THE POSSIBLE FUTURES OF WORK ENGAGEMENT BY 2030: A MIXED METHODS STUDY INVESTIGATING STRATEGIC LEADERSHIP AND WORK ENGAGEMENT IN SINGAPORE

VOLUME I: MAIN THESIS

A Thesis submitted by

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Abstract

Background. There has been little research examining how strategic leadership impacts work engagement in relation to organisational outcomes, which are heavily influenced by the actions of the organisation's top executives. Strategic leadership theory posits those organisational outcomes reflect the organisations' top leaders' characteristics and abilities. The theory suggests that these characteristics and abilities can be used as proxies to determine, to some extent, how an organisation's outcomes will turn out in the future. Studies also suggest that work engagement is related to desired organisational outcomes, including organisational commitment, citizenship behaviour, employee well-being, profitability, and competitive advantage.

The level of work engagement is reportedly declining internationally, with significant economic losses in productivity and practical implications in the workplace. In Singapore, recent reports found 77% of employees are either not engaged or actively disengaged and directly impacting productivity. The city-state faces multiple challenges; the most pressing among them are workforce shortage, an ageing population, negative productivity growth, and low engagement indicators. For a nation prioritising economic growth into the future, these concerns regarding workforce shortages and levels of engagement need to be better understood.

In response to the engagement dilemma, this study posits leadership as a key indicator for engagement, especially as it relates to the characteristics and abilities of leaders. The study drew theoretical links between strategic leadership and engagement theory to provide a framework guiding the study's line of inquiry, culminating in the presentation of scenarios of engagement in Singapore by 2030.

Purpose. The study aimed to investigate the relationship between the key strategic leadership capabilities of foresight and strategic thinking and work engagement as an indicator of the futures of engagement. The study sought to achieve this by a) utilising the predictive value of strategic leadership theory in the context of work engagement and b) combine these insights with futures studies methods in developing a set of scenarios for the possible futures of engagement in Singapore by 2030.

The study argued the need for work engagement as an important organisational capability where strategic leaders can augment foresight and strategic thinking competence as new engagement antecedents that influence work engagement and organisational outcomes.

Design/Methodology. The study adopted a pragmatic worldview which indicates that a mixed methods research methodology is appropriate. The research design was divided into four phases. The first phase produced the theoretical framework and line of enquiry for the study. In addition to a systematic review of the extant literature covering strategic leadership, foresight, strategic thinking, and work engagement, the review sought to establish the theoretical links between leadership and engagement. In addition to identifying the gaps in the literature, the review contributed to the methodology by developing a theoretical framework underpinning the main propositions of the study. The researcher developed a theoretical framework and a conceptual framework based on the review in response to the research questions. In the second phase, the study conducted an environmental scan (PESTEEL analysis) identifying drivers of change, megatrends, and wildcards that may impact Singapore's future work engagement (Qualitative inquiry). In the third phase, the study analysed survey results measuring strategic leaders' foresight and strategic thinking profiles in Singapore (Quantitative inquiry). The fourth and final phase of the research conducted a Delphi study to a) consider the links between the dimensions of engagement and strategic leader capability profiles, b) validate, reject, or amend the environmental scanning results, c) validate or reject the leadership capability profiles and d) develop future engagement scenarios for Singapore in 2030. This phase applied a convergent parallel method by merging qualitative and quantitative data to validate the findings from the previous phases and triangulate the data in operationalising the theoretical constructs and developing the scenarios.

Findings. The literature review revealed gaps in the literature related to the research problem. The gaps included calls to focus on the mediators and moderators between strategic leadership and organisational outcomes. In particular, the effects of leaders' cognitions of how they value human capital and how they influence the relationships and actions of the workforce and work engagement. In addition, the literature calls for identifying new antecedents of engagement, theoretical frameworks,

and contextual insights to enrich the descriptive power and applicability of antecedents of work engagement.

Previous research indicates a degree of association between strategic leadership within the context of organisational strategy and leadership and the antecedents and outcomes of engagement. The extant literature identified empirical studies of the concepts of foresight and strategic thinking leader cognitive capabilities as distinct yet highly related constructs. However, the literature review could not identify prior studies where foresight and strategic thinking capabilities are associated with work engagement.

The study confirmed a theoretical basis for the proposition that work engagement plays a mediating role between the leader's foresight and strategic thinking capability and organisational outcomes. The research findings found tentative evidence supporting this proposition. In addition, the study also confirmed the moderating role of the drivers of change on work engagement in Singapore by 2030. The study used validly and reliably tested instruments to measure the foresight, strategic thinking, and leadership style of leaders in Singapore in a sample (n=330) reflecting a cross-section of the strategic leadership in the city-state. The study related the different dimensions of each instrument to the dimensions and outcomes of engagement at individual and organisational levels.

The study proposes four scenarios based on the Delphi study: Smart City, Ivory Tower, Shangri La, and Smart Nation as possible futures of work engagement in Singapore by 2030.

Originality/value. The contributions of this study are considered to advance current knowledge in the field of futures studies, strategic leadership theory and engagement theory.

The principal contribution is where the findings of this study can be applied to the practice of strategy and leadership, leadership recruitment and development, and organisational engagement interventions in organisations. Furthermore, the study contributes to professional practice by developing scenarios that inform organisational practitioners and policymakers. Further, it draws theoretical links between strategic leadership and engagement theory to provide a theoretical foundation for a rigorous scenario planning process. The future scenarios proposed were subjected to a rigorous

methodology that incorporated empirical leader profiling into the construct of strategic leadership. The study provides the strategic leadership in Singapore with a baseline leadership profile and scenarios representing alternative futures of work engagement by 2030. Finally, the study also contributes cross-cultural insights concerning both strategic leadership and work engagement.

This study integrated strategic leadership theory and work engagement theory. It is proposed that this study is the first of its kind to conceptualise and investigate the influence of strategic leadership on organisational outcomes by incorporating external environmental factors and work engagement indicators as moderating and mediating variables.

Therefore, an integration of the cognitive capabilities of foresight and strategic thinking as proxies for predicting work engagement as an indicator of future organisational outcomes into a single framework could potentially enrich the body of knowledge regarding the way these variables interact with one another. Consequently, the findings would provide fresh perspectives to researchers and practitioners.

Methodologically the study contributes to futures studies methods by including strategic leadership theory in its methodology as an input to the foresight process in developing scenarios of the future. Further, the study produced the first rigorous and mixed-method research exploring the futures of work engagement in Singapore by 2030

Finally, the study presented a significant developmental learning opportunity for the researcher towards developing as a scholarly and holistic practitioner and individual.

Keywords: strategic leadership, foresight, strategic thinking, decision making, employee engagement, work engagement, resource-based view, dynamic capability, engagement antecedents, PESTEEL, Delphi study, scenario development process, scenario planning.

Certification of Thesis

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

Principal Supervisor: Associate Professor Dr. Luke van der Laan

Associate Supervisor: Dr. Sophia Imran

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"Whatever your hand finds to do, do it with all your might; for there is no work or reasoning or knowledge or wisdom in Hades where you are going." Ecc 9:10

To my Creator, thank you Lord, for the gift of knowledge

To the spirit of my father, who taught me to appreciate knowledge

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Also acknowledging:

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List of Abbreviations

BLT	Behavioural Leadership Theory
CAS	Complex Adaptive Systems
CBV	Competence-Based View
CFA	Confirmatory factor analysis
CHT	Charismatic Leadership Theory
CLT	Contingency Leadership Theory
COT	Collective Leadership Theory
CXT	Complexity Leadership Theory
DCV	Dynamic Capability View
DSI	Decision style inventory
EFA	Exploratory factor analysis
ELT	Engaging Leadership Theory
EN	Engagement
FS	Foresight
FSA	Foresight style assessment
ILT	Instrumental Leadership Theory
JD-R	Job demands-resources
KSA	Knowledge, Skills, and Abilities
LMX	Leader-member exchange
MBI	Maslach burnout inventory
MMR	Mixed Method Research
OCB	Organisational citizenship behaviour
OCE	Organisational Collective Engagement
OWE	Organisational Work Engagement

POS	Perceived organisational support
P-O Fit	Person-organisation fit
PSS	Perceived supervisor support
RBV	Resource-based view
SCA	Sustainable competitive advantage
SDT	Self-determination theory
SET	Social exchange theory
SLT	Strategic leadership theory
ST	Strategic thinking
STT	Situational Leadership Theory
TCL	Transactional leadership theory
TFL	Transformational Leadership Theory
TLT	Trait Leadership Theory
TMT	Top Management Team
TSI	TimeStyle inventory
UET	Upper Echelons Theory
VLT	Visionary Leadership Theory
VRIN	Valuable, Rare, Inimitable, and Non-substitutable
VUCA	Volatile, Uncertain, Complex, and Ambiguous
UWES	Ultrecht Work Engagement Scale
VRIN	Valuable, rare, inimitable, and non-substitutable resources
WET	Work Engagement Theory

Chapter 1: Introduction

1.1 INTRODUCTION

Favourable organisational outcomes and success continue to generate an enduring interest in understanding the enablers that lead to superior performance and organisational outcomes. There is evidence that organisational outcomes of any organisation are heavily influenced by the actions of its strategic leadership represented by the organisation top executives (Finkelstein et al., 2009).

As such, top executives have the overall responsibility for making strategic decisions and provide strategic direction for their organisation. Practices of strategy and leadership enable leaders to provide direction; set the pace; make big decisions and choices. Executives acquire resources, integrate competencies, and develop capabilities to support business functions (Kurtmollaiev, 2020; Teece et al., 1997). Work engagement can be considered a unique, value-creating organisational capability. It generates value for the firm and has a contagion effect and performance-related attributes (Anning-Dorson & Nyamekye, 2020; Barrick et al., 2015; Eldor, 2020). However, employee disengagement is a challenge that many leaders are experiencing and are struggling to address throughout the workplace (Bartels & Jackson, 2020; McCrae, 2020). Strategic leadership practices that engage people have not been part of the traditional role of strategic leaders but could significantly impact the ability of leaders to facilitate change and drive alignment (Joubert & Roodt, 2011; Meier, 2021; Turner, 2019).

Despite the increased interest in work engagement and how it impacts organisational outcomes, it has been reported that work engagement is on the decline (Aon, 2017). Report on the State of the Global Workplace 2017 indicates that 85% of employees worldwide are not engaged or actively disengaged in their job (Gallup, 2017). Estimates place the cost of low levels of engagement at close to $400 billion per year (Byrne, 2015).

Work engagement in Singapore has declined consistently over the last few years, directly impacting productivity (Mercer, 2017). Disengaged employees continue to cost the economy in Singapore (Gopal, 2006). Aon's analysis in 2018 found Singapore

employees least engaged among major Asian Markets. With the rise of internet platforms and the gig economy with more graduates are taking temporary jobs, employers in Singapore find engaging the millennial workforce a growing challenge (Aon, 2018a). In 2003, it was estimated that actively disengaged employees reached 17% and costed the Singapore economy \$6 billion every year in lost productivity (Gallup, 2006). In 2012, 15% actively disengaged employees were reported in Singapore, among the highest in the world, with 76% not engaged and only 9% engaged (Gallup, 2013). Gallup (2017) reported 23% of Singaporean employees were engaged in the workplace and 77% were either not engaged or actively disengaged (Gallup, 2017).

Even though the Singapore government sets productivity at the centre of the economic agenda, the city-state faces multiple challenges that may represent significant hurdles for the government to achieve its agenda. First, declining and even negative productivity growth has been reported in recent years (Bhaskaran, 2018; Fong & Lim, 2015). Second, the challenge remains for organisations to continue to engage the older workforce while attracting and engaging the younger generations (Jelenko, 2020). Third, inequity and inequality seem to mount significant health, education, and economic consequences of structural injustice (Dhamani, 2008; C. Y. Tan & Dimmock, 2015; Xafis et al., 2020; Yi et al., 2020). Fourth, the high-growth population policy's reliance on low-wage unengaged foreign labour has not fired back (L. Z. Rahim, 2015). In summary, the population is aging, productivity is declining, structural injustice is mounting, and engagement is low. Current Prime Minister Lee Hsien Loong expressed this by stating: 'What will Singapore be like forty years from now? I can't tell you. Nobody can. But I can tell you it must be a totally different Singapore because if it is the same Singapore as it is today, we're dead' (Oswin, 2014).

This research responds to the productivity and economic issues related to work engagement by investigating the possible scenarios of engagement in Singapore to inform decision making and policy makers. This study investigates strategic leadership and work engagement, addresses the relationship between the two constructs, and examines the possible futures of work engagement in Singapore by 2030.

This chapter outlines the background of the research issue in section 1.2. Section 1.3 presents the research issue. Section 1.4 states the research purpose and objectives. Section 1.5 covers the theoretical underpinning the research. Section 1.6 presents the practitioner as researcher. Section 1.7 outline the research methodology. Section 1.8 discusses the anticipated contribution. Section 1.9 provides an outline of the remaining chapters of the thesis. Finally, a conclusion of this chapter is given in section 1.9.

1.2 BACKGROUND

The Republic of Singapore is the smallest state in Southeast Asia. Since its independence in 1965, Singapore became a trading post and developed into a global financial centre. Due to the aging population, the country experiences a relatively rapid rate of aging and lower rates of productivity, and similar trends are expected to continue until 2050 (Malhotra et al., 2018; Thang, 2011). The challenge to strategic leadership for businesses is to continue to engage the older employee while attracting and retaining talent among the younger generations since the productivity growth has not offset the slowdown in workforce growth (Bhaskaran, 2018).

Strategic leadership focuses on executives or, as defined in the literature, strategy-level leaders, or top management teams (Boal & Hooijberg, 2001; Boal & Schultz, 2007; Cannella & Monroe, 1997; Carpenter et al., 2004; Hambrick, 1989; Neely et al., 2020; Samimi et al., 2020; Storey, 2005; Van der Laan, 2010). They are usually in charge of an organisation; their characteristics, and actions affect organisational outcomes in term of firm strategy, structure, competitive advantage, and performance. Generally, the top executive team of an organisation can dramatically affect organisation outcomes (Finkelstein et al., 2009; Hambrick, 2007; Hambrick & Mason, 1984; van der Laan & Yap, 2016). These leaders observe and collect information from the environments where they operate; they deal with complexity and uncertainty, make assumptions and shape strategies. On the other hand, some must make decisions in the absence of complete information. They rely on their personal qualities and cognitive abilities to pursue organisational outcomes (R. Ali et al., 2021; Carpenter et al., 2004; Dorcas et al., 2021).

Organisational outcomes depend, in part, on how well strategy-level leaders understand the environmental forces of change (Chebo & Kute, 2019; Fairbanks & Buchko, 2018) where they operate and how top management teams can engage

followers to do more work and perform better than initially expected (Flinchbaugh et al., 2020; Juija, 2021; Yukl, 2008). Research in strategic human resource management indicates that work engagement is a critical determinant of organisational outcomes (Albrecht et al., 2015; James Harter et al., 2013; Jordan, 2019)

The topic of work engagement has attracted enormous interest over the past two decades, and considerable progress has been made in clarifying and defining the construct and understanding its antecedents and outcomes (Bailey et al., 2017; Saks, 2019; Schaufeli, 2012; Schaufeli et al., 2006; Schaufeli & Bakker, 2010). Despite this progress, the level of work engagement is reportedly declining internationally, with significant economic losses in productivity (Jim Harter, 2017; Merry, 2013). Work engagement is widely accepted as a leading indicator of organisational outcomes, whereas financial information is considered a lagging indicator (James Harter et al., 2002; Muller et al., 2018). This study supports the core tenet that strategic leadership should strive to predict changes and possible outcomes by altering the mental models that decision-makers inherit from their past experiences (Vecchiato, 2012b, 2012a, 2019; Vecchiato et al., 2020).

