rotated the factor solution, requesting four major concepts based on the screen plot and the eigenvalue criteria



This study proceeded with the EFA and rotated the factor solution, requesting four major concepts based on the screen plot and the eigenvalue criteria, after which the factor solution was rotated using the ProMax rotation method to allow those four factors to be correlated according to the expectation see table 4.11 and figure 2

The analyses in table 4.12 yielded a mean overall score of 3.23 out of 5 for the academic staff, which showed the importance of sustainability accounting to be equal to 3.23 out of 5, suggesting that those academic staff slightly agreed with the importance of sustainability accounting education in general. However, the study analysed this overall mean of perceived importance score for statistically significant differences across the academic accounting staff demographic and its academic characteristics.

Table 4.12. The overall importance of Sustainability accounting education

N	Valid	86
	Missing	0
Mean		3.2290
Median		3.2500
Std. deviation		.45638
Variance		.208
Range		2.92
Minimum		1.50
Maximum		4.42
Percentiles	25	3.0000
	50	3.2500
	75	3.4375

4.3.2.1.4. Bivariate analysis of the academic staff's demographic and academic characteristics for statistically significant differences on mean perceived agreeability on sustainable accounting education for the testing of H1a,b

Table 4.13 helps to understand what makes academic staff perceive more or less importance of accounting for sustainability. The main findings were surmised as follow

Panel A of Table 4.13 show the role of gender in explaining the importance of feasibility accounting The yielded results suggested that female academic accounting staff perceived significantly greater importance of feasibility accounting (M=3.33, SD=0.5) than male academic accounting staff (M=3.12, SD=0.43), while p=0.039 according to an independent groups t-test.

The analysis reported in Panel B showed that academic staff's age did not correlate significantly with their perceived importance of sustainability accounting education (p=0.848), according to a One-way ANOVA test. No statistically significant differences were thus found between academic staff within various age groups.

Table 4.13: Summary of Bivariate analysis of the academic staff's demographic and academic characteristics for statistically significant differences on mean perceived agreeability on sustainable accounting education

	Mean (SD)-Perceived Importance of SA*	**test statistic**	**p-value**
Panel A: Gender			
Male	3.12 (0.43)	t(80)=2.1	0.039
Female	3.33 (0.50)		
Panel B : Age			
24-41 years	3.24 (0.40)	f(2,83)=0.17	0.848
42-49 years	3.30 (0.50)		
>=50 years	3.20 (0.50)		
Panel C :Experience Years			
1-10 Years	3.29 (0.40)	f(5,80)=0.70	0.632
11-15 years	3.20 (0.40)		
16-20 Years	3.19 (0.60)		
21-25 Years	3.40 (0.30)		
26-30 Years	3 (0.43)		
>30 Years	3.22 (0.61)		
Panel D :University Location			
East	3.16 (0.50)	f(3,82)=0.50	0.692
West	3.11 (0.32)		

North	3.30 (0.64)		
South-South East	3.30 (0.45)		
Panel E:Sustainability education is delivered in the current curricula of the accounting programs offered in your university			
No/Unsure	2.79 (0.56)	f(2,83)=7.70	0.001
Some content delivered but not a strong emphasis	3.21 (0.39)		
Yes	3.35 (0.41)		
Panel F: Do you teach any topics or courses in sustainability accounting?			
No	3.19 (0.43)	t(84)=1.11	0.271
Yes	3.30 (0.50)		
Panel G Type of students/levels do you teach sustainable accounting			
N/A-don't teach	3.19 (0.43)	f(3,82)=2.43	0.071
Bachelor	3.30 (0.47)		
Masters	3.62 (0.45)		
Masters and Bachelor	3.10 (0.50)		

*SA= Sustainable Accounting

Panel C shows the role of academic experience the One-way ANOVA which compared the academic staff's experience in year levels for statistically significant differences on mean perceived importance of sustainability accounting, showed no statistically significant differences on mean perceived importance of sustainability accounting between academic staff with various years of experience (p=0.632).

Panel D finds the university locations and the mean importance of sustainability accounting did not differ significantly between academic staff serving in different Australia universities located in various parts of the country (p=0.692), according to another One-way ANOVA test.

Panel E demonstrates the sustainability accounting education and the analysis showed statistically significant differences between academic staff who worked in universities that delivered accounting programs covering sustainability accounting, according to a One-way ANOVA test, f(2,83)=7.70, p=0.001.

Panel F represents the academic staff involvement in teaching sustainability accounting education and the analysis showed statistically not significant differences between academic staff who teach sustainability accounting , according to a One-way ANOVA test, f(84)=1.11, p=0.271.

Panel G reports the type of students / levels taught and the analysis with a one way ANOVA test showed that there was a slight difference in terms of the mean perceptions of sustainability accounting between academic staff who taught Bachelor, Masters and combined Masters and Bachelor students (p=0.071), according to a one-way ANOVA test. However, the difference was not statistically significant. Yet remarkably, those who taught both Masters and Bachelor students showed the lowest perceived importance of sustainability accounting compared to their peers who taught only Bachelor or Masters students but did not teach students at all on sustainability accounting topics.

A Hochberg's post-hoc follow up pairwise comparison between academic staff from various schools with different teaching levels of sustainability accounting showed that the academic staff from universities that do not teach sustainability accounting had a significantly lower perceived importance of sustainability accounting (M=2.80, SD=0.6) than their peers who worked in accounting schools that taught some courses (M=3.21, SD=0.40), p=0.019. Also, those who came from schools that did not include sustainability accounting had significantly lower mean perceived importance of the subject than their peers working in universities that taught full sustainability accounting course materials (M=3.4, SD=0.4), p=0.001. However, those who came from schools teaching some or full course materials did not differ significantly (p=0.375) in terms of their perception of the importance of sustainability accounting. There were no statistically significant differences between academic staff who taught sustainability accounting and those who do not teach it in terms of their perceived importance of sustainability accounting (p=0.271), according to an independent groups t-test.