1.3   RESEARCH ISSUE

For this research, the overarching research issue (RI) is:

The current declining work engagement ratings in Singapore and neighbouring countries undermine organisational, social, and economic outcomes. There is a lack of understanding of how low levels of engagement are impacted by leadership and by the long-term consequences of continued low workforce engagement.

It is essential to understand the variables that represent this research. Figure 1-1 represents an initial conceptual framework, which illustrates the variables covered in the research. Strategic leadership is an independent variable that affects organisational outcomes as dependent variables. Engagement is a mediating variable, and the environmental drivers affect the relationship between the independent and dependent variables as moderating variables (Bach & Lee, 2018; Creswell, 2014).

This research argues that work engagement needs a richer understanding of its relationship with strategic leadership as a significant indicator impacting work engagement (Bailey et al., 2017; Fineman, 2006).

Figure 1-1 Initial Conceptual framework
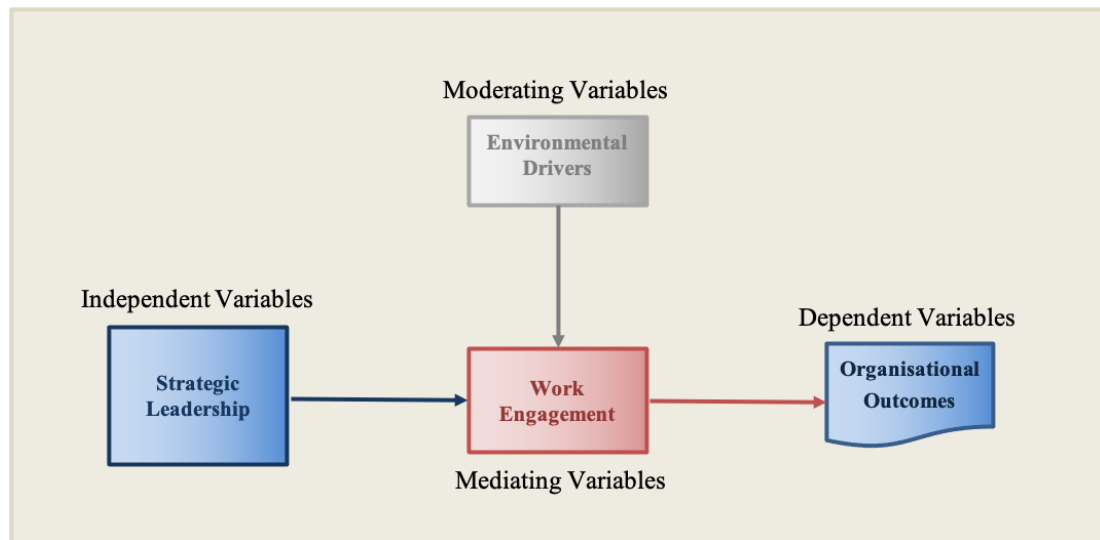
Source: Developed for this research

The research focuses on the cognitive capabilities (foresight and strategic thinking) of leaders as critical inputs of effective strategic leadership and organisational outcomes (Liedtka, 1998b; Van der Laan, 2010; van der Laan & Yap, 2016). It further seeks to understand the possible future scenarios of work engagement related to leaders' foresight and strategic thinking abilities in Singapore by 2030 to inform decision-making.

There are knowledge gaps in the literature which specifically relate to and call for future studies to understand the relationships between strategic leadership and engagement, leadership cognitive capabilities and engagement and the effect of leadership cognitive capabilities on individual and organisational outcomes (Abatecola & Cristofaro, 2018; Carasco-Saul et al., 2015a; Ghadi et al., 2013; Hambrick & Lovelace, 2018; Hayati et al., 2014; Neely et al., 2020; Wang et al., 2012).

1.4 PURPOSE AND OBJECTIVES

This study investigates the relationship between strategic leadership and work engagement to examine the possible futures of work engagement in Singapore by 2030.

This study recognises the volatile, uncertain, complex, and ambiguous (VUCA) business environments. Strategic leadership of the organisation is shared among the top management team. Emergence is a dominant business theme. Business and functional objectives are divergent, and leaders' rationality is bounded. Power is

shared by top executives and further diluted by the workforce influence, and knowledge is widespread in the workforce. Competition is global, and resources are scarce. As a result, human talent is in high demand. Based on this premise, the study argues the need for employees' engagement at the organisational level by operationalising the leaders' cognitive capabilities of foresight and strategic thinking that inform the strategic leadership practices of strategy and leadership.

The study responds to the engagement problem by investigating the association between strategic leadership theory and engagement theory to identify the possible futures of engagement in Singapore to inform decision making. Furthermore, the study contributes to professional practice by developing scenarios that inform practitioners. It draws theoretical links between strategic leadership and engagement theory to provide a theoretical foundation for a rigorous scenario planning process. The future scenarios achieved were subjected to a rigorous study and methodology which incorporated empirical investigations into the construct of strategic leadership to respond to both the leadership problem and engagement problem.

Purpose:

To investigate the possible futures of work engagement in Singapore, by 2030, based on the strategic leadership theory and work engagement theory association. The objectives of this study were:

Objectives:

1. To investigate the links between strategic leadership theory and work engagement theory in defining the constructs relevant to the study.

2. To develop a conceptual framework that integrated strategic leadership, work engagement and organisational outcomes to inform the research methodology.

3. To specify a rigorous research design and inform a structured scenario development process.

4. To identify the environmental drivers for change pertaining to work engagement in Singapore by 2030.

5. To apply empirical measurements of strategic leadership capabilities (foresight and strategic thinking) associated with work engagement and organisational outcomes.

6. To determine the possible futures of work engagement in Singapore by 2030.

In summary, this research investigates the theoretical association between strategic leadership elements foresight and strategic thinking and work engagement and identified possible futures of work engagement in Singapore by 2030 in conjunction with the environmental drivers for change.

1.5 THEORETICAL FOUNDATION

Strategic Leadership Theory (Finkelstein & Hambrick, 1996) and the Personal Engagement Theory (Kahn, 1990) are the key foundational elements of this study. Strategic leadership has its roots in the Upper Echelons Theory. Traditionally, the theory assumes that organisational outcomes are significantly influenced by demographics and characteristics of the dominant coalition, those who are in the most influential executive positions in the organisation. The theory has since advanced to contemporary Strategic Leadership Theory which recognises the limitations of demographic proxies as indicators of organisational outcomes and the research has moved on to suggest that the cognitive abilities of leaders are increasingly of interest. Thus, the study conceptualises strategic leadership in terms of strategy and leadership practice, specifically key capabilities of foresight and strategic thinking, in addition to the psychological conditions responsible for work engagement. One of the challenges in identifying a theoretical framework for this research was the lack of a universally agreed definition of the key concepts used within this study. The following section covers the key definitions used for the purpose of this research that set the theoretical framework to address the research inquiry.

1.5.1 Key Definitions

Strategic Leadership

"Strategic leadership is a series of decisions and activities, both process-oriented and substantive in nature, through which, over time, the past, the present, and the future of the organisation coalesce. Strategic leadership forges a bridge between the past, the present, and the future, by reaffirming core values and identity to ensure continuity and integrity as the organisation

struggles with known and unknown realities and possibilities. Strategic leadership makes sense of and gives meaning to environmental turbulence and ambiguity and provides a vision and road map that allows an organisation to evolve and innovate" (Boal, 2004, p. 1504).

Strategy

"Strategy is about the long-term direction of an organisation, formed by choices and actions about its resources and scope, in order to create advantageous positions relative to changing environment and stakeholder contexts" (Whittington et al., 2020, p. 24).

Leadership

"Individuals who are at the top of an organisation and have substantive responsibility for making strategic decisions and creating of an overall purpose and direction for the organisation, which ultimately guide strategy formulation and implementation." (Hernandez et al., 2011, p. 1179).

Foresight

"Foresight is an individual's cognitive capability to creatively envision possible, probable and desired futures, understand the complexity and ambiguity of systems and provide input for the taking of provident care in detecting and avoiding hazards while envisioning desired futures" (Van der Laan, 2010, p. 60).

Strategic Thinking

"Strategic thinking is regarded as a synthesis of systematic analysis (rational), and creative (generative) thought processes that seek to determine the longer-term direction of the organisation. It is a dynamic and interactive iterative process integrating emergent strategy with intended strategy in order to achieve realised strategy" (Van der Laan, 2010, p. 75).

Strategic Planning

"More or less formalised, periodic process that provides a structured approach to strategy formulation, implementation, and control, whose purpose is to influence an organisation's strategic direction for a given period and to coordinate and integrate deliberate as well as emerging strategic decisions" (Wolf & Floyd, 2017, p. 1758).

Work engagement

"A positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any object, event, individual, or behaviour." (Schaufeli et al., 2002, p. 74).

1.6   PRACTITIONER AS RESEARCHER

I am a practitioner, a professional leadership coach and a management consultant with academic qualifications in engineering, business, and coaching psychology. I have four decades of professional experience, twenty-two years in a corporate career, and eighteen years of executive coaching practice, mainly in Asia. I work with executives and top management teams in the public sector, multinational companies and not for profit organisations. I always believed that consulting and coaching must be grounded in research and scientific practice to deliver coaching and coaching methodologies that are genuinely effective and consistently lead to organisational outcomes (A. M. Grant & O'Connor, 2019). However, as the evidence-based coaching movement (A. M. Grant & Cavanagh, 2007; Stober & Grant, 2006) started to replace the belief-based coaching tradition in organisations, I began to focus my efforts on developing my coaching skills in support of the different leadership theories and based on my previous corporate experience as a senior executive, which resulted in creating a repertoire of coaching solution including skills coaching (i.e., professional competencies), performance coaching (i.e., goal setting and overcoming performance obstacles) developmental coaching (i.e., build emotional and cognitive capacity).

I based my executive coaching journey on reflective practice (Fergusson et al., 2019, 2020) and coaching supervision (Tatiana et al., n.d.; Tkach & DiGirolamo, 2020), that supported my development and uncovered areas for development. As a result, I observed how my coaching practice benefits executives to enhance their supervisory leadership performance, measurable through surveys and feedback from their teams and peers. However, it was evident that we are missing a link between the coaching practice and strategic leadership development. Ironically, the supervisory leadership skills, although were necessary, most of the executives have fewer opportunities to apply these skills with the broader audience in their organisation due to their seniority and distance from the operational levels. As a result, senior executives

relied on the human resources function to derive surveys and initiatives to improve work engagement. However, most of the surveys were measuring employee satisfaction and not engagement. In comparison, the global engagement surveys indicated declining levels of engagement. In 2015, I started to inquire about the relationship between strategic leadership and engagement, which led to this study.

This work-based research undertaken as a practitioner-researcher in the Doctor of Professional Studies (DPRS) program at the University of Southern Queensland was purposive research to inform the professional practice and the body of knowledge about the relationship between strategic leadership and work engagement. Furthermore, the Upper Echelons theory coined by Hambrick and Mason (1984) symbolises the foundation of the strategic leadership literature. The theory states that organisational outcomes are partially predicted by managerial characteristics (Hambrick & Mason, 1984). Upper Echelons characteristics refer to both cognitive dispositions, values, and demographics. The researcher's interest is focused on senior executives' strategic leadership cognitive capabilities concerning the possible futures of work engagement in Singapore by 2030. The rationale for the knowledge development of this research was to find a solution for the leadership and engagement problem, at the same time to obtain an improved understanding of the problem (Nilsen et al., 2012).

1.7   METHODOLOGY

The primary objective of this research was to find answers to real-world problems concerning work engagement within the strategic leadership theory. Therefore, the best fit for this research was the pragmatic worldview that allowed drawing from qualitative and quantitative assumptions, focusing on real-world practice, and accepting both singular theoretical underpinning and allowing various individual input into the nature of the enquiry (Creswell, 2014). In pursuing the pragmatic paradigm and mixed methods approach, this study integrated a Delphi study to support the futures study that underpins this research. The approach was deemed appropriate to address the problem around the possible futures of work engagement in Singapore by 2030.

The researcher noted that the Delphi method has always been unconventional, for some not reliable (G. Rowe et al., 1991; Sackman, 1975), and for others valid and

reliable (Afshari, 2019; Bañuls & Turoff, 2011; Hasson et al., 2000; Hasson & Keeney, 2011; Skaarup et al., 2017). Therefore, this study incorporated qualitative and quantitative designs in a systematic and rigorous process to validate and triangulate findings. Replicating a Delphi across different time frames and settings was not the purpose of this study. Instead, this research used the method to explore scenarios and ideas to enhance decision making and inform policymakers in Singapore.

1.8   ANTICIPATED CONTRIBUTION

This work-based research brings together the research-based knowledge built on scientifically confirmed theory and practice-based knowledge driven from the situations and environments (Nilsen et al., 2012). Despite the importance of strategic leadership and work engagement within the academic and practitioner literature, little is known about the relationship between the two constructs. This research contributed to the academic literature and practical knowledge by providing insights into the theoretical links between strategic leadership and work engagement and the environmental factors that drive work engagement within organisations. Strategic leadership and engagement literature and the views and feedback of subject matter experts and practitioners in relevant practice areas underpinned this study. Although strategic leadership is referred to extensively in the literature, this research addressed a specific gap concerning foresight and strategic thinking attributes of strategic leadership and their relationship to engagement and identified the possible futures of engagement in Singapore by 2030, to inform the practitioners, and the organisations. The DPRS allowed the opportunity to contribute to professional practice, academic knowledge, and personal development.

1.8.1 Professional Practice

This study provides significant benefits to practitioners and has practical implications for organisations. The study makes original contributions to the professional practice of strategic leadership and work engagement. The study provides coaches and consultants with a theoretical, conceptualisation and operationalisation model to link foresight styles and strategic thinking styles to the antecedents of work engagement and organisational outcomes.

This study is essential to the field of Human Resources Management (HRM). Organisations can use this study's results to explore further the strategic leadership

practices of strategy and leadership in building organisational engagement capability that can create value and improve organisational outcomes. Furthermore, the findings can support the recruitment and development of leaders.

The study informs strategic leaders in Singapore about the possible futures of work engagement as related to strategic leadership and organisational outcomes and the options available for decision making.

1.8.2 Academic contribution and significance

This study contributes to scholarly literature. It contributes to theory, namely the strategic leadership theory and the work engagement theory.

It contributes to the literature on strategic leadership as it is emergent, collective, processual, and instrumental. For instance, it:

1. Defines the relationship between strategic leadership and work engagement from a strategic leadership theory perspective.

2. Investigates the use of leader capabilities of foresight and strategic thinking as proxies for predicting work engagement as an indicator of organisational outcomes.

3. Applies strategic leadership theory to compliment futures research in the development of scenarios of possible futures.

4. Conducts research specific to the futures of work engagement in Singapore.

The foresight and strategic thinking concepts related to engagement are under-researched, yet promise to yield valuable insights into strategic leadership and individual, organisational, and social outcomes. Conceptual clarifications of foresight, strategic thinking and engagement are required to investigate the relationship between the concepts reviewed in the literature to define links of foresight and strategic thinking with engagement. This thesis examines the conceptualisation and operationalisation of the relationship between foresight, strategic thinking, and engagement through a rigorous research design.

Furthermore, the research addresses the interdisciplinarity and complexity of the research issue by selecting an array of research methods that collected, analysed, and

interpreted data and produced answers to the research questions in a rigorous research methodology and design.

1.8.3 Personal Development

The study presents a developmental learning opportunity for the researcher towards a scholarly and holistic practitioner and individual through acquiring skills and knowledge. Accordingly, the following learning objectives were identified and achieved based on the researcher's professional development needs by undertaking this study:

1. Develop the researchers' professional knowledge through comprehensive research of contemporary theories regarding strategic leadership and work engagement.
2. Enhance the researcher's critical thinking and objective judgment skills through investigating the relationships between strategic leadership and work engagement based on literature review.
3. Develop the researcher's futures thinking skills through detailed analysis of the changing nature of work, business purpose and evolving workforce.
4. Enhance the researcher's cognitive abilities to handle complexity as well as tolerance for ambiguity and uncertainty by learning different approaches to innovation and creativity and applying in developing workplace consulting interventions.
5. Strengthen the researcher perspective of the required cognitive abilities of leaders that meet the needs of the workforce and the purpose of business.
6. Improve the researcher oral and written communication skills by engaging in research and writing processes that help to formulate the right question and build arguments, while developing a consistent editorial style.
7. Make significant intellectual contribution to the strategic leadership literature by developing theoretical and conceptual frameworks aimed at being "fit-for-future" purpose and supported by valid and reliable methods of research.

In summary, the study provided an opening for the researcher to enhance theoretical knowledge, analytical skills, and research skills, in addition to a broader opportunity to collaborate and develop professional networks in academia and industry.

1.9 THESIS OUTLINE

This thesis is presented in seven chapters, followed by the list of references and appendices. Figure 1-2 outlines the research thesis structure.

Figure 1-2 Thesis structure

Chapter 1
Introduction

Chapter 2
Literature Review

Chapter 3
Methodology &
Research Design

Chapter 4
Environmental Scan

Chapter 5
Results and Discussion

Chapter 6
Possible Futures

Chapter 7
Conclusion
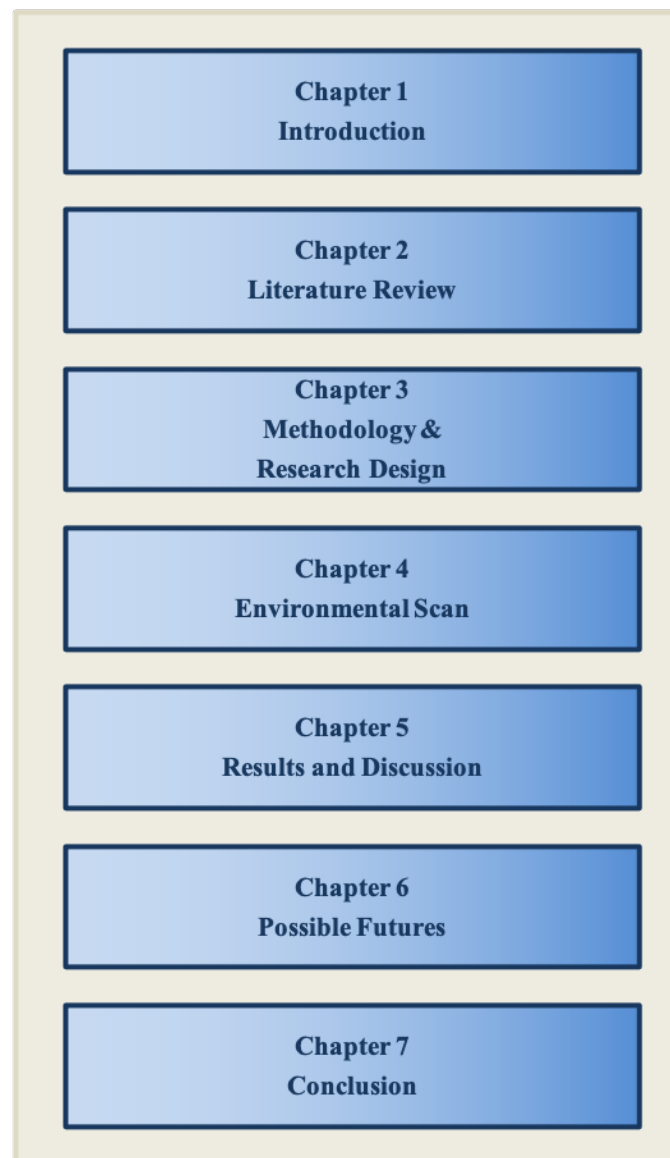
Source: Developed for this research

Each chapter is set out according to the higher degree presentation schedule. Further, the chapters provide a brief introduction and conclusion to guide the reader. The chapters are presented in order of the work-based research process, beginning with

the introduction to the research, followed by a comprehensive literature review in Chapter 2. Chapter 3 covers the methodology and research design. Chapter 4 presents an environmental scan. In Chapter 5, the study discusses the results, followed by the possible futures in Chapter 6 and ending with the conclusion in Chapter 7.

1.10 CONCLUSION

Chapter 1 introduced the research topic and the specific aims and objectives of this research, followed by the research questions and a summary of the selected research design and methods to answer the research questions. It also highlighted the research contribution and significance.

The next chapter provides a comprehensive review of the relevant literature on the topics of strategic leadership, future studies, foresight, strategic thinking, and engagement. It addresses the current research and identifies gaps whereby the current work-based research can provide a noteworthy contribution to the existing body of knowledge and professional practice.

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Chapter 2: Literature Review

2.1   INTRODUCTION

This literature review chapter demonstrates that the extant literature related to the research topic has been rigorously reviewed and critically considered research related to the study focus. This chapter adopts a pluralist and eclectic approach to the research question drawing from multiple theories and disciplines. The literature review aims to delineate various theoretical positions; critically evaluate the literature; synthesise and integrate the findings. This review identifies the gap in the literature concerning the research issue. It develops a conceptual framework and generates propositions leading to developing the research methodology in chapter 3.

Theorists in various fields discuss characteristics of top executives. They mostly agree that the trajectory to desirable organisational outcomes often determined by the strategic choices and actions of the top executives in the organisation (Díaz-Fernández et al., 2020; Finkelstein et al., 2009; Hambrick, 2007; Hambrick & Mason, 1984; Lehmberg & Tangpong, 2020; Tulung & Ramdani, 2016; Vainieri et al., 2019). Strategic leadership is the study of executive leadership from a strategic choice viewpoint. It focuses on the top management teams who have overall responsibility for an organisation, and it emphasises the central role of strategy and leadership in organisational outcomes.

Strategy guides the corporate planning processes and includes subjects of primary concern to senior leaders (Mintzberg, 1987a; Rumelt et al., 1995). For instance, the match an organisation makes between its internal capabilities and the opportunities and risks created by its external environment. Explore and exploit opportunities while building capacity to change and resilience (Whittington, 2003; Whittington et al., 2020). Such aspects need a great deal of analysis that leads to strategy formation and evaluation of business outcomes based on the strategy execution effectiveness. The strategy-making process is the responsibility of the strategy-level leadership in the organisation (Mukhezakule & Tefera, 2019; Rahman et al., 2018; Storey, 2005).

Leadership has evolved over the years from focusing on the inner dispositions and tendencies of the leader, related to what effective leadership is, to more comprehensive inquiries that emphasise the importance of cognitions, qualities, actions, behaviours and contexts in which leaders and followers are dynamically engaged (Carasco-Saul et al., 2015a; Saks, 2019). This thesis addressed two cognitive capabilities of strategy-level leadership that may influence strategy: foresight and strategic thinking. The study focused on these two cognitive capabilities in relation to work engagement and how they can be operationalised within the context of strategic leadership to deliver organisation outcomes.

Strategy-level leaders exert moderate to high influence on strategy (van der Laan & Yap, 2016). They are futures oriented and have futures strategies that look beyond the present and explore the uncertain future (Quong & Walker, 2010). It is about strategic intent, a powerful concept used to describe how a business can take a strategic perspective into a rapidly changing and turbulent environment (O'Shannassy, 2016). O'Shannassy (2016) identified three dimensions of the strategic intent construct; shared vision, resource focus and foresight. The literature indicated that future scanning and foresight helps organisation members understand firm direction, goals, and resource focus in an active, rational process (Buehring & Liedtka, 2018; Hamel & Prahalad, 1989, 2005; Lovas & Ghoshal, 2000).

Foresight is a human capacity and an innate individual cognitive ability recognised as a significant source of understanding and perception for leaders (Hines et al., 2017; Slaughter, 1996; Van der Laan, 2010). Slaughter (1996) argued that leaders could not continue business-as-usual attitudes and practices, which lead to futures no sane person would like to inhabit. He asserted that "under modern conditions, foresight is less a choice than a necessity with all the force of a historical imperative" (Slaughter, 1996, p. 162). Foresight emphasises a playful attitude to the future; a foresightful action influences what will become relevant and essential to explore (Buehring & Liedtka, 2018; Tsoukas & Shepherd, 2004b). Foresight is part of futures studies; it provides the breadth needed for strategic thinking capabilities for strategic leadership.

Strategic thinking precedes strategic planning as a stage in the strategy creation process (Bikmetov et al., 2020; Mintzberg, 1994a; Weston, 2020). A purposive thought process aimed to discover novel strategies to envision potential futures and

attain competitive advantage (Heracleous, 1998). Sound strategy development relies on strategic thinking (Gluck et al., 2000; Sahay, 2019). Mintzberg (1994, p.12) asserted that strategic thinking is the task of "developing an integrated perspective of the enterprise" using intuition and creativity in decision-makers cognitions. Strategic leaders require strategic thinking skills (Norzailan et al., 2016). Strategic thinking is the inner voice of strategic leadership (Kleiner et al., 2019).

Strategic leadership embrace work engagement, enacted at the organisational level to encourage employees to invest their whole physical, emotional, and mental selves into their work. Such practices influence each of the three underlying psychological conditions necessary for full engagement: psychological meaningfulness, safety, and availability (Kahn, 1992). Work engagement is considered valuable when aligned toward the firm's strategic choices and leads to the desired organisational outcomes (Thurgood et al., 2013). In a highly competitive business world characterised by complexity and uncertainty, strategic leaders increasingly rely on the strengths and talents of their workforce to stay competitive. Thus, there is a genuine need for an engaged workforce (Bakker, 2017).

Engagement is a concept that emerged from role theory; it defines an experiential state that accompanies 'personally engaging behaviours' that involve the channelling of personal energies into physical, cognitive, and emotional labours (Kahn, 1992). Schaufeli et al. (2002) defined work engagement as a positive, fulfilling, work-related state of mind characterised by vigour, dedication, and absorption (Schaufeli, 2013; Schaufeli et al., 2002). The literature review showed that work engagement is a crucial predictor of job and organisational outcomes, including creativity and innovation, client satisfaction, positive financial results, and reduced sickness absenteeism (Bakker, 2017).

The study draws theoretical links between strategic leadership theory and engagement theory to provide a theoretical foundation for a rigorous scenario planning process. The researcher's pragmatic perspective on strategic leadership resides at the intersection of cognitive capabilities of foresight and strategic thinking of strategy-level leaders and the environmental drivers of change, concerning work engagement and organisational outcomes, as a lens to identify the possible futures of work engagement in Singapore by 2030.

Figure 2-1 outlines the structure of chapter two. The literature review provides an overview of the strategic leadership field, including the strategy and leadership domains and how they relate to foresight and strategic thinking capabilities.

Figure 2-1 Chapter two - contents
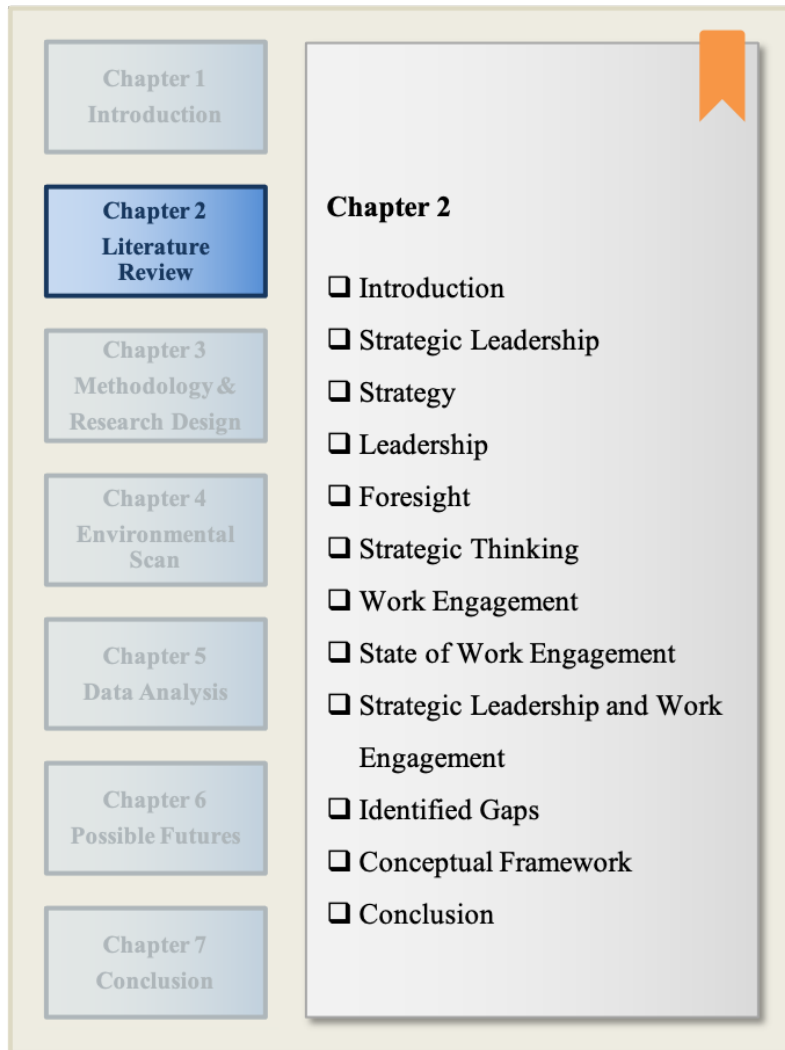
Source: developed for this research

The study provides a thorough review of the engagement literature to synthesise and integrate the findings for the different concepts and identify the gaps in the literature addressed by the research question. In addition, the study covers the state of work engagement in Singapore and addresses the cultural factors that may impact the theoretical underpinning of this research. Finally, this chapter delivers a theoretical framework of the various concepts supporting the study and ends with developing the conceptual framework for the research.

2.2 STRATEGIC LEADERSHIP

2.2.1 Introduction

Strategic leadership is the study of executive leadership from a strategic choice viewpoint, focuses on the top management teams who have overall responsibility for an organisation. It emphasises the central role of strategy and leadership in organisational outcomes. This study focuses on the top leadership level in an organisation that exerts the most influence on its strategy through their behaviours and decisions. Arguably, the most prominent work on executive actions and decisions is the influential upper echelons perspective (Hambrick & Mason, 1984).

2.2.2 Upper Echelons theory

Upper Echelons Theory (UET) is formed upon the principles of the dominant coalition and bounded rationality. Cyert and March (1963) first theorised that a dominant coalition of individuals, including the top management team (TMT), set organisational goals. The cognitions and values of this group shape their organisational behaviours. The view of "bounded rationality" affirms that the intricacy of corporate practices is not objectively knowable. Therefore, it is essential to consider the most prominent decision-makers in the firm to comprehend the activities and performance of the organisations. By concentrating on the attributes of the top management team, and their collective cognitions, competencies, expertise, associations, and values, we can predict their strategic choices. Furthermore, the attributes of the executive decision-makers can be made use of as legitimate proxy indicators of their cognitions and the future state of their organisation (Cyert & March, 1963; Hambrick, 2007).

Hambrick and Mason (1984) seminal article introduced the Upper Echelons theory declaring that strategic choices reflect the idiosyncrasies of decision-makers. First, executive acts based on their personalised interpretations of the strategic situation they face. Second, such interpretations are a function of the executives' experiences, cognitions, values, and leaders' personalities (Hambrick & Mason, 1984). Figure 2-2 illustrates the process that executives go through as they make a strategic choice. This includes choices made formally and informally, indecision, decision, major choices concerning systems, structure, reward, key appointments, and competitive choices associates with the firm strategy. First, the environmental drivers of change get filtered through a limited field of vision (i.e., what information

executives look for), which is confined by the areas where the attention is directed. Second, the selective perceptivity of executives imposes further limitations (i.e., what information executives attend to). Finally, the cognitions and values of leaders bound the interpretation and lead to strategic choices (i.e., what deem essential).