Table 4.14 A Hochberg's post-hoc follow up pairwise comparison between academic staff from various schools with different teaching levels of sustainability accounting

Hochberg's	No	Some content	-.41383	.14831	.019	-.7750	-.0527
		Yes	-.55920	.14338	0.001	-.9083	-.2101
	Some content	Yes	.41383	.14831	.019	.0527	.7750
		No	-.41383	.09907	.375	-.3866	.0959
	Yes	No	.55920	14338	.001	.2101	.9083
		Some content	.14537	.09907	.375	-.0959	.3866

Games - Howell	No	Some content	-.41383	.18316	.097	-.8951	.0674
		Yes	-.55920	.18049	.022	-1.0366	-.0818
	Some content	No	.41383	. 18316	097	-.0674	.8951
		Yes	-.14537	.09332	.271	-.3689	.0782
	Yes	No	.55920	.18049	.022	.0818	1.0366
		Some content	-.14537	.09332	.271	-.0782	.3689
The mean difference is significant at the 0.05 level							

4.3.2.1.5. Summary hypothesis 1 a and b

In summary, hypothesis 1a proposed that academic staff would afford significant perceived importance of the sustainability accounting. As such, the study measured their perceived importance of the topic using a 1-5 Likert agreeability scale. The overall perceived agreeability of the academic staff on the importance was equal to 4.2 out of 5 Likert points, which generally falls between agree and strongly agree, and their perceived importance was awarded with 72.5% relative importance index points out of 100% maximum. This indicated that the academic staff perceived a significant importance. Hence, hypothesis 1a is strongly supported by the survey participants, at least from a descriptive point of view. By contrast, hypothesis 1b asserted that academic staff were aware of their role in incorporating sustainability accounting in Masters and Bachelor programs. Academic staff's ability/self-confidence in incorporating sustainability accounting were measured with a 1-5 agreement Likert-like scale (with 1= Strongly disagree, 5= Strongly agree). As described, their level was identified and arranged orderly (ranked) with their relative importance. This created a collective mean agreement by the academic staff equal to 2.35 out of 5, and an insignificant relative importance index (RII=39.1% out of 100%), which suggests a relatively low ability of those participants to influence their universities' decisions and activities regarding the sustainability accounting. Hence, hypothesis 1b was not rejected.

4.3.2.2. Testing Hypothesis 2:

Hypothesis 2 proposed that lack of support and resources at the education institutions and accountancy bodies would be limiting academic staff's efforts to incorporate sustainability accounting in Masters and Bachelor accounting programs.

4.3.2.2.1. Academic staff's perceptions (agreeability) on the availability of resources and expertise

In order to test hypothesis 2, this study measured academic staff's perceptions (agreeability) on the availability of resources and expertise. This indicator was measured with a 1-5 agreement Likert-like scale (with 1= Strongly disagree, 5= Strongly agree). This study described their levels and arranged them orderly (ranked them) with their relative importance in Table 4.9

- The third ranked top indicator of participants' perceptions of sustainability accounting in relation to the following statement: "A shift to the inclusion of sustainability in the Master's curricula of accounting courses is a decision that can be made independently by your institution.", received a mean agreement of 3.67 points out 5 on average, and an RII index of relative importance that was significant and took the third rank from the top weighted indicators, i.e. RII=61.2% out of a hundred maximum points. Similarly, the fourth ranked top perception on sustainability accounting, as perceived by the participants, was their agreement level to the statement: "A shift to the inclusion of sustainability in the Bachelor's curricula of the accounting courses is a decision that can be made independently by your institution", which received a collective mean agreement equal to 3.72 out of 5, and an equivalence of relative importance index that was significant, or substantive, at RII =(61.2% out of 100%), denoting that the participants had a substantive belief in the importance of independent decisions by their universities to include sustainability accounting in their curricula.

However, by evaluating the bottom ranked indicators of participants' agreement to sustainability accounting education the results show that the bottom most rated indicator by the participants was their contention about the statement: "Regarding the hiring process for teaching staff, your institution takes into account the candidate's knowledge, and contributions made towards sustainability accounting education", which received a mean collective agreement by the participants equal to 2.31 out of 5, and a Relative Importance weighting (=44.4% out of 100%) that was insignificant, denoting that the participants generally disagreed on whether their institutions had hired staff who could contribute to sustainability education. The next ranked from the bottom indicator of participants' agreement on sustainability accounting education was their perception of their ability to influence the university administration on sustainability accounting programs and activities, as captured by the

following statement: "I am able to influence the university administration about the programmes and activities related to sustainability"; this aspect received a collective mean agreement by the academic staff equal to 2.35 out of 5, and an insignificant relative importance index of RII=39.1% out of 100%, which suggests a relatively low ability of those participants to influence their universities' decisions and activities regarding sustainability accounting.
Those bottom ranked indicators were followed, from the bottom, by the academic staff's agreement to whether "The institution provides the teaching staff with opportunities such as workshops and training to enhance their understanding of sustainability", which received a collective mean agreement by the academic staff equal to 2.66 out of 5. This is between disagree to neutral, and has an insignificant RII value (=44.4%), highlighting their overall disagreement as to whether Australia universities provided educational and development opportunities with regards to sustainability accounting education for their teaching staff and academic members.

The remainder of the indicators of academic staff perceptions (agreement) with sustainability accounting indicators ranked between those top and bottom ranked indicators. For example, the academic staff's perceptions of the demand for sustainability accounting ranked fifth with regards to relative importance (see column four in Table 4.9). Also, the academic staff's agreement with whether the university seeks expertise from professional bodies in developing sustainability accounting curricula was rated with an overall disagreement and an insignificant relative weight.

4.3.2.2.2. Chi-squared test of goodness-of-fit (G.O.F $\chi 2$ test)

The further results of the academic staff's responses, using the chi-squared test of goodness-of-fit (G.O.F $\chi 2$ test), are shown in Table 4.14. The chi-squared (G.O.F $\chi 2$ test) assessed the distribution of the participants' responses for statistically significant differences, assuming a hypothetical assumption that equal number of participants will choose each hindering factor to sustainability accounting listed in Table-4.14, i.e. it assumes that at least 86/6= 11.3 participants would select each hindering factor. This is called the expected count, but again the program tests the observed pattern (count) of participants against this hypothetically equal assumption for statistically significant difference, and it yields an adjusted residual (difference) that can be interpreted as follows:

Table 4.15 Academic staff's perception of hindering factors to incorporating sustainability accounting education curriculum into Bachelor and Masters programs.

Answer	**Percentage**	**Adjusted Residuals**
Difficulty in initiating change in the existing curriculum	14 (16.3%)	-0.3
Lack of experts in the sustainability area	12 (14%)	-2.3
Lack of employer demand to hire graduates with sustainability reporting knowledge	5 (5.8%)	-9.3
Poor relation established between different stakeholders	2 (2.3%)	-12.3
Overcrowding in the accounting curriculum	44 (51.2%)	29.7
Financial issues	9 (10.5%)	-5.3
test statistic	$\chi 2(5) = 80.5$	
p-value	<0.001	

Any hindering factors with an adjusted residual > or <1.96 in the absolute sense is statistically significant, and positive (negative) residuals mean more (less) than expected. To explain the findings, the chi squared goodness-fit analysis suggested that the distribution of academic staff's perceived obstacles differed significantly, $\chi 2(5) = 80.5$, $p<0.001$, from what was expected. The analysis showed that significantly more than expected academic staff selected the overcrowded accounting curriculum as a top obstacle to implementing sustainability accounting education materials in Bachelor and Masters university programs (adj. residuals=29.7). The next obstacle was difficulty in creating an entirely new sustainability course (adj. residuals =-0.3). Followed by lack of expertise (adj. residuals =-2.3).and financial issues (adj. residuals =-5.3).Employer demand to hire graduates with sustainability reporting knowledge (adj. residuals =-9.3).Finally, poor relations and conflicts established between different stakeholders as an obstacle (adj. residual=-12.3).

4.3.2.2.3. ***Summary hypothesis 2***

In summary, hypothesis 2 assumed that lack of support and resources at the education institutions and accountancy bodies would be limiting academic staff's efforts to incorporate sustainability accounting in Masters and Bachelor accounting programs. Hence, hypothesis 2 was accepted.

4.3.3. Summary

Many Australian universities have been responding slowly to the calls to embrace sustainability accounting education. The sustainability accounting courses offered in Australian universities are few and less diversified. Australian curriculum developers at the university level have done little to introduce diverse and job-oriented teaching courses for sustainability accounting education. This study was unable to determine the best description of sustainability accounting courses offered across different universities. Reliable studies are yet to be conducted to determine sustainability accounting courses which match the necessary generic skills and expectations of employers about graduates or job applicants. It was revealed that most Australian universities did not take into account the knowledge and achievements of academic staff on matters of sustainability accounting education. The universities were yet to outline strategies on recruiting accounting professionals with added sustainability skills.

The professional bodies with the responsibility of assessing the quality of courses offered by institutions of higher learning have not provided the universities with a standard guideline for sustainability accounting programs. It was noted that the sustainability accounting programs offered across the eleven identified Australian universities lack a standard description of the learning included in sustainability accounting course design.

Ironically, many academic staff in Australian institutions of higher learning acknowledge the importance of sustainability accounting, but their contributions to alleviating the problem are arguably insignificant. Management rarely organised training programs for staff. Solutions must focus on the main problems. Based on the survey responses, monetary issues were the greatest challenge in relation to efforts to reform curriculum.

CHAPTER FIVE: CONCLUSION

5.1. Introduction

Based on discussions and analyses of the study questions, one can draw some conclusions either in support or against the study's hypotheses. Considering the appropriateness of the methodology applied and the data analysis criteria, the study findings are credible and reliable. Before the study, the hypothesis was that university academic staff in Australia would understand the importance of incorporating sustainability accounting courses in Masters and Bachelor accounting programs. It was also expected that academic staff were aware of their mandate in enhancing sustainability accounting learning at undergraduate and postgraduate levels. Furthermore, it was hypothesised that efforts to adopt sustainability accounting in Australian universities would be mainly counteracted by insufficient funds, a limited number of professionals with sustainability accounting skills, overcrowded accounting curricula, difficulties in reforming the existing accounting curricula, poor working relationships among various stakeholders, and a lack of employer demand for professionals with sustainability accounting skills. The collected data and the past studies were both used in identifying solutions to the research problem.

Australian universities need to improve their commitment to matters related to sustainability accounting education. Although the concept of sustainability accounting was discovered more than two decades ago, very few Australian universities offer it as a course. Also, most of the universities that do teach the course as an elective rather than a compulsory one. No emphasis is placed on ensuring that accounting graduates have adequate sustainability skills. University administrations mainly concentrate on basic accounting courses, and sustainability courses tend to be regarded as less important. The course content is underdeveloped, and hence students can learn little from the academic materials. The survey responses suggest that universities in certain regions within Australia hardly offer sustainability accounting courses. The course is offered unevenly in a geographical sense.

Contrary to the research hypothesis that academic staff would understand the essence of including sustainability accounting courses into the accounting curriculum and were effective in their professional roles, it was discovered that most of the academic staff underestimated the importance of sustainability accounting. The opponents of sustainability accounting justified their stance by arguing that there was low employer demand for such skills. This argument was evident in the fact that most of the universities did not much emphasise the extent to which the

students comprehended the subject and were in a position to apply it in practice. The academic staff have failed to establish a good working relationship with all other stakeholders. They rarely consulted reputable experts in the field of sustainability accounting.