Figure 2-2 Upper Echelons Theory
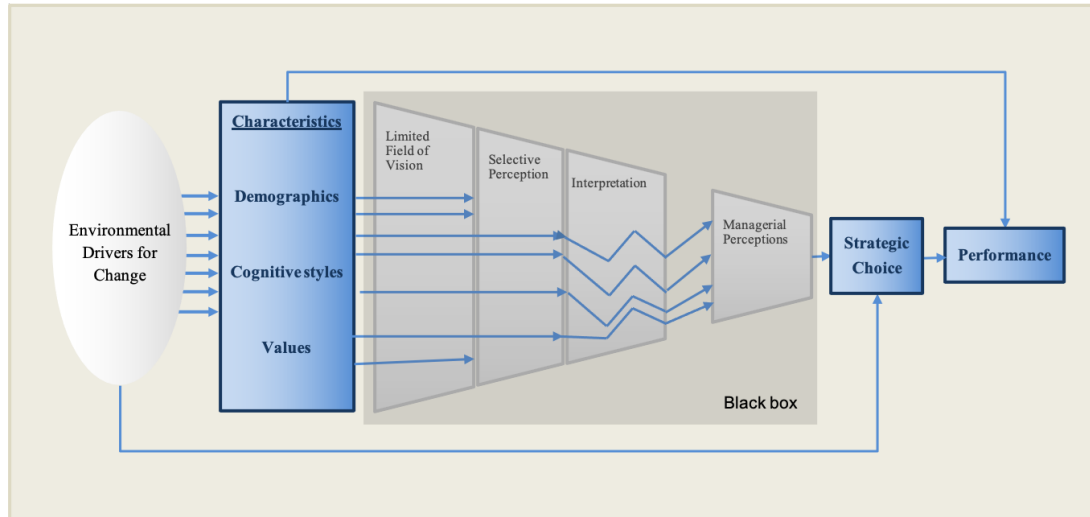
Source: Adapted from (Hambrick & Mason, 1984)

Figure 2-2 illustrates a range of relationships. First, in parts, the executives' characteristics reflect the environment that the organisation faces. Second, the executives' characteristics are determinants of strategic choices and outcomes. Third, the environment, executives' characteristics and strategic choices interact to determine organisational outcomes. Hambrick and Mason (1984) affirmed that their research could not progress without considering how executives scan and analyse environmental information. A recent study confirmed that macro-environmental context moderates the executive characteristics - organisation outcomes (Bach & Lee, 2018; Jaleha & Machuki, 2018). Also, it is notable from the review that the emphasis on demographics characteristics formed the basis of UET but did not address what is widely known as a "black box" or executives' cognitive styles and behaviours (Hambrick & Mason, 1984). The term "upper echelons" referred primarily to the association between executive characteristics and organisational outcomes (Hambrick, 1989).

In an update, Hambrick et al. (2005) argued that executive job demands are moderated by task challenges, performance challenges and executive aspirations. They also argued that the dynamic interactions between discretion and demands would determine the course of action on behalf of the top management team (Hambrick et al.,

2005). In a later update to the Upper Echelons theory, based on the institutional theory (Powell & Maggio, 1983), Hambrick (2007) argued that the executive's discretion exists in the absence of constraint when there are multiple plausible alternatives. As a result, the theory can offer good predictions of organisational outcomes directly proportional to how much managerial discretion exists, subject to executives' demographics.

For this study, we also note that Hambrick (2007) argued that social integration assesses the degree of psychological attachments among team members. Social integration is a team-level construct and has been identified as critical when predicting team behaviour and outcomes (H. C. Lin & Shih, 2008; O'Reilly et al., 1989). Social integration among the top management team (TMT) can be considered a strategic asset that fosters firm competitiveness (K. G. Smith et al., 1994; Venugopal et al., 2020). The study argues that developing practices to support social integration among TMT enable work engagement as an organisational capability.

There has been a proliferation of research based on upper echelon theory, and that the empirical results validated the theory and indicated its application to diverse contexts (Bilgili et al., 2017; Carpenter et al., 2004; Shahab et al., 2020; Steinbach et al., 2019; Whitler et al., 2021). However, it is notable that Upper Echelons represent a single-actor theory of leadership or a dominant coalition model. Critics suggested unpacking the black box into two distinct processes: cognitive processes and relational processes (Neely et al., 2020). Unpacking the relational processes can facilitate interactions and better outcomes (Helfat & Martin, 2015).

This study is concerned with the cognition processes related to foresight and strategic thinking and relational processes related to engagement. Table 2-1 summarises the key concepts associated with the Upper Echelons theory. UET is a part of strategic leadership, and it is of particular interest to the researcher. The study investigates the possible futures of work engagement in Singapore by 2030 as a mediating variable between strategic leadership and organisational outcomes. The study focuses on the cognitive capabilities of top management teams. Particularly, foresight and strategic thinking characteristics of leaders as related to work engagement and organisational outcomes.

Table 2-1 Key concepts in the Upper Echelons theory

Author	Concepts
Bounded rationality (Cyert & March, 1963)	"The agents make decisions using routines and heuristics because the complexity of the environment exceeds their ability to optimize even with respect to the limited information available to them"
Dominant coalition (Cyert & March, 1963)	"The network of individuals within and around an organisation that most influence the mission and goals of the organisation"
Upper Echelons (Hambrick & Mason, 1984)	"Executive act on the basis of their personalised interpretations of the strategic situation they face, such interpretations are a function of the executives' experiences, values and personalities"
Managerial discretion (Hambrick & Finkelstein, 1987)	"in the absence of constraint, executive's discretion exists when there is an absence of constraint and when there is a great deal of means-ends ambiguity? That is, when there are multiple plausible alternatives. Discretion, we proposed, emanates from environmental conditions (e.g., industry growth), from organisational factors (e.g., a weak board), and from the executive himself or herself (e.g., tolerance for ambiguity)."
Intra TMT power distribution (Finkelstein, 1992)	"TMT characteristics yield stronger predictions of strategic behaviour when the differing amounts of power of TMT members are accounted for"
Behavioural integration (Hambrick, 1995)	"Behavioural integration, then, is the degree to which a TMT engages in mutual and collective interaction. A behaviourally integrated TMT shares information, resources, and decisions."
Executive job demand (Hambrick et al., 2005)	"Executives who are under heavy job demands will be forced to take mental shortcuts and fall back on what they have tried or seen work in the past; thus, their choices will reflect their backgrounds and dispositions. Conversely, executives who face minimal job demands can afford to be more comprehensive in their analyses and decision making; thus, their choices will more greatly match the objective conditions they confront"
Inside the black box (Hambrick, 2007)	"The basic logic of upper echelons theory is that executives make choices on the basis of their personalized construals of the situations they face."

Source: Developed for this research

The study demonstrates the moderating effect of environmental drivers in this relationship to further indicate the relationship between leaders' foresight and strategic thinking and work engagement.

2.2.3 Definition and concept of strategic leadership

The origins of Strategic Leadership Theory (SLT) trace back to Hambrick and Mason's (1984) UET. Finkelstein and Hambrick (1996) presented a considerable number of studies on SLT; they synthesised a large body of work on strategic management and upper echelons. Their work laid the foundation of strategic leadership (Finkelstein & Hambrick, 1996).

SLT asserted that top executives' demographics, cognitive styles, and values affect their field of vision, their selective perception of information, and their interpretation of such information, subsequently affecting the strategic choices that top executives evaluate and select (Abatecola & Cristofaro, 2018; Carpenter et al., 2004; Chatterjee & Hambrick, 2007; Díaz-Fernández et al., 2020; Finkelstein et al., 2009; Finkelstein & Hambrick, 1996; Hernandez et al., 2011; Steinbach et al., 2019). The academic literature presented adequate support to the notion that executive characteristics (i.e., values, cognitive styles, and personality) link directly to organisational outcomes (Altarawneh et al., 2020; Cannella & Monroe, 1997; N. J. Hiller et al., 2013; Kalogeraki, 2020; Saidu, 2019). Nevertheless, the literature highlights some critical views about the ability of UET and SLT to explain phenomena versus merely predicting them and questioned the construct meaning and validity of the use of demographic variables in strategic leadership theory (Priem et al., 1999). Other studies argued that the theory of strategic leadership should unpack and explain how top management influence the organisational processes that determine its effectiveness and organisational outcomes under the influence of the complex and competitive environment in which management operates (Díaz-Fernández et al., 2020; Neely et al., 2020; Yukl, 2008).

The expanding field of research on strategic leadership lacks consensus on the concept and its definition, as revealed during the literature review. Table 2-2 presents definitions and conceptualisations of strategic leadership from a wide variety of academic sources.

Table 2-2 Definitions and conceptualisations of strategic leadership

Author(s)	Definition / Concept
(Hambrick, 1989)	"Focuses on the people who have overall responsibility for an organisation-the characteristic of those people, what they do, and how they do it."
(House & Aditya, 1997)	"Directed toward giving purpose and meaning, and guidance to organisations."
(Ireland & Hitt, 1999)	"A person's ability to anticipate, envision, maintain flexibility, think strategically, and work with others to initiate change that will create a viable future for the organisation."
(W. G. Rowe, 2001)	"The ability to influence others to voluntarily make day-to-day decisions that enhance the long-term viability of the organisation, while maintaining its short-term financial stability."
(Boal & Hooijberg, 2001)	"The essence of strategic leadership involves the capacity to learn, the capacity to change and managerial wisdom."
(Boal, 2004)	"Series of decisions and activities, both process-oriented and substantive in nature, through which, over time, the past, the present, and the future of the organisation coalesce. Strategic leadership forges a bridge between the past, the present, and the future, by reaffirming core values and identity to ensure continuity and integrity as the organisation struggles with known and unknown realities and possibilities."
(Hambrick, 2007)	"Leadership of a complex organisation is a shared activity, and the collective cognition, capabilities, and interactions of the entire TMT enter into strategic behaviours."
(Amos, 2007)	"The ability to understand the entire organisation and the environments within which they operate and using this understanding to create strategic change through other people so as to position threw organisation in the environment for both short-term stability and long-term viability."
(Hitt et al., 2007)	"The ability to anticipate, envision, maintain flexibility and empower employees to create strategic change as necessary."
(Boal & Schultz, 2007)	"Focuses on the creation of meaning and purpose for the organisation."
(Finkelstein et al., 2009)	"… focuses on the executives who have overall responsibility for an organisation- their characteristics, what they do, how they do it, and particularly, how they affect organisational outcomes."
(DeChurch et al., 2010)	"The strategic apex of the organisation which establishes a vision and sets broad objectives for the overall organisation."
(Tutar et al., 2011)	"The ability to make a strategic choice"
(Hernandez et al., 2011)	"Focus on effect as a mechanism of strategic leadership, create an overall purpose and direction for the organisation, which guide strategy formulation and implementation."
(Pitelis & Wagner, 2019)	"The capacity to anticipate, envisage, the ability to think strategically and capacity to work with fellow colleagues in order to initiate changes aimed at creating a viable future of the organisation."
(Samimi et al., 2020)	'The functions performed by individuals at the top levels of an organisation that are intended to have strategic consequences for the firm."

Source: Developed for this research

For purposes of this research, the definition of strategic leadership is:

> Strategic leadership is a series of decisions and activities, both process-oriented and substantive in nature, through which, over time, the past, the present, and the future of the organisation coalesce. Strategic leadership forges a bridge between the past, the present, and the future, by reaffirming core values and identity to ensure continuity and integrity as the organisation struggles with known and unknown realities and possibilities. Strategic leadership makes sense of and gives meaning to environmental turbulence and ambiguity and provides a vision and road map that allows an organisation to evolve and innovate. (Boal, 2004, p. 1504)

This definition exemplifies the function of strategic leadership and the notion of thinking in time as a prerequisite for top management teams.

Hambrick (1989) argued that strategic leadership occurs in complex, ambiguous and hyper-turbulent environments and that top management task differs from the management task at lower echelons. Hambrick argued that a strategic leader is concerned with external and internal spheres, cutting across different business functions, and managing through others instead of having a strong personal presence (Hambrick, 1989). Without effective strategic leadership, an organisation's probability of confronting challenges and achieving outcomes will be significantly reduced (Luciano et al., 2020; Serfontein & Hough, 2011).

Boal and Hooijberg (2000) suggested that strategic leadership needs to develop *absorptive capacity* (ability to learn) and *adaptive capacity* (ability to change) coupled with *leadership wisdom* (ability to judge). Boal and Hooijberg (2000) introduced an integrative model of strategic leadership. The model represents the core capabilities of strategic leadership (Figure 2-3). *Absorptive capacity* denotes cognitive processes used to explore and exploit new information to improve fits between the organisation and its environments. For example, learning may lead to adjusting an existing practice, modify the interpretative scheme, develop unique views, or restructure the meta-level system to obtain a new worldview. *Adaptive capacity* denotes strategic flexibility that allows the organisation to change and respond to environmental conditions and take advantage of future opportunities; it increases innovation and continuous learning. *Leadership wisdom* denotes the ability to perceive a variation in the environment and understand the political and social organisation settings. It involves taking the right

action at the right time and manage relationships with stakeholders (Boal & Hooijberg, 2001).

Figure 2-3 Strategic leadership abilities
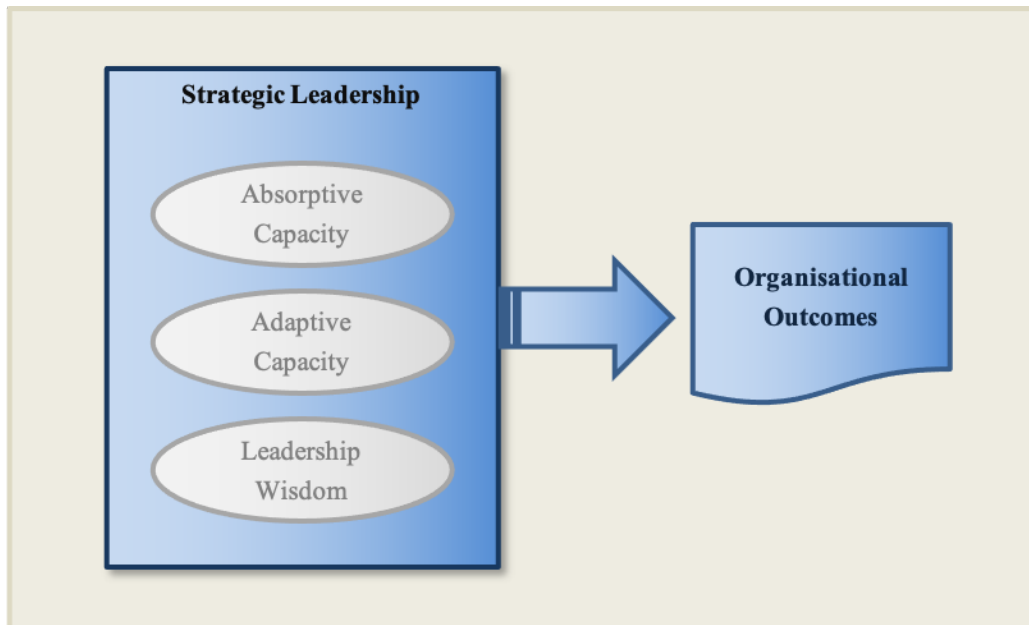
Boal and Hooijberg confirmed that leaders who have the absorptive capacity, adaptive capacity, and managerial wisdom are more effective than leaders who do not (B. J. Ali & Anwar, 2021; Boal & Hooijberg, 2001). Furthermore, strategic leaders are responsible for creating the organisation's context (Boal, 2007). They are central to the cognitive network of organisations. They have the most influence on promoting and interpreting the exchange of information (Boal, 2007). Organisations are perceived as complex adaptive systems, where behaviours and structures emerge from interactions between substructures and self-organises (Marion & Uhl-Bien, 2001). In complex adaptive systems, the role of strategic leadership is to shape the evolution of organisational interactions and construct the shared meanings to learn from the past, adapt to the present and create the future (Boal & Schultz, 2007).