The traditional perspective that accounting involves only the economic aspects of a business or activity plays a role in academic staff's belief that social and environmental issues are irrelevant in accounting. Some of the academic staff teaching sustainability accounting courses stated that they had not pursued training to prepare and enable them to teach sustainability accounting skills at the university level. Higher education as sector in the country has not organised training programs for educators since the new course was introduced.

Academic staff were not dedicated and committed to teaching sustainability accounting courses. The surveyed respondents stated that lessons of such courses were rarely attended by the teaching staff. The number of academic staff who were directly involved in teaching the course was very low, based on statistics of the selected group.

The study highlighted several hindrances to the integration of sustainability elements in the accounting curriculum by Australian universities. First, Australian universities confront financial shortages, which makes it difficult to add more courses to the curriculum when their budgets are already constrained by many basic accounting courses. The financial shortages affect sustainability accounting education indirectly but greatly. The process of introducing a new course is a series of activities, and some of those activities need finances to be executed. The challenge of finances ‘breeds' other challenges such as lack of sustainability accounting experts in the long run; thus, the problem becomes cyclic. From the discussion, it was evident that low demand for accountants with sustainability skills by Australian employers discourages universities from offering such courses. No university is interested in spending on courses considered non-applicable.

At the same time, students tend to avoid courses which are less likely to attract a potential employer. The low demand for sustainability accounting professionals can be attributed to the fact that most of the potential Australian employers for accountants do not perceive the essence of sustainability accounting. Since some of the Australian universities offer sustainability accounting course as an elective, the students who are well-informed about the low marketability of sustainability accounting courses would not undertake the course when it is an optional unit.

Australian universities are troubled by the inadequate number of sustainability accounting professionals. Although there are many accountants in the country, very few are conversant with the subject of sustainability accounting. Each Australian university has few academic staff who could teach the course. Some of the academic staff involved in teaching sustainability accounting were incompetent, but universities could not access better professionals within the country. Universities were forced to schedule few sustainability accounting lessons because they had very few professionals capable of teaching sustainability accounting. The course was introduced less than two decades ago and therefore academic staff who graduated more than two decades ago were not exposed to sustainability issues during their training.

Professional bodies and university management had not organised training for academic staff before launching sustainability accounting courses. All parties involved in enhancing university education did not collaborate well even though for the fulfilment of their professional objectives they are dependent on one another. For example, most of the academic staff stated that they rarely consulted top experts in the event they were confronted with difficult scenarios. Academic staff did little to engage employers to identify their professional requirements and the emerging job market demands. Some of the stakeholders worked independently, and failure to engage in teamwork lowered their professional effectiveness.

It is usually difficult to create and implement new courses. Academic staff have to undertake a number of tedious tasks before the course is integrated into the curriculum. Also, change is usually difficult, and people try to resist changes in preference of what they are already used to doing. There are structural forces which work against change. Therefore, it is normal for Australian universities to take some time before new accounting courses are fully incorporated into the existing curriculum. Some institutions were less flexible or responsive to reforms compared to others in terms of the time they took to adjust and adopt changes. In this context, Australian universities were somehow inflexible to curriculum changes. The last potential hindering force is the overcrowded accounting curriculum. However, most of the surveyed respondents did not consider the 'overcrowded curriculum' to be as influential as the other hypothesised hindrances. Extra courses imply added workload and cost for universities.

The Australian universities are in a position to overcome the highlighted hindrances by reforming their approach and policies. Universities in some other countries, such as Finland and New Zealand, which have been covered in literature review, have managed to quickly integrate sustainability accounting course into their universities' curricula, and Australian

universities have an equal potential of adjusting to curriculum change. The professional bodies ought to first initiate the demand for sustainability accounting professionals. This can be achieved by creating public awareness and helping employers to understand the worth of sustainability accounting skills and the benefits they stand to gain by hiring accountants with sustainability skills rather than accountants with only basic accounting skills. When employers become interested in accountants with sustainability skills, everything else realigns towards the achievement of sustainability accounting. This study concurs with previous studies that have examined the same subject matter in terms of the solutions and strategies of enhancing sustainability accounting education in Australian universities.

Also, all the stakeholders involved in facilitating academic tasks of the universities need to establish a good working relationship. The success of each of the parties is dependent on the performance of the other parties or stakeholders. For example, government agencies should give the universities the necessary financial support while the academic staff should be at the forefront of advising the government on matters related to educational needs. Australian universities have faced challenges in offering sustainability accounting education just because there are stakeholders who have been underperforming or completely missing in action. Academic staff should not execute their professional duties independently but should consult and engage top experts when challenges emerge.

The government agencies and other financial supporters need to intervene and address the financial constraints hindering successful integration of sustainability accounting courses into the curriculum. Some of the tasks undertaken in the process of implementing a new course require finances to be made available. Academic staff have to be paid for the extra workload and additional teaching materials ought to be purchased. However, there are issues which cannot be eliminated through financial support and the current state of sustainability accounting education in Australian universities does not necessarily mean that higher learning institutions are underfunded. The Australian Department of Higher Education needs to find a way of dealing with an inadequate number of accounting experts. From the discussions in this study, it was evident that the percentage of accounting lecturers from the sampled group who were involved in teaching sustainability accounting was very low. Implementation of a new course is usually steered by experts in that subject or field. Australian universities can deal with this problem by hiring experts from other countries. The strategy might be perceived as quite expensive, but in the long run, local universities would develop experts to replace the

outsourced ones and hence the process would be convenient. Adequate personnel will be more effective in fulfilling the objectives of sustainability accounting.

Sustainability accounting is very important and worth embracing. There are costly aspects for businesses, development and other human activities which are not accounted for in the traditional accounting techniques. Emerging environmental and social issues strongly suggest that there is a need to account for non-financial outcomes of various activities. Sustainability accounting serves to account for the non-financial impacts (either benefits or costs) to get a more accurate measure of gains and losses associated with some activities. There are activities which are considered economical but at the same time are unsustainable. It was noted that the non-financial impacts of any business entity rarely bother private investors, which explains the reason why many individuals or groups are reluctant to assess the sustainability of their activities.

5.2. Contributions to the knowledge

The findings of this study aim to provide good educational directions to the Australian universities on matters of offering sustainability accounting education in Masters and Bachelor programs. By examining the roles played by academic staff in facilitating sustainability accounting, this study is in a position to gauge the effectiveness of different professionals and recommend policy changes for a better outcome. Also, the study findings provide a comprehensive explanation of factors affecting efforts to incorporate sustainability accounting education in Australian universities. The study has created insights into the research problem. There have been arguments that the Masters and Bachelor programs offered at Australian universities differ significantly from the emerging professional requirements of accountants. Since academic staff directly interacts with both the course content and the corporate world, the study uses their opinions to shed light on this issue.

Although previous studies have suggested that sustainability is not well-incorporated into university undergraduate and postgraduate programs, there were some gaps in the literature, and the purpose of this study was to fill such gaps in knowledge. Past studies related to this subject have focused on the importance of sustainability accounting, but none has examined the extent to which Australian universities are offering sustainability accounting education in Masters and Bachelor programs. Therefore, this study contributes to knowledge by highlighting the progress of Australian universities on matters of accounting education.

5.3. Study limitations

The study is subject to sampling error. Sampling error results when the sample collected to study a population is not an accurate representation of the entire population. The survey results were gathered from a relatively low number of respondents, which creates questions of how accurate the sample represented the entire population of academic staff in Australian universities. Small samples are associated with high sampling errors especially when the population is not uniformly distributed. It is impossible to guarantee that study results would remain the same if all academic staff in Australian universities participated in filling out the questionnaires.

The current study did not analyse the trend of sustainability accounting education in Australia over the years. The study relied on cross-sectional data, yet the process through which emerging professional requirements are integrated into the education curriculum does not happen instantaneously. Probably, the academic staff have been either improving or worsening slowly over the years implying after some time that the status of sustainability accounting education is likely to become better or worse. In such contexts, cross-sectional data would yield conclusions that would not be reliable in the future because the situation would have been transformed.

Although it is expected that some other accounting professionals work in different institutions, the current study has concentrated on academic staff teaching accounting courses. There are chances that many sustainability accounting experts prefer other institutions apart from universities, possibly due to issues such as payment levels and working conditions. If that were the case, the researcher would erroneously conclude that there were few sustainability accounting experts in Australia.

The sampled respondents were comprised of academic staff only, yet other stakeholders play an active role in reforming the curriculum of university programs. Some academic staff are likely to give responses that are not genuine with the intention of defending themselves. For example, academic staff may falsely blame the university administration for the poor state of sustainability accounting education. Different stakeholders are likely to perceive the research issue from a different perspective. It would be better to survey different groups such as accounting students to allow this study to view the issue from a broader perspective and assess the correctness of each response.

5.4. Implications for future study

Based on the stated study weaknesses, future studies need to utilise time series data rather than cross-sectional data. Since the concept of sustainability accounting gained attention about two decades ago, annual performance data are preferable for showing progress over the years, which would have allowed this study to predict the future state of sustainability accounting education in Australian universities. Apart from using time series data, future studies need to overcome time and cost constraints by investigating an optimum sample size. This will ensure that the compiled statistics are not biased estimators of the population parameters. Consequently, the study findings would be more credible and more reliable in making decisions. Future studies that are interested in the extent to which Australian universities are offering sustainability accounting education in Masters and Bachelor accounting programs need to use a diverse sample. Subsequent studies need to sample and survey established accountant employers, human resource experts dealing with accountants, accounting students, and working accounting graduates among other relevant stakeholders.

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Appendices

Table 6.1 : The survey questions

General information

What is your gender?

Male
Female
Transgender
Prefer not to answer

Please indicate your age.

24-32
33-41
42-49
50-above
Prefer not to answer

Please indicate your university Location.

Western Australia
Northern Territory
South Australia
Queensland
New South Wales
Australian Capital Territory
Victoria
Tasmania

Please indicate years of experience as an academic.

0-10
11-15
16-20
21-25
26-30
More than 30

Number	Question						
1	Sustainability education is delivered in the current curricula of the accounting programs offered in your university	Yes	No	Some content delivered but not a strong emphasis		I do not know	
If YES <u>OR SOME</u> in the question above answer questions 2-3							
2	***Sustainability accounting is offered at your university as***	A whole course	A topic in one course	A topic in several courses	Two or more courses	I do not know	Other …….
3	Do you teach any topics or courses in sustainability accounting?	Yes	No	I am not sure			
4	You teach topics or courses related to sustainability accounting for	Master's degree	Bachelor's degree	Both			
If <u>YES</u> in the question above answer questions 4-5							
4	How many topics or courses related to sustainability accounting for a master's degree do you teach?	1-2 topics in a single course	3-4 topics in a single course	5-6topics in a single course		More than 6 topics	

		1-2 courses across the programs	3-4 courses across the program	5-6 courses across the programs	More than 6 courses across the programs
		1-2 topics in a number of courses	3-4 topics in a number of courses	5-6 topics in a number of courses	More than 6 topics in a number of courses
5	How many topics or courses related to sustainability accounting for a bachelor's degree do you teach?	1-2 topics in a single course	3-4 topics in a single course	5-6topics in a single course	More than 6 topics
		1-2 courses across the programs	3-4 courses across the program	5-6 courses across the programs	More than 6 courses across the programs
		1-2 topics in a number of courses	3-4 topics in a number of courses	5-6 topics in a number of courses	More than 6 topics in a number of courses
6	In which course/ unit do you cover a topic related to sustainability	Corporate Social Responsibility	Environmental accounting	Reporting for climate change	Accounting in society
		Sustainability Accounting and reporting	TBL	Accounting for Sustainability	Other, please write down the name of the sustainability topics or courses