The focus on cognitive processes (i.e., absorptive capacity, adaptive capacity, and leadership wisdom), the interactivity within the organisation, and the temporal path (i.e., past, present, and future) to provide meaning and sense-making are of particular interest to this research. This study posited that strategic leaders' cognitive capabilities of foresight and strategic thinking impacts work engagement as an organisational capability (Barrick et al., 2015). The study further examined the moderating effect of environmental variables to explore the relationship between

strategic leadership and work engagement. There is a consensus that environmental drivers have implications for strategic leaders and the latitude of discretion they enjoy (Boal & Hooijberg, 2001; Carpenter et al., 2004). Finally, the study viewed strategic leadership from a processual viewpoint in which the focus was on leaders' actions as a reflection of their cognitions.

2.2.4 Strategy-level leaders

Who are they?

Strategic leadership focuses on the executives who have the organisation's overall responsibility, including what is referred to as the top management team or dominant coalition (Cyert & March, 1963). In the new organisation structure, they are referred to as chief executive officers. The CEO at the top post is usually accompanied by heads of functions and businesses units responsible for business administration. Boards of directors are also involved in setting policies and major strategic choices. Strategic leadership also includes strategic advisors (Finkelstein et al., 2009).

In this study, the focus is on the top level of leadership of the organisation that exert the most influence on the organisation's strategy (Carpenter et al., 2004), based on Cyert and March's (1963) "Dominant coalition". Storey refers to them as strategy-level leaders (Storey, 2005). Other researchers refer to these as the executives, strategic leaders, upper echelons, or top management team (TMT) (Boal & Hooijberg, 2001; Boal & Schultz, 2007; Cannella & Monroe, 1997; Carpenter et al., 2004; Hambrick, 1989; Neely et al., 2020; Samimi et al., 2020; Van der Laan, 2010).

This study adopted the view that strategic leaders are those that exert the most significant influence on the organisation strategic choices and outcomes as constitutes of the dominant coalition (Storey, 2005) and applied the term 'Strategic Leaders' to identify them as members of the dominant coalition.

What they do?

Activities associated with strategic leaders include: "making strategic choices; creating and communicating a vision for the future; developing key competencies and capabilities; developing organisational structure, processes, and controls; developing leaders, sustaining effective culture; and infusing ethical value systems" (Boal & Hooijberg, 2001, p. 516). Strategic leaders are thinkers and visionaries who aim to create transformative organisations (Carter & Greer, 2013). They anticipate, challenge,

and interpret ambiguous situations, then they decide and align forces to appropriately respond to dynamism and complexity of the external environment (Schoemaker et al., 2013; Schoemaker & Krupp, 2015). This research adopted the following overall description of what strategic leaders do:

> Strategic leaders draw on the past and present as a foundation for the desired vision of the organisation's future; their role is that of building an organisation that draws on the past for experience, knowledge, and meaning without being held back by complacency, but also shapes the future without being paralysed by uncertainty or fragmented in disorder. (Boal & Schultz, 2007, p. 413).

Strategic leaders provide vision, resources, and strategic intent. They develop human and social capital and capabilities to meet real-time opportunities and threats. They make sense of and give meaning to environmental turbulence and ambiguity and provide a road map that allows an organisation to evolve and innovate (Boal, 2004; Finkelstein et al., 2009). In advancing a vision, strategic leaders instil meaning in the workforce for the individual roles they play, fulfil the vision, and motivate employees to engage actively and innovatively in new situations and challenges (Boal & Schultz, 2007). Strategic leadership predict strategic planning, strategic thinking, and competitive advantage (Hunitie, 2018).

There is an ongoing scholarly debate on the fundamental importance of strategic leaders. One school of thought argues for limited impact due to environmental constraints limiting executive discretion (Andersen, 2017; Finkelstein et al., 2009). On the other hand, several supporters claim that strategic leaders are critical for organisational outcomes based on the notion of strategic choice and sufficient executive discretion (Cannella & Monroe, 1997; Crossland & Hambrick, 2011; Finkelstein & Hambrick, 1996; Hambrick & Quigley, 2014; Youssef & Teng, 2019).

2.2.5 Organisational outcomes

There is general agreement in the scholarly research that organisational performance and organisational outcomes are the results of effective leaderships (Luria et al., 2019; Madanchian et al., 2017; Popa, 2012; Sanders & Davey, 2011; Shiva & Suar, 2012; Sparrow & Cooper, 2014). Recent studies suggest that strategic leaders substantially influence organisation performance (Quigley & Graffin, 2017). These conclusions align with the core assumptions of the Upper Echelons and Strategic Leadership theories who refer to both organisational performance and organisational

outcomes. It should be noted that there has been credible criticism of the notion and measurement of 'organisational performance' and its relationship to a multitude of internal and external variables reported in the literature that may influence it. Organisational performance is considered a confounding variable in that its definition is too broad, its measurement imprecise and its proposed relationship to other causal variables unable to account for the effect of interaction terms. The discussion on whether the concept of organisational performance is sufficiently defined and measured continues to be moot with significant disagreement in the literature (Dickin & Clark, 2007; Hairout, 2020; Michael et al., 2018; Poongothai, 2014; Stanciu, 2019). As the definition and measurement of organisational performance is not within the scope of this study and noting recent literature preferring the term 'organisational outcomes,' the study will refer to organisational outcomes as aligned with its usage in the Strategic Leadership Theory.

Favourable organisational outcomes can be proposed to occur in three broad areas. First, "goal optimisation" focus on achieving goals and fulfilling tasks within a resource's constraint environment. Second, "social/interpersonal" to maintain the needed support and focus on goal optimisation, Third, "innovative adaptation" implies flexibility in reaction to environment and innovation as proactive to explore and exploit opportunities (Sanders & Davey, 2011; N. Sharma & Singh, 2019; Yukl, 2008).

Organisation outcomes are affected by strategic leaders across several categories. Economic performance (Hamann et al., 2013). Efficiency and operational measures (N. Sharma & Singh, 2019). Strategic choices (Liu et al., 2018). Structural and innovation (Cummings & Knott, 2018; N. Sharma & Singh, 2019). Ambidexterity (short-term exploitation and long-term exploration of opportunities) through the effective use of the workforce to drive efficiency and innovation (Yukl, 2008). In addition, they determine attitudinal and behavioural measures (e.g., job satisfaction, adaptability, turnover, and commitment) (N. Sharma & Singh, 2019) and social and ethical issues (Petrenko et al., 2016).

Finally, organisation effectiveness can be positively related to competitive advantage, as the manner to which the leaders apply their skills and capabilities to gain a superior position in the marketplace and desired outcomes for its shareholders and stakeholders (Ansoff, 1965; Hunitie, 2018; Porter, 1980, 1996a; Rahman et al., 2018).

2.2.6 Summary

Strategic leadership is central for organisation effectiveness in the very dynamic, turbulent, and complex environment of the 21st century. Strategic leadership is required to confront environmental factors and organisational constraints.

This review of strategic leadership theory revealed a seemingly fragmented literature. Upper echelons theory suggested the demographics of top managers as proxies that influence information processing and strategic decision-making (Bromiley & Rau, 2016; Carpenter et al., 2004; Finkelstein et al., 2009; Hambrick, 2007; Hambrick & Mason, 1984; Hambrick & Quigley, 2014). However, challenges to the coarse nature of demographics led to pleas for studying more substantive dimensions, including cognitive styles and judgement (Priem et al., 1999).

This study adopted the view suggested by Hambrick (2007) that cognitions and abilities of leaders may serve to predict the organisational outcomes and future of the organisation or industry. Furthermore, the study focused on the leaders' cognitive capabilities of foresight and strategic thinking that actively shape the organisation's future (Buehring & Liedtka, 2018).

2.3   STRATEGY

2.3.1 Introduction

Strategic leaders are responsible for strategy-making; they act based on their idiosyncratic experiences, cognitive styles, and dispositions (Finkelstein et al., 2009). The primary task of strategic leaders is to provide strategic direction to the organisation (Serfontein & Hough, 2011). Strategic Leadership theory emphasises that strategies come from the top, but they can also surface from operating levels (Finkelstein et al., 2009).

A large and growing body of literature has investigated strategy as it has gained prominence in organisations and among leaders. The strategy sets the direction and the scope of a firm over the long term by creating a competitive advantage in a turbulent environment through its utilisation of resources and capabilities to achieve organisational effectiveness and outcomes (Whittington et al., 2020).

Therefore, the study area focused on the cognitive capabilities of foresight and strategic thinking concerning work engagement in the organisation. Thus, the question

arises as to what theoretical frameworks provide the basis for addressing the research issue. This research established the theoretical foundation to support the research purpose.

2.3.2 Definition and concept of strategy

Throughout history, strategy remained mostly a military subject. The word strategy comes from the Greek word "strategos", and "stratgia" referred to generals and the things generals did in charge of war plans (Freedman, 2017).

The idea of strategy as a business tool, found in business literature in the early 1960s (Mintzberg, 1987a; Rumelt et al., 1995), was introduced as the body of knowledge known as strategic management. The concept of strategic management has commonly been portrayed as revolving around the discreet phases of formulation, implementation, and control. The early work of Alfred Chandler (1963) shaped the concepts of strategy and strategic management as we know them today; he provided starting definitions of strategy, formulation, and implementation; he underlined organisational resources and capabilities concerning strategy (Chandler, 1990; Whittington, 2008).

Since then, definitions and theories of strategy have continued to refine the strategy discipline, and numerous researchers contributed to the body of knowledge (Burgelman et al., 2018; DeWit & Meyer, 2010b; Hautz et al., 2017; Hodgkinson et al., 2006; Lampel et al., 2014; Markides, 1999a; Mintzberg, 1973, 1987b, 1987c; Mintzberg et al., 2003, 2020; Porter, 1980; A. Thompson et al., 2007; Whittington, 2004).

The concept of strategy has evolved and given rise to different perspectives of what strategy entails. Probably due to its pluralistic nature and broad application as a social practice, the fundamental concepts in strategy are generally acknowledged but repeatedly questioned. Mintzberg (2020) confirmed some general areas of agreement, among scholars, about the nature of strategy: strategy sets direction; strategy focuses effort; strategy defines the organisation; and strategy provides consistency (Mintzberg et al., 2020).

A review of the strategy literature indicates differing opinions and elusive definitions of what strategy is. Table 2-3 represents a summary of the most prominent

strategy definitions found in the literature. It shows a clear orientation towards achieving goals and creating a competitive advantage.

Table 2-3 Definitions and conceptualisations of strategy

Author(s)	Definition / Concept
(J. V. Neuman & Morgenstern, 1947)	"A series of actions by the firm that are decided according to the particular situation."
(Chandler, 1990)	"The determination of the long-run goals and objectives of an enterprise and the adoption of courses of action and the allocation of resources necessary for carrying out the goals."
(Drucker, 1994)	"A firm's theory about how to gain competitive advantages."
(Rumelt et al., 1995)	"About the direction of organisations, including those subjects of primary concern to senior management."
(Porter, 1996b)	"Competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix o value."
(Davies & Davies, 2004)	"The process by which an organisation's direction givers can rise above the daily managerial processes and crises to gain different perspectives of the internal and external dynamics causing a change in their environment and thereby giving more effective direction to their organisation. Such perspectives should be both future-oriented and historically understood."
(A. Thompson et al., 2007)	"A plan to reflect on the tomorrows, the controlling facets of the future, by making choices and assimilating those choices in a unified way as a formalised procedure."
(Mintzberg, 2007)	"A pattern in a stream of decisions."
(Kvint, 2010)	"A system of finding, formulating and developing a doctrine that will ensure long-term success if followed faithfully."
(Steen, 2017)	"The smallest set of core choices to optimally guide the other choices."
(Doganova & Kornberger, 2020)	"Strategy is engagement with obligations that the future imposes on us. Strategy is tasked with analysing the future in order to change it."
(Whittington et al., 2020)	"Strategy is about the long-term direction of an organisation, formed by choices and actions about its resources and scope, in order to create advantageous positions relative to changing environment and stakeholder contexts."

Source: Developed for this research

For the purposes of this research, the definition of strategy is:

"Strategy is about the long-term direction of an organisation, formed by choices and actions about its resources and scope, in order to create advantageous positions relative to changing environment and stakeholder contexts." (Whittington et al., 2020, p. 24).

However, strategy cannot be explained in one broad definition, which would be misleading (Whittington et al., 2020). Instead, the study covered multiple layers of strategy, strategic intent; context; contents; process; and practice. All layers of strategy co-exist, interact, and are informed by the organisation strategic intent.

Figure 2-4 strategy conceptualisation
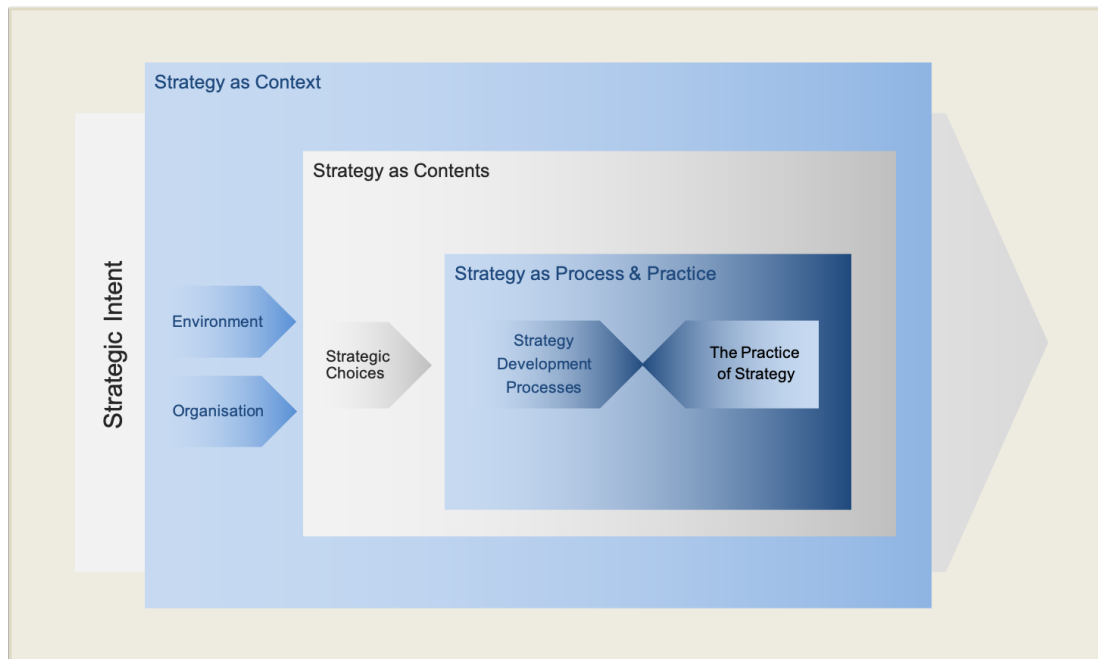
Source: Developed for this research

Figure 2-4 emphasises the non-linear nature of the layers; they are closely related, not separable phases and interact to inform each other (DeWit & Meyer, 2010b; O'Shannassy, 2016; Whittington et al., 2020). Finally, strategic intent is the invisible, active management practice that envisions the desired market position.

2.3.3 Strategic intent

The term strategic intent emerged from the influential writing of Hamel and Prahalad (1989). The strategic role of strategic intent is to go beyond strategic planning to represent objectives for "which one cannot plan" (Hamel & Prahalad, 1989). It enables the organisation to create and maintain shared meaning to facilitate organised action; it gives legitimacy to leaders and directs resources (O'Shannassy, 2016). The goal of strategic intent is to fold the future back to the present (Hamel et al., 2005).