					( )	
Number	Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7	I fully understand the meaning of sustainability in relation to the context of accounting education.					
8	I fully understand the role of accountants in sustainability reporting.					
9	The economic, social and environmental aspects of sustainability are important areas that need to be understood by any accounting student.					
10	There is an increased demand in the Australian job market for accounting professionals with skills in sustainability.					
11	A shift to the inclusion of sustainability in the master's curricula of the accounting courses is a decision that can be made independently by your institution					

12	A shift to the inclusion of sustainability in the bachelor's curricula of the accounting courses is a decision that can be made independently by your institution				
13	Ensuring accounting graduates are equipped with knowledge on sustainability concepts and practices is an area of priority in my school.				
14	I have an integral role in influencing the inclusion of sustainability accounting courses in master and bachelor accounting programs				
15	I am able to influence the university administration about the programmes and activities related to sustainability.				
16	Regarding the hiring process for teaching staff, your institution takes into account the candidate's knowledge, and				

	contributions made towards sustainability accounting education.				
17	The institution provides the teaching staff with opportunities such as workshops and training to enhance their understanding of sustainability				
18	Most Australian universities seek guidance from professional bodies when developing accounting sustainability programs.				
19	A stronger partnership between professional bodies and academic accounting will improve the inclusion of sustainability accounting courses in master and bachelor in the university				
		1st	2nd	3rd	4th
Difficulty in creating an entirely new sustainability course					
Lack of experts in sustainability area					
Lake employer demand to hire graduates with sustainability reporting knowledge					

Poor relation established between different stakeholder				
Overcrowded accounting curriculum				
Financial issues				

Table 6.2.: List of Australian universities that offer sustainability accounting courses by region

Number	**University name**	**Region**	**Sustainability accounting courses**	**Bachelor**		**Master**	
				Elective	**Compulsory**	**Elective**	**Compulsory**
1	Australian National University	Australian Capital Territory	Corporate Social Responsibility	✓			
			Sustainability and Corporate Social Responsibility, Accountability & Reporting			✓	

Number	University name	Region	Sustainability accounting courses	Bachelor		Master	
				Elective	Compulsory	Elective	Compulsory
2	Charles Sturt University	**New South Wales**	Strategic and Sustainable Accounting		✓		
3	Macquarie University	**New South Wales**	Accounting in Society		✓		
4	University of New South Wales	**New South Wales**	Reporting for climate change and sustainability			✓	
5	Flinders University	**South Australia**	Governance, Sustainability and Ethics		✓	✓	
6	University of South Australia	**South Australia**	Sustainability Accounting and Reporting		✓		
7	La Trobe University	Victoria	Sustainability		✓		

Number	University name	Region	Sustainability accounting courses	Bachelor		Master	
				Elective	Compulsory	Elective	Compulsory
8	Monash University	Victoria	Accounting for sustainability	✓			
9	RMIT University	Victoria	Accounting, Accountability and Society				✓
10	Edith Cowan University	**Western Australia**	Contemporary Issues in Sustainability Accounting				✓
11 sustainability courses				2 Elective	5 Compulsory	3 Elective	2 Compulsory

Table 6.3 List of Sustainability Accounting Contents

Australian National University		
Course Name	**Sustainability and Corporate Social Responsibility, Accountability & Reporting**	
Description	This course introduces students to **the roles of corporations in society and their responsibility, accountability, and reporting issues in the context of sustainability and social justice**. It examines issues in Corporate Social Responsibility (CSR), emphasising the responsibility and accountability for, and reporting of, **the social and environmental effects of a corporation's economic actions on stakeholders**. This extends the corporation's accountability beyond traditional financial disclosures to shareholders and is predicated on the assumption that **corporations have social responsibilities that are much broader than generating shareholder wealth.**	
Study schedule	**Week**	**Topics**
	Week 4	**Topic:** Forces for change: liberalisation, globalisation, technology, and the markets for capital, products & labour. **Required reading** Delfgaauw, T. 2000. Reporting on sustainability development: A preparer's view. Auditing, 19, 67-74.
	Week 9	**Topic:** Theories of voluntary disclosure **Required reading** O'Donovan, G. 2002. Environmental disclosures in the annual report. Accounting, Auditing & Accountability Journal, 15 (3), 344-371.
Course Name	**Corporate Social Responsibility**	

Description	This course introduces students to the roles of corporations in society and their responsibility, accountability**, and reporting issues in the context of sustainability and social justice**. It examines issues in Corporate Social Responsibility (CSR), emphasising the responsibility and accountability for, **and reporting of, the social and environmental effects of a corporation's economic actions on stakeholders**. This extends the corporation's accountability beyond traditional financial disclosures to shareholders and is predicated on the assumption that corporations have social responsibilities that are much broader than generating shareholder wealth.	
Study schedule	**Week 4**	**Topic:** Forces for change: liberalisation, globalisation, technology, and the markets for capital, products & labour. **Required reading** Delfgaauw, T. 2000. Reporting on sustainability development: A preparer's view. Auditing, 19, 67-
	Week 9	**Topic:** Theories of voluntary disclosure **Required reading** O'Donovan, G. 2002. Environmental disclosures in the annual report. Accounting, Auditing & Accountability Journal, 15 (3), 344-371.
1. Charles Sturt University		
Course Name	**Strategic and Sustainability Accounting**	
Description	This subject emphasises **the role of accounting in management decision making, particularly in providing information and analysis to support strategic management activity and the role of social and environmental accounting to support sustainability strategies.** This highlight the changing role of accountants and the challenge in balancing the needs of management, customers, employees, shareholders and other stakeholders with ethical and legal concerns. The use of accounting information to evaluate existing competitive strategies, develop new strategies, and monitor and assess progress towards chosen organisational solutions. This subject requires the student to synthesise and integrate the theory and practice learned in subjects undertaken in the Accounting degree to understand, structure and resolve problems for organisations operating with a sustainability business model.	