Strategic intent is related to the vision and goals as a symbolic mode of strategy making (FitzRoy et al., 2012). Still, it is different from the concepts of goals and vision in terms of being superordinate. It has a very long-term vision, goals, objectives, and

orientation. The pace of change and complexity in business demands a broader vision shaped and defined iteratively, around intermediate strategies, through which the larger vision is attained. It requires wider involvement at all levels of the organisation and shared decision-making authority, based on a sustained obsession with winning at all levels of the organisation (Liedtka & Rosenblum, 1996).

Therefore, a firm can develop strategic intent as a core competency, an essential dynamic capability, and a vital organisational resource (Ben & Viswanathan, 2020; O'Shannassy, 2016; Prahalad & Hamel, 1990). A dynamic capability strategic intent ready leader explores and exploits opportunities (Seepana et al., 2020). Improvement in understanding and articulating the organisation strategic intent adds to the impact of strategy process and strategy practice on favourable organisational outcomes (Alatailat et al., 2019; Liedtka & Rosenblum, 1996; O'Shannassy, 2016, 2020). Strategic intent focuses on the strategic thinking of top management (Liedtka, 1998a). Prahalad and Hamel (1990) have explained the success of a company based on its strategic intent articulation by leaders and the core competencies that support that intent as a source of competitive advantage (R. Brown & Kline, 2020; Prahalad & Hamel, 1990).

This study adopted the following definition for strategic intent definition:

> "The philosophical orientation of an organisation that transforms the way it perceives itself over the long term. It involves envisioning a desired leadership position and identifying, securing, and developing the resources necessary to move the organisation closer to this position. Every resource and planning decision made at all levels of the organisation is internally focused on the pursuit of the firm's strategic intent" (Khazanchi & Owens, 2018, p. 4785).

Strategic intent changed the views of who has a role in formulating strategy, besides senior management. It energises all organisational levels for collective purpose through symbolism. The positive value of the symbolic mode of the strategy-making process (White, 1998) exemplifies the essence of strategic intent. Symbolism with vision and mission articulated by leaders provokes collective intent among the workforces. The emotional and cognitive energy of employees is directed towards a destiny that they perceive as inherently worthwhile. It can improve organisational outcomes, assure employees, and provide legitimacy to leaders (Hamel & Prahalad, 1994; O'Shannassy, 2016). Leadership practices of strategic intent (e.g.,

communication) generate micro-events (e.g., engagement) that directly constitute higher-level organisational outcomes associated with strategy (Baptista et al., 2021). This connection between engagement and favourable organisational outcomes through strategic intent is of particular interest to this study as the research conceptualises the relationship between strategic leadership and workforce engagement.

2.3.4 Strategy as context, content, process, and practice

It is argued that an ontological foundation for strategic leadership is an accurate account of its context (Heil & Whittaker, 2007). Context is the set of exogenous factors (e.g.., political, economic, social, technological, environmental, legal, and ethical) and endogenous factors (i.e., resources, competencies, and capabilities) under which strategic leadership subsist. They resemble settings that influence the strategic choices made by leaders (Brooks & Weatherston, 2000; Finkelstein et al., 2009; Jansen et al., 2009; Machuki & Aosa, 2011; Mason, 2007, 2013; Porter, 1980, 1996a; C. Randall & Dent, 2019; Yüksel, 2012). The COVID-19 pandemic is an example of how environmental factors before and during the pandemic impacted leaders, employees, and organisational outcomes (Amankwah-Amoah et al., 2021; Santos et al., 2021). The strategic choices of the leaders are usually uncovered in strategic conversations that leaders have; they come to co-create the shared meaning behind the strategy. In the absence of these conversations, people lack the context to understand the strategic choices made and are de-energised to act (Liedtka & Rosenblum, 1996). The strategy context impacts both the strategy content and process (DeWit & Meyer, 2010b).

Strategy content is the stance taken by strategic leaders, in the form of the strategic decisions, to mark their position in their industry (R. Andrews et al., 2009; DeWit, 2015b, 2015a; DeWit & Meyer, 2010b, 2010a; Whittington et al., 2020). The top management team conceptualises the fundamental strategic choices as dominant logic (Zakrzewska-Bielawska, 2019). Miles and Snow's (1978) identified four types of leaders reasoning; *Prospectors* who continually search for market opportunities and regularly experiment with potential responses to emerging environmental trends; *Defenders* who take a conservative view as they compete on price and quality and focus on improving internal efficiency; *Analysers* who watch their competition and rapidly adopt what is promising in their performance; and *Reactors* who respond to external forces and don't drive the strategy of their own (R. Andrews et al., 2009; Miles et al., 1978; Sollosy et al., 2019). This research argues that regardless of the

leader's stance on strategy, it must carry meaningful substance based on wider contribution from the workforce to gain support from employees. Poorly explained or overly naive content can lead to resistance and disengagement (Luoma, 2015).

The strategy process and practice focus on the strategy development activities (C. Randall & Dent, 2019). Rational planning and logical incrementalism are the most dominant perspectives in the strategy formulation literature (Elbanna, 2006). Rational planning is typified by analytical, rationalistic, formal, linear, and logical processes of strategy formulation, implementation, and evaluation and control (Mintzberg, 1990, 1994b; Mintzberg et al., 2020; Whittington, 2006; Wolf & Floyd, 2017). Logical incrementalism saw strategy as emergent rather than planned and inclined to involve a broader actor in planning processes to reduce the effect of bounded rationality and encourage innovation (Cyert & March, 1963; Quinn, 1980; Vaara & Whittington, 2012). Thus, it attracts continuous adaptive style (Markides, 1999b), processual approach (Whittington, 1994), and realise the emergent phenomenon (Mintzberg et al., 2020; Mintzberg & Waters, 1985; Neugebauer et al., 2016). Strategy as a process suggests that when strategy is effectively developed and implemented, engagement with the strategy by employees results in the emergence of new strategic value (Mintzberg et al., 2020; Whittington et al., 2020).

Mintzberg's differentiation between intended strategy and the emergence of strategy recognised that not all realised strategy was the product of the strategic leaders, but the outcome of a broad cross-section of the organisation all contributed to the strategy of an organisation as the strategy evolved (Bodwell & Chermack, 2010; Mintzberg, 1973, 1978, 1987b). Accordingly, strategic leaders focus on identifying a broadly defined strategy, allowing the details to emerge as they interact with the environment (Whittington, 2001; Whittington et al., 2020). Leaders require the ability to detect emergent signals and integrate their response into their planning activities (Buehring & Liedtka, 2018). Furthermore, strategic leaders must seek and secure commitment and full engagement from their team members to ensure alignment and success (Mantere & Vaara, 2008; Westley & Mintzberg, 1989). Figure 2-5 illustrates the emergent strategy concept as the strategy evolves from intended to deliberate and then realised strategy based on the emergence effect.

Figure 2-5 Deliberate and emergent strategies
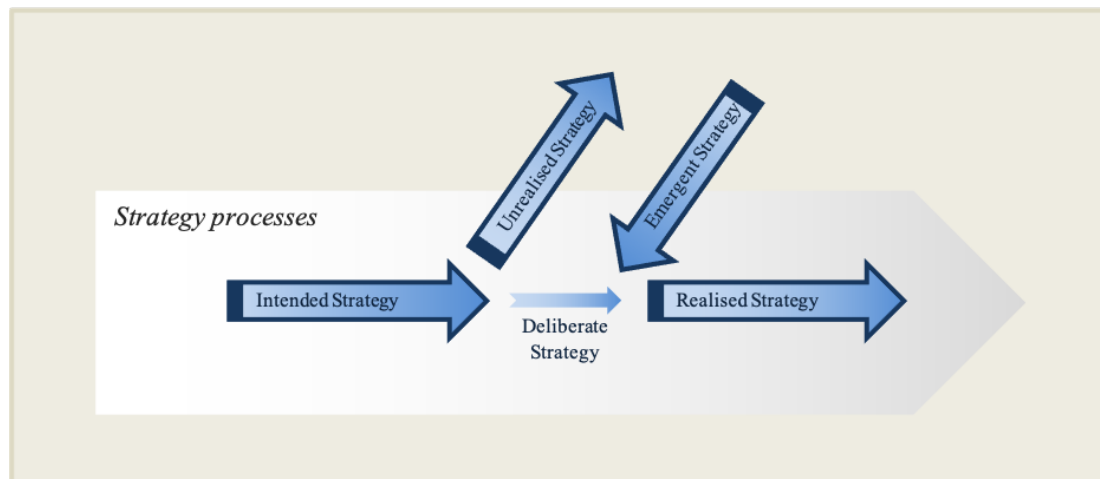
Source: Adapted from (Mintzberg, 1987c)

Strategy is a dynamic process. Leaders endeavour to add value and build resources over time to develop a sustainable competitive advantage (Regnér, 2008). The researcher argues that an engaged workforce can significantly identify emergent opportunities and provide inputs to the most suitable strategy to address them. While strategy processes are more focused on strategy development activities, strategy-as-practice examine the human realities of formal and informal strategy processes.

The practice approach was the first to shift the focus from the original core competence of developing a strategy to the practical competence of the leader as strategist and practitioner (Whittington, 1996, 2003). Strategy is a social practice (e.g., doing strategy). Specific routines, rituals, and tools reflect various practices that inform the strategy (e.g., SWOT or portfolio management) (Whittington, 2001). Activities involved in strategy making, like strategy meetings, leadership retreats and team briefings, are identified as strategy praxis. Plural practices and reflexive actors typify praxis. (Whittington, 2004, 2006). Strategy As Practice (SAP) is more concerned with the leader's performance in their organisational broader social practices that invoke engagement. Leaders are required to reflect upon the enabling and constraining effects of social practices to enrich strategy practices and praxis experiences (Vaara & Whittington, 2012; Whittington, 2006).

Wittington (2006) emphasised the need for leaders to engage with employees to overcome the limits of bounded rationality and enable innovation. When strategic leaders seek strategy inputs from sources cognitively distant from themselves, new knowledge and innovation can open doors for new strategic choices never considered during the strategy practice (Ma et al., 2020). Work engagement provides a suitable

complement to the organisation capabilities when employees are engaged in activities that underlie the development of organisational resources (Regnér, 2008). Mason (2018) confirms that strategy should be a democratic, bottom-up process and should be organic, self-organising, adaptive, and emergent (X. Li et al., 2019; Mason, 2007).

In summary, the two elements of strategy making are the analysis dimension covering the external environment (PESTEEL and industry analysis) and organisation analysis (e.g., resources, competencies, and capabilities). The formulation dimension informing and taking specific actions (e.g., business model, structure, value chain) and external objectives and goals (C. Randall & Dent, 2019). Figure 2-7 overlay the two elements.

Figure 2-6 Strategy content and process
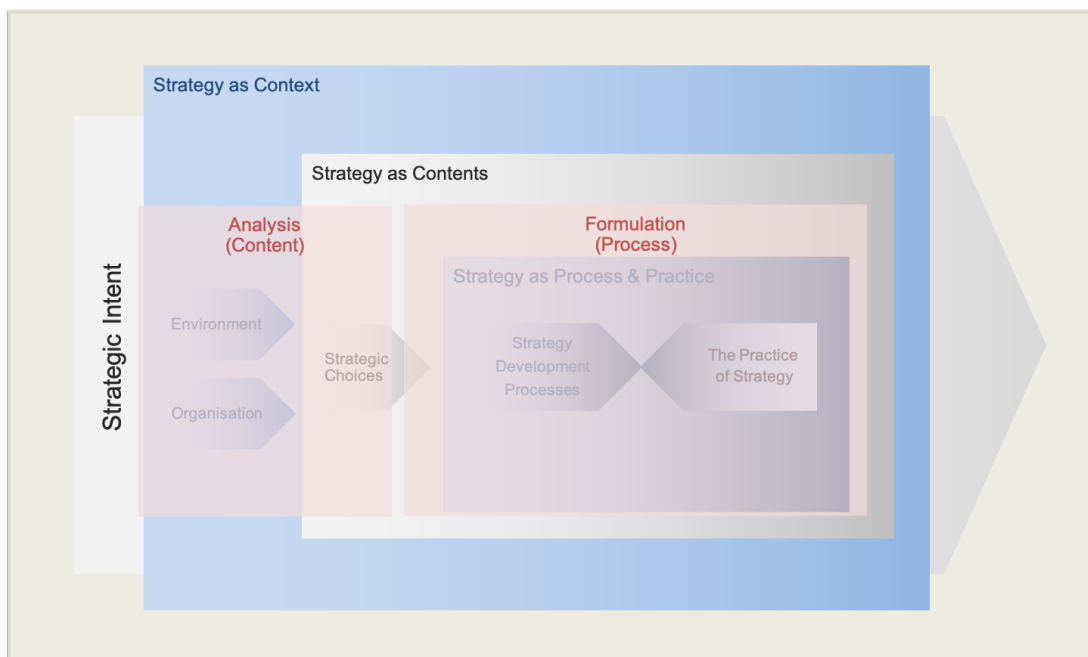
Source: developed for this research

Organisations are not identical but have different endogenous resources, competencies, and capabilities. Consequently, it may be difficult to imitate to acquire a resource, competence or build a capability as a basis for competitive advantage (Porter, 1980, 1996a). Therefore, it is essential to review the theoretical underpinnings for the organisation analysis, including resources, competencies, and capabilities. Resources are assets that organisations have, and capabilities are how assets and competencies are deployed (Whittington et al., 2020).

2.3.5 Resource-based view

Porter's competitive strategy starts by looking at a firm's relative position in a specific industry concerning its competitors (Porter, 1980, 1996a). Then, it aims at assessing the best strategy that leads to optimised performance and profit by enhancing its internal competencies and skills to acquire opportunities in the marketplace (Hamel & Prahalad, 1993, 1994). Thus, Porter's model represents an "outside-inside" approach. By contrast, the resource-based view is an "inside-outside" approach to strategy making.

The resource-based view (RBV) was pioneered by Barney (1991). Based on the assumptions of heterogeneously distributed resources and imperfect resource mobility, Valuable, Rare, Inimitable, and Non-substitutable resources (VRIN) can lead to Sustainable Competitive Advantage (SCA). However, these attributes only become resources when they exploit opportunities or neutralise threats in the marketplace. Thus, while an external environmental analysis can identify opportunities and threats in the environment where the firm operates, the resource-based model identifies the strengths and weaknesses of the firm through its valuable resources (Barney, 1991).

RBV looks at what resources the organisation possesses and assess their potential for adding value based on their strengths and weaknesses relative to the competitors. It identifies opportunities for better utilisation of resources sustainably. Firm resources include all assets, capabilities, organisational processes, attributes, knowledge within the firm control to improve effectiveness and outcomes (Barney, 1991, 2001). RBV is the foundation for the long-term direction of strategy and profitability (R. M. Grant, 1991). RBV add richness to operations management (Hitt et al., 2016). Resource versatility has been linked to higher levels of growth (Nason & Wiklund, 2018). RBV can also be a dynamic resource management method, leading to various strategic choices, either by exploiting or developing the existing resources, towards high returns where the resource in question dominates (Wernerfelt, 1984, 1995). An employee-based resources approach to strategy can lead to a competitive advantage (C. J. Collins, 2020). For an organisation to create SCA, there is a need for employee-based resources and cognitive leadership processes to recognise the fit (Kraaijenbrink et al., 2010). The study highlights the importance of leadership cognitive processes in developing resource-based organisational outcomes.

RBV had a level of criticism in the literature (Kraaijenbrink et al., 2010; Sirmon et al., 2007). One of the critical RBV critiques is that RBV does not sufficiently recognise the role of leaders' judgment and cognitive style to have alertness and superior information on the future value of the resources. It is further argued that the locus of SCA lies in the characteristics of the individuals and teams making up the firm rather than in other resources (Kraaijenbrink et al., 2010). This study adopted the same view that leaders' abilities, skills, and judgment are not adequately addressed in their impact in the current RBV literature.

Sirmon et al. (2007) added the concept of resource orchestration (i.e., structuring, bundling, and leveraging) to define the leader's role in orchestrating the firm's resources during the life cycle of the firm and across all its levels (Alexy et al., 2018; Sirmon et al., 2007, 2011). In addition, by incorporating employees, resource orchestration can promote engagement with strategy (Andersén & Ljungkvist, 2021).

The central RBV proposition of VRIN resources to achieve SCA is shared by other competitive strategy views, like competence-based view and capability-based view.

2.3.6 Competence-based view

Prahalad and Hamel (1990) introduced the core competence (CBV) concept that a business needs to consider itself not as a structure of business units and functions but as a collection of core competencies. These competencies represent the company's collective knowledge about how to coordinate a diverse pool of skills and technologies to invent new markets, exploit emerging ones, create customer value, and provide a competitive advantage for market dominance which serves the business long term strategy (Prahalad, 1993; Prahalad & Hamel, 1990, 1994).

The competence movement gained momentum and offered a source of sustainable competitive advantage. The competence view underpins a meaningful understanding of strategic leadership (Hamel & Prahalad, 1994; Sanchez & Heene, 1996). It invites proactive development and the notion of competing for future opportunities (Kaibung'a, 2019). Therefore, strategic leadership is responsible for understanding and identifying the existing core competencies while developing foresight related to identifying future opportunities (Bui et al., 2019). The foresight information informs the strategic thinking of leaders to direct the strategic planning of

core competencies as it relates to core competence development (Kaibung'a, 2019; Siikaniemi, 2012; Van der Laan, 2010).

The competence-based approach to strategy emphasises the significance of the leadership cognitive abilities and processes to achieve core competence for organisations to respond to future opportunities and threats in their environment. In addition, the cognitive flexibility of strategic leaders is a necessary capability to define and decide on alternative competencies identified by the competence-based view as a competitive approach to strategy (Bui et al., 2019; Sanchez, 2004). Table 2-4 summarises the key definitions of competence, core competence, skills, capabilities, and assets.

Table 2-4 Competence based vocabulary

Activity level	Definition
Core Competence	"Are skills and areas of knowledge that are shared across business units"
Competence	"Is the ability to sustain the coordinated deployment of assets and capabilities in ways that help a firm achieve its goals… e.g., new product development."
Skills	"Special forms of capability, usually embedded in individual or teams, that are useful in specialised situations or related to specialised assets."
Capabilities	"Refer to the firm's ability to exploit its resources … consists of a series of business processes and routines that manage the interactions among its resources, they are functional based… e.g., marketing capability."
Resources (Assets)	"Anything tangible or intangible the firm can use in its processes for creating, producing, and offering its products to a market." "Include physical resources, human resources and organisation resources."

Source: Adapted from (Javidan, 1998; Sanchez, 2004)

Sanchez confirmed that improving organisational competence depends partially on improving the "resource-base," It requires enhancing the leader's cognitive abilities to imagine and create future opportunities (Sanchez, 2004). This study argues the need for strategic leaders to develop capabilities to recognise the need for work engagement to gain strategic traction for the firm. For this study and the reasons given above, foresight and strategic thinking of leaders is referred to as capabilities.

2.3.7 Dynamic capability-based view

While some unique static resources or competencies could lead to SCA in a static environment, dynamic environments call for dynamic capabilities (DCV), defined as "*the firm's ability to integrate, build, and reconfigure internal and external*

competences to address rapidly changing environments" (Teece et al., 1997, p. 516). The dynamic capabilities approach combines managerial and organisational processes (i.e., coordination/integration, learning, and reconfiguration), the strategic positioning of the available assets and the capacity to renew competencies to achieve congruence with changing business environment (Teece et al., 1997). Further empirical studies show that RBV and VRIN resources positively affect the development of three types of dynamic capabilities; integration; learning; and configuration (Y. Lin & Wu, 2014).

Strategic leaders increasingly face volatile, uncertain, complex, and ambiguous business environment (VUCA). In response, Teece (2007) proposed three clusters of dynamic capabilities (Figure 2-7): (a) sensing the external change, (b) seizing new opportunities, (c) transforming organisation to enhance a firm's long term evolutionary fitness rather than enable high efficiency for the current times to achieve competitive advantage and growth (Schoemaker et al., 2018; Teece, 2007).

Dynamic capabilities encompass diverse organisational processes; they require strategic leaders to operationalise them in their business settings. Helfat and Peteraf (2015) introduced the concept of "managerial cognitive capability", which underpins dynamic managerial capabilities of sensing, seizing, and reconfiguring. They included the role of attention, perception, problem-solving, language, communication, and social cognition (Helfat & Peteraf, 2015). Schoemaker et al. (2018) introduced the ability to anticipate, challenge, interpret, decide, align, and learn as leadership disciplines is closely linked to the clusters of dynamic capabilities (Schoemaker et al., 2018). Both findings from Helfat and Peteraf and Schoemaker et al. demonstrate cognitive abilities as central in the development of dynamic capabilities. Furthermore, Schoemaker et al. emphasised the role of leaders in engaging employees with diverse background and expertise to achieve distinct views.

Schoemaker (2018) cited many examples of dynamic capabilities in the strategy literature. They were developing strategic options as possible futures that a firm may pursue. They resemble the views of prominent strategy theorists advocating foresight and strategic thinking as an essential capability of decision-makers (Hamel & Prahalad, 1994). Strengths in strategic intent for strategic leaders are a crucial dynamic capability (O'Shannassy, 2016; Semke & Tiberius, 2020). Sensing the capability of weak environmental signals and emerging patterns in the underlying drivers of future change is critical for the foresight to shape manager's perceptions of their strategy

context (MacKay & McKiernan, 2004). Foresight is a dynamic capability that allows leadership to evaluate and grow for possible futures (Fergnani, 2020). When strategic leaders purposefully share making and taking strategic decisions between the dominant coalition of an organisation, supported by some leaders, it engenders dynamic organisational capability. It enhances organisational cognition (Pitelis & Wagner, 2019). The cognitive capability of leaders includes the capacity to influence organisational members and engage them in the organisation's strategic direction.

Figure 2-7 Dynamic Capabilities Framework
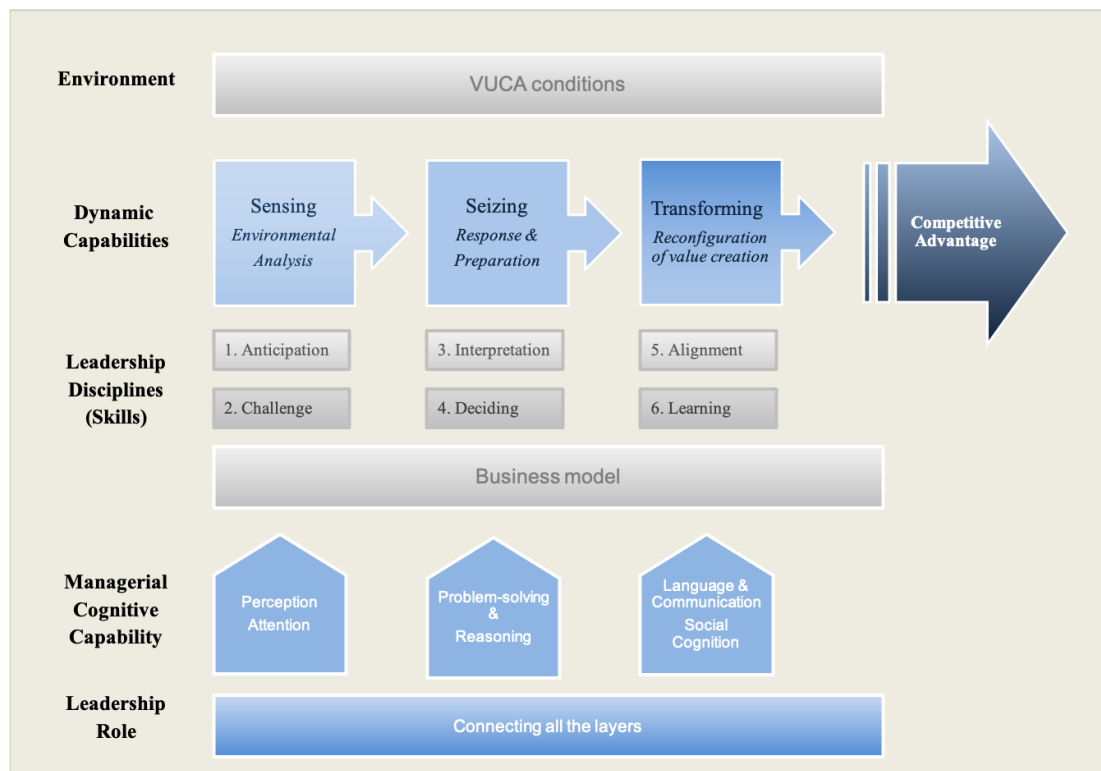
Source: Adapted from (Helfat & Peteraf, 2015; Schoemaker et al., 2018; Teece, 2007).

Of particular interest to this research was the study of the relationship between leader capabilities and work engagement as a capability of organisations, departing from the dominant individual-level engagement to collective organisational engagement (Barrick et al., 2015). This research argues that collective organisational engagement is an essential dynamic capability that influences organisational effectiveness and can determine the futures of work engagement and organisational outcomes. Furthermore, such capability can inform and enhance the strategy-making process.

2.3.8 Strategy-Making processes

The scholarly literature indicates different strategy-making process (SMP) models (Mintzberg et al., 2020; Whittington et al., 2020). This research used Hart's (1992) and refined by White (1998) model, who developed a conceptual framework to explain how SMP interact with the environmental factors and organisation actors. Furthermore, White (1998) developed an empirically validated scale for Hart's (1992) SMP model, which this study has used in the research design.

Hart (1992) combined two research streams. First, the traditional strategy concepts of rational versus incremental (see section 2.3.4). Second, the social dimension affected by the autonomous behaviour of organisational actors (S. Hart, 1992). White (1998) developed a conceptual framework of four generic strategy-making modes by combining these two dimensions. These are rational, symbolic, transactive and generative (Figure 2-8). Thus, strategy-making processes include social and cognitive activities that blend in different magnitudes in each SMP mode.

Figure 2-8 Strategy Making Processes

Deliberate (Intended) Strategy

RATIONAL MODE
* Rational Intended strategy
* Single actor / small team
* Induced organisation behaviours
* Deliberate strategy making

SYMBOLIC MODE
* Deliberate strategy
* Actors are autonomous
* Leadership develops vision but allows latitude for other contributions to strategy

Induced Behaviour

Autonomous Behaviour

TRANSACTIVE MODE
* Continuous improvement
* Many actors
* Reactive and act in a particular way

GENERATIVE MODE
* Emergent strategy
* Actors are autonomous
* Entrepreneurial

Emergent Strategy

Source: adopted from (White, 1998)

In the rational mode strategic leaders creates the overall strategy using analytical techniques and sentimental scanning (Harrington, 2005; White, 1998, 2010). The symbolic mode is based on social contract theory and mutual agreement on goals, vision, and purpose (Chaffee, 1985). Employees have the freedom to operate within boundaries, and they subscribe to the firm strategy in an integrated fashion to deal with

complexity (Harrington, 2005; White, 1998, 2010). The Transactive mode is based on internal process and actors' interactions. Instead of long-term strategy, short term incremental decisions are favoured. Employees are empowered to act in a particular way (Van der Laan, 2010; White, 1998, 2010). Finally, the generative mode encourages actors to take risks and experiment in response to environmental challenges (Van der Laan, 2010; White, 1998, 2010).

2.3.9 Fitting strategy into the strategic leadership theory

Many links can be drawn from strategic leadership theory to elements that comprise strategy. Figure 2-9 is a theoretical framework that portrays the various elements that can link strategy to strategic leadership theory.

Figure 2-9 Theoretical framework - Strategy in strategic leadership theory
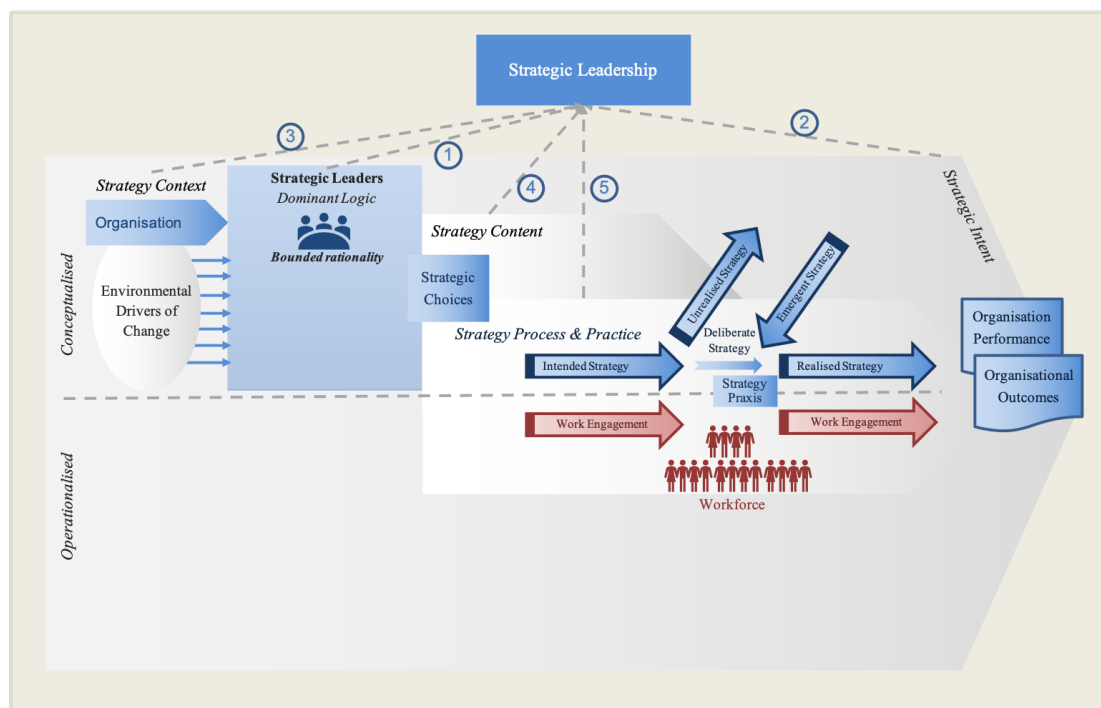
Source: developed for this research

1. Strategic leaders represent the dominant coalition. They are the executives who exert the most influence on the organisation's strategy. Their dominant logic and bounded rationality affect their strategic choices and organisational outcomes.

2. Strategic intent is a symbolic landscape, it involves envisioning a desired leadership position and the resources necessary to achieve that position.

3. Strategy context covers the exogenous factors that may impact the context in which strategic leaders operate and the endogenous factors that determine an organisation's resources, competencies, and capabilities and can boost or hinder its performance.

4. Strategy contents comprise a thorough analysis of the contents yields and possible strategic choices supporting the firm's strategic intent.

5. Strategy process and practice is involved in both formulation and implementation phases.

The strategy literature indicated a strong link between leaders' cognitive styles and strategy works. Strategic leaders focus on driving the strategic intent of the firm. They operationalise the strategic intent via strategy processes and practices. A leader's cognition has been associated with strategic choices, strategy formation and organisation outcomes. Finally, there is a broad agreement in the literature on the need for and importance of work engagement in the strategy-making process.