Study schedule		• Conceptual issues and behavioural implications in the context of strategic and sustainability accounting. • Decision making • Cost behaviour • Capital expenditure • Inventory, pricing decisions and cost-volume-profit analysis; and • Performance measurement and evaluation
2. Macquarie University		
Course Name	**Accounting in Society**	
Description	This unit focuses on **the role of accounting and the accounting profession in society**. By exploring and discovering diverse accountability frameworks, students will learn to appreciate the role accounting plays. The unit aims to introduce basic accounting language, concepts and methods. Students will be provided with an opportunity to discuss evolving means of information preparation, with an emphasis on understanding how such information assists users when making important business decisions. **The role of accounting stewardship is explored, developing students' awareness of social, environmental and ethical concerns to** develop well-rounded business professionals. The unit develops graduate capabilities centred upon discipline-specific knowledge and professional judgment, and their application to problem-solving, with one particular learning outcome being the demonstration of communication skills.	
Study schedule	**Week 1**	Accounting, accountability and society
	Week 3	Sustainability What it is and why it is important? Role of accountants

		Disclosure and reporting requirements
3. University of New South Wales		
Course Name	**Reporting for climate change and sustainability**	
Description	The course **highlights the significance of transparency and accountability in reporting environmental, social and governance (ESG) performance**, key aspects tracked by socially responsible investors. With increasing regulation, for businesses to thrive in a carbon-constrained economy, **it is also vital for businesses to measure and manage their carbon footprint. The current state and trends in accounting and reporting for greenhouse gas (GHG) emissions,** particularly the GHG Protocol, the National Greenhouse Energy Reporting (NGER) Scheme in Australia and an illustration of an Environmental Management System will be discussed.	
	Week 1 and 2	**Topic: Introduction to Climate Change and Sustainability and implications to Businesses – Risks and Opportunities** **Learning Objectives:** Understanding **the concepts of sustainability and sustainability development**
	Week 3 and 4	**Topic: Corporate Social Responsibility Reporting** **Learning Objectives:** a. Understand what corporate social responsibility reporting is all about; b**) Identify the potential benefits and challenges of producing a sustainability report.** c) **Gain knowledge of a sustainability reporting framework**, in this case, the Global Reporting Initiative; d) Awareness of other guidance on **sustainability reporting** e) Gain knowledge of common business indicators to assess company performance, particularly social and environmental indicators

		f) Awareness of current issues/**developments in sustainability reporting particularly the introduction of one report in the form of integrated reporting**
	Week 5	**Greenhouse Gas (GHG) Accounting** **Learning Objectives:** a) Introduction to various tools used in carbon footprinting b) Key elements in establishing a GHG inventory using the Greenhouse Gas Protocol (Protocol); c) Understanding and reporting of elements covered in the Protocol; and d) Awareness of issues that arise in the application of the Protocol.
Study schedule	**Week 6**	**Reporting requirements under the NGER (**The National Greenhouse and Energy Reporting) **Act** **Learning Objectives:** a) Overview of the policy context in which the NGER Act is situated. b) Understand how the NGER Act and subordinate legislation fit together under the NGER framework. c) Gain knowledge of the reporting requirements under the NGER Act. d) Gain knowledge of the enforcement and administration provisions under the NGER Act.
	Week 7	**Carbon Markets and Accounting for Carbon Emission Permits** **Learning Objectives:** a) Awareness of Australia's emission profile and its Carbon Policy; b) Awareness of the trends in carbon markets and lessons learnt c) Understand how emission permits arise and how to account and report this instrument in the financial reports;

		d) Explore implications for financial reporting of current accounting treatments for emission permits;
	Week 10-11	**Sustainability and GHG Assurance** **Learning Objectives:** a) Overview of assurance principles. b) Overview of sustainability and GHG assurance. c) Understand the differences between financial and sustainability/GHG assurance d) Understand the framework for undertaking sustainability and GHG assurance engagements e) Understand the process for the development of and the status of the International GHG Assurance Standard. f) Gain knowledge of the assurance requirements under the NGER Act.
4. Flinders University		
Course Name	**Governance, Sustainability and Ethics**	
Description	This topic introduces students to contemporary issues in business and accounting that are both of a practical and theoretical nature, including social and environmental reporting and accounting, critical accounting theory, ethical decision making, codes of ethics, board structures and governance. The topic also develops generic attributes, including research skills, analytical abilities and presentation skills.	
Study schedule	**Week 7**	Social and Environmental Accounting / Triple Bottom Line Reporting
	Week 10	Corporate Governance Sustainability

	Week 11	Sustainability
5. University of South Australia		
Course Name	**Sustainability Accounting and Reporting**	
Description	The content of this course covers the topics of corporate sustainability and legitimacy, critical review of conventional accounting, sustainability issues in financial accounting and reporting, sustainability reporting guidelines, environmental management accounting framework and tools, environmental costing methods, integration with eco-efficiency indicators, and the role of accounting in corporate sustainability management.	
6. La Trobe University		
Course Name	**Sustainability**	
Description	This subject introduces you to the concept of sustainability, and systems approach to understanding the complex interactions between the environmental, economic and social dimensions of sustainability. The subject attracts students from a range of fields, bringing a multidisciplinary team perspective to the researching, analysis and problem-solving aspects of creating positive change for sustainability. In teams, you are required to critique, design and present an action plan aimed at resolving a sustainability issue that has impacts now and for future generations. This subject provides you with the opportunity to enhance, demonstrate and document work-ready skills appropriate to your chosen career path.	
7. Monash University		

Course Name	**Accounting for sustainability**
Description	This unit focuses on how sustainability impacts on the core functions performed by professionals in accounting and business. It considers both external and internal reporting aspects of corporate social and environmental sustainability, and how such information can be incorporated into decisions made within the entity. The implications of such information for the assurance function are also explored. Skip .Outcomes The learning goals associated with this unit are to 0. critically evaluate the most common reporting frameworks used by organisations to report the sustainability implications of their operations.
Study schedule	1. critically evaluate the most common reporting frameworks used by organisations to report the sustainability implications of their operations 2. critically evaluate the implications of government policy relating to the reporting of sustainability implications of corporate operations 3. evaluate the factors affecting sustainability reporting by diverse organisations 4. demonstrate an understanding of Environmental Management Systems and their implications for environmental performance measurement 5. evaluate the factors affecting assurance of sustainability reports.
8. RMIT University	
Course Name	**Accounting, Accountability and Society**
Description	This is a foundation course that lays the basis for further study in financial management and accounting. You will learn about the role that accounting plays regarding aid to financial decision making; accounting recording and reporting systems in the organisational environment and the role of accounting in its social context. This course will begin your preparation for your future role in accounting practice by providing an understanding of many of the major conceptual and measurement issues surrounding financial recording and reporting and the practical issues related to business recording systems. There is a strong emphasis on the development and enhancement of teamwork skills in this course.

9. Edith Cowan University	
Course Name	**Contemporary Issues in Sustainability Accounting**
Description	The unit provides an introduction to contemporary issues in the context of sustainability development. It introduces concepts relating to 'Triple Bottom Line Accounting' and the different terminologies associated with it.
Study schedule	1. A framework for implementing corporate sustainability. 2. Performance of Socially Responsible Investment Funds. 3. Value of sustainability reporting. 4. Theories relating to sustainability reporting. 5. Implementing a social, environmental, and economic impact measurement system. 6. Carbon tax scheme and emissions trading scheme. 7. External sustainability reporting and assurance on sustainability reporting. 8. Methodology to rank the quality and comprehensiveness of sustainability information provided in publicly listed company reports. 9. Active ownership and ESG performance. 10. Sustainability reporting beyond rhetoric: Linking Strategy, accounting and communication.

Table 6.4: Learning objectives and assessment tasks

Courses	Learning objectives / Student experience	Assessment tasks
Corporate Social responsibility,	1. Enhance students understanding of the socio-economic context and roles of corporations 2. the relevance of stakeholders in corporations and concepts of corporate responsibility, accountability and reporting; 3. developments and practices in corporate social responsibility, accountability and reporting; 4. Regulatory and voluntary action in corporate social responsibility, accountability and reporting.	Assignments Final Exam
Sustainability and Corporate Social Responsibility, Accountability & Reporting	1. Enhance students understanding of the socio-economic context and roles of corporations; 2. the relevance of stakeholders in corporations and concepts of corporate responsibility, accountability and reporting; 3. developments and practices in corporate social responsibility, accountability and reporting;	Assignments Final Exam

Courses	Learning objectives / Student experience	Assessment tasks
	4. Regulatory and voluntary action in corporate social responsibility, accountability and reporting.	
Strategic and Sustainability Accounting	Students will 1. be able to apply sustainability concepts in the context of accounting and business practices; 2. be able to use strategic management principles and technologies in making and assessing business decisions for profit and not for profit organisations; 3. be able to generate, evaluate and use the quantitative and qualitative information to measure the financial and non-financial performance of an organisation; 4. be able to generate, evaluate and use information for planning and controlling operations within an organisation; 5. be able to analyse the impact of the international business environment, global competitiveness and societal and cultural expectations on management accounting in regional, national and multinational organisations; and 6. be able to develop and evaluate computer spreadsheet models which aid business decision analysis.	

Courses	Learning objectives / Student experience	Assessment tasks
Accounting in Society	The unit develops graduate capabilities centred upon discipline-specific knowledge and professional judgment, and their application to problem-solving, with one particular learning outcome being the demonstration of communication skills.	
Reporting for climate change and sustainability	1. Critical thinking 2. Problem-solving 3. Communication: Graduates will be effective professional communicators. 4. Teamwork 5. Ethical, social and environmental responsibility: graduates will have a sound awareness of the ethical, social, cultural and environmental implications of the business practice.	1. Individual Essay: Content Analysis of a Corporate/Sustainability Report 2. Carbon Foot Printing Exercise 3. Group Case Study 4. Written Report 5. Seminar – Oral presentation 6. Seminar Engagement
Governance, Sustainability and Ethics	The topic will develop generic attributes, including research skills, analytical abilities and presentation skills	

Courses	Learning objectives / Student experience	Assessment tasks
Sustainability Accounting and Reporting	To introduce students to the fundamental concepts of corporate sustainability and how sustainability development issues influence company is accounting and reporting practices, as well as to introduce students to contemporary approaches and techniques to account for a company's social, economic, and environmental impacts.	Continuous assessment Assignment Group project
Sustainability	Multidisciplinary team perspective to the researching, analysis and problem-solving aspects of creating positive change for sustainability	Individual Presentation Online Quizzes Individual Essay Presentation based on Group report
Accounting for sustainability	Critical evaluate	assessment Examination
Accounting, Accountability and Society	This course will help student's preparation for a future role in accounting practice by providing an understanding of many of the major conceptual and measurement issues surrounding financial recording and reporting and the practical issues	1. Individual and group work. 2. quizzes; 3. assignments; prescribed readings; sourcing,

Courses	Learning objectives / Student experience	Assessment tasks
	related to business recording systems. There is a strong emphasis on the development and enhancement of teamwork skills in this course.	researching and analysing specific information; solving problems; conducting 4. Presentations; producing written work and collaborating with peers on set tasks or projects.
Contemporary Issues in Sustainability Accounting	Work in teams. Communication and presentation skills, problem-solving and critical thinking skills of students.	Group discussions, case analysis and presentations.

Sourced from the course description / Australian universities website