2.3.10 Strategy and national culture

Despite the importance and influence of national culture on societies, business institutions, individuals and communities, Singh (2007) argued that culture is largely irrelevant for firm strategy. He asserted that research on the possible relative impact of culture on strategy and business performance had not acquired conceptual and empirical verification. The validity of these alternate views has not been established (K. Singh, 2007).

Furthermore, Singh offered an alternate explanation to argue the cultural influence on the strategy elements, which can be considered generic and widely applicable to all cultures. He asserted that:

> "It is possible that national culture influences strategy through its impact on senior management beliefs and practices…contexts are created by the combination of formal and informal constraints…organisational perspectives are likely to capture more effectively the variations in a business context" (K. Singh, 2007, p. 422).

The cultural implications on strategy are of particular interest for this research. As the study is focused on Singapore's nation, the context of strategy development can be underpinned by the strategy theoretical foundations covered in the research

conceptualisation (i.e., strategy context, contents, processes, and practices). The cultural factors were captured in the environmental study (Chapter 4). The impact on strategic leaders' belief was addressed in the leaders' profiles. Concerning Asian culture and the relationship between strategy and engagement, recent research indicated the value of balancing the top-down and bottom-up processes in strategy making. The approach provides management with diverse views and ideas to achieve better outcomes (X. Li et al., 2019).

2.3.11 Summary

Strategy is developed by leaders who act based on their idiosyncratic experiences, cognitive styles, and dispositions (Finkelstein et al., 2009). Strategy can be described as a plan for action. Strategy is concerned with developing assets, allocating resources, acquiring core competences, building capabilities, and develop and sustain competitive advantage. Early literature downplayed the importance of engagement beyond the social interactions among top executives (Finkelstein & Hambrick, 1996). More recently, the literature has recognised the importance of work engagement in the realisation of strategy (Wolf & Floyd, 2017).

Further development focused on organisational and environmental contexts called for integrating new leadership theories and suggested that for a strategic leader to operate in an increasingly hyper-turbulent environment, researchers need to incorporate new cognitive dimensions and styles (Boal & Hooijberg, 2001). Strategic leadership emphasises the central role of leadership in determining organisational outcomes. Furthermore, strategic leadership conceptualised within the domain of strategy context, contents, and process aims to improve the organisational effectiveness and realise organisational outcomes (Sanders & Davey, 2011).

2.4 LEADERSHIP

2.4.1 Introduction

Research in leadership has evolved over the years from focusing on the inner dispositions and tendencies of the leader, related to what effective leadership is to a more comprehensive inquiries that emphasise the importance of cognition, competence, capability, behaviours and contexts in which leaders and followers exist (B. J. Ali & Anwar, 2021; Boal & Hooijberg, 2001; Helfat & Peteraf, 2015; Y. Lee & Kim, 2021; Yukl, 2006; Yukl et al., 2019). The literature also distinguishes between "supervisory leadership" as task-and person-oriented leader behaviours (Keulemans & Groeneveld, 2019) and strategic leadership accomplished by establishing a purpose and a vision that emotionally appeals to the workforce and external stakeholders (Alayoubi et al., 2020; Boal & Hooijberg, 2001). Supervisory leadership also refers to leadership "in" organisation, while strategic leadership theories are concerned with leadership "of" organisations (Narayanan & Zane, 2009; Storey, 2005). The former can refer to team leadership and the latter to overall leadership, or organisational leadership where strategic leaders are responsible for setting the strategic direction, organisation structure, and resources allocation (Storey, 2005). As such, leadership effectiveness is input and determinant of organisational outcomes (B. J. Ali & Anwar, 2021; Nwachukwu & Vu, 2020; Sanders & Davey, 2011; Vroom & Jago, 2007).

Therefore, the study area focused on the cognitive capabilities of strategic leaders concerning work engagement in the organisation. Thus, the question arises as to what leadership theoretical frameworks support this notion and provide the basis for answering the research issue of this study.

2.4.2 Definition and concept of leadership

There are many definitions of leadership in the literature; it carries different meanings for different people. Many scholars and practitioners attempt to reach a universal consensus on defining leadership, but the quest is still on, and no one has claimed the prize. Table 2-5 presents definitions and conceptualisations of leadership from a wide variety of academic sources.

Table 2-5 Definitions and conceptualisations of leadership

Author(s)	Definition / **Concept**
(House & Aditya, 1997)	"Supervisory leadership is defined as behaviour intended to provide guidance, support, and corrective feedback for the day-to-day activities of work unit members."
(House & Aditya, 1997)	"Strategic leadership is directed toward giving purpose, meaning, and guidance."
(Kotter, 2001)	"The purpose of leadership is to produce useful change."
(Bush & Glover, 2003)	"Leadership is a process of influence leading to the achievement of desired purposes. It involves inspiring and supporting others towards the achievement of a vision … based on clear personal and professional values."
(Winston & Patterson, 2006)	"A leader is one or more people who select, equips, trains, and influences one or more follower(s) who have diverse gifts, abilities, and skills and focuses the follower(s) to the organisation's mission and objectives, causing the follower(s) to willingly and enthusiastically expend spiritual, emotional, and physical energy in a concerted, coordinated effort to achieve the organisational mission and objectives."
(Daft, 2008)	"An influence relationship among leaders and followers who intend real changes and outcomes that reflect their shared purposes."
(Van der Laan, 2010)	"Strategy-level leaders of organisational leadership are those who exert a moderate to high influence on the strategy formulation and formation of the organisation."
(DeChurch et al., 2010)	"Leadership at the top levels of the firm involves establishing a vision and setting broad objectives for the overall organisation."
(Sanders & Davey, 2011)	"A process of reciprocal influence, between the leader and the follower, to accomplish shared purposes, to bring about consequentiality relevant change."
(Yukl, 2013)	"The process of influencing others to understand and agree about what needs to be done and how it can be done effectively, and the process of facilitating individual and collective efforts to accomplish the shared objectives."
(Northouse, 2013)	"Leadership is a process whereby an individual influences a group of individuals to achieve a common goal."

Source: Developed for this research

The concept of leadership will continue to evolve. The definitions found in the literature points towards various themes; purpose, meaning, influence people; strategy; change and goal attainment. The researcher acknowledges the supervisory leadership definitions from the literature. Nevertheless, for this research, which has a primary focus on strategic leadership and considering the multiple constructs covered in the study, the study defines leadership as:

"Individuals who are at the top of an organisation and have substantive responsibility for making strategic decisions and creating of an overall

purpose and direction for the organisation, which ultimately guide strategy formulation and implementation." (Hernandez et al., 2011, p. 1179).

This definition explains the features of strategic leadership. It covers influence concerning strategy, organisation and workforce, and strategy as means for organisational outcomes. This study considers leadership as a process (Figure 2-10), where leaders and followers influence each other (Northouse, 2013). It is also concerned with how leaders affect work engagement at the organisational level.

Figure 2-10 Process Definition of leadership
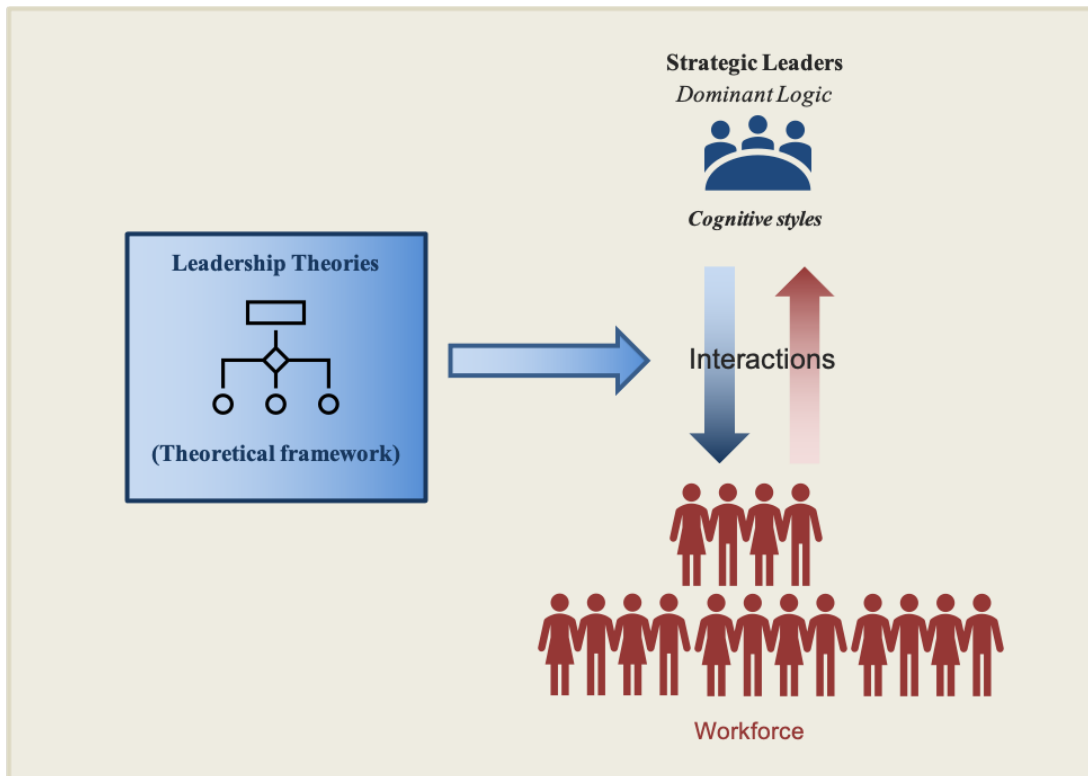
Source: Adapted from (Northouse, 2013).

Based on this definition, the study considers leadership an intrinsic element of strategic leadership, besides strategy. The link between the leadership of organisations and their strategy has been established in strategic leadership. Boal and Hooijberg (2000) suggested that real progress on strategic leadership theory will be made if researchers incorporate leadership theories into their work (Boal & Hooijberg, 2001; Davies & Davies, 2004). Through which leaders' cognitive abilities (i.e., absorptive capacity, adaptive capacity, and leadership wisdom) contribute to organisational outcomes in the different phases of the firm's life cycle (Asif & Basit, 2020). Consequently, it is also essential to discuss the other leadership theoretical frameworks that the literature offers and select the most suitable theories to underpin the

conceptualisation of this study and uncover the links between leadership and organisation effectiveness.

2.4.3 Leadership theories

This section covers significant leadership theories to explore the most relevant leadership theories that advance the conceptualisation of this study. The theories are reviewed chronologically regarding their evolution in the literature in the following major categories: trait theories, behavioural theories, contingency theories, transactional theories, and contemporary theories. This review aims to identify the essential elements of the leadership theories and how they may be linked in the literature to engagement and organisational outcomes.

Trait theories

The trait approach has a long history in organisational research. This approach sought to identify characteristics related to leadership emergence and effectiveness in support of the idea that leaders are born (House & Aditya, 1997; Northouse, 2013; Stogdill, 1974; Zaccaro et al., 2004). However, trait theories (TLT) could not identify any universally applicable traits associated with leadership effectiveness in different situations, but they resemble antecedents of leader behaviour (Sanders & Davey, 2011). Despite its shortcomings, the trait approach does provide direction regarding which traits are good to have for leaders (Northouse, 2013). Some of these traits are central to this study are perceptual ability, insight, and reasoning (Stogdill, 1974; Zaccaro et al., 2004) concerning the leader cognitive styles; and influence, sociability, motivation, social intelligence, and emotional intelligence concerning engagement. Zaccaro (2007) argued that leadership effectiveness is derived from an integrated set of cognitive, social, and dispositional traits (Zaccaro, 2007). Further research conducted under traits theory confirmed integrity, emotional stability, and the right cognitive skills were linked to leadership effectiveness (Velsor et al., 2010). Asif (2020) confirmed visionary perspective, adaptability to change, flexibility in personality, and ethical values associated with effective leadership. The study also confirmed social and sense-making and giving to employees among the top traits during turbulent times (Asif & Basit, 2020).

Behavioural theories

The behavioural or style perspective isolates specific behaviours associated with effective leadership (House & Aditya, 1997; Yukl et al., 2002). Behavioural theories (BLT), like the trait's theories, primarily emphasised the leader as the locus of leadership and paid less attention to the situation nature of leadership (Sanders & Davey, 2011). Despite its shortcomings, the behavioural approach provides two major types of behaviours, task-oriented and relationship-oriented, and the key to effectiveness is balancing the two (Northouse, 2013). Derue et al. (2011) suggested an integrative trait-behavioural model. They indicated behaviours of task-oriented, relational-oriented, and change-oriented as behaviours linked to leadership effectiveness. The research also highlighted intelligence, communication, sociability as required competence for leadership effectiveness (Derue et al., 2011). A significant contribution of the behavioural perspective is that leadership can be learned and is not about one best style (Goff, 2003; Skipton, 2017).

Contingency theories

Contingency leadership theory (CLT) and situational leadership theory (STT) are leader match theory. It requires the leader's style to match the situation. It considers other factors such as the leader's quality and situation, leader-member relationship, task structure, and position of power. The approach invites the leader to adapt to the situation, and both the leader and the follower played a pivotal role in defining the relationship (Fiedler, 1978; Hersey & Blanchard, 1969). CLT considers the contingency variables in a particular situation as moderators of the leader behaviours. Still, situation elements were not adequately captured regarding the leader behaviours that would be most effective in the situation (Sanders & Davey, 2011). It is also predictive of leadership effectiveness (Northouse, 2013). STT extends the behavioural perspective to support the leader in deciding what level of support the follower needs (Hersey & Blanchard, 1969). Further research linked cognitive complexity and relational approaches as essential skills for leadership effectiveness (Rajbhandari & Rajbhandari, 2015; G. Thompson & Glasø, 2015).

Transactional theories

The transactional approach (TCL) or leader-member exchange (LMX) is based on reciprocity; both leader and follower influence each other. The approach conceptualises leadership as a process of leader-member exchange (Burns, 1978;

McCleskey, 2014; Uhl-Bien, 2006). The transactional approach directs the leader attention to the importance of communication and the quality of interactions. Still, it can also lead to discrimination if the leader chooses selectively (Northouse, 2013). Therefore, leaders must exhibit a flexible, adaptive style to address the changing situations they face (Yukl & Mahsud, 2010). Further research linked TCL to the leaders' perceptual, cognitive abilities to leadership effectiveness (Kuhnert & Lewis, 1987).

Transformational leadership

This theory extends transactional theories beyond the focus on the leader-member exchange process to incorporate change of the follower and thereby change of the organisation (Boal & Hooijberg, 2001; Burns, 1978; Sanders & Davey, 2011). The theory encapsulates the leader's abilities to provide vision, direction, support, and guidance to the workforce (Taylor et al., 2014).

Transformation leadership (TFL) is defined as the effect leaders have on their followers (Bass, 1985). Transformational leaders can inspire followers to change expectations, perceptions, and motivations to work towards common goals. They can move followers up on Maslow's hierarchy towards self-actualisation and push them beyond their interests (Burns, 2004). TFL is positively associated with leadership effectiveness. TFL brings key organisation outcomes as innovation and learning (Lei et al., 2020). TFL was found to moderate the relationship between proactive personality (i.e., employees taking initiatives and work engagement (Caniëls et al., 2018).

Charismatic leadership

Charismatic leadership (CHT) stresses the personal identification of the followers with the leaders. Followers model their behaviour, feelings, and cognition after the leader based on their beliefs of what constitute the attributions of charismatic leadership (Conger, 1989; Conger & Kanungo, 1987). Further research indicated that moderate levels of a leader's charisma correlate positively to leadership effectiveness (Vergauwe et al., 2017).

Visionary leadership

Visionary leadership (VLT) is an extension of TLT but represents the opposite. Visionary leaders tend to rely on their vision to drive performance (Nanus, 1992;

Sashkin, 1988). Further research linked VLT to both leadership effectiveness and organisational outcomes (Taylor et al., 2014).

Instrumental leadership

Instrumental leadership (ILT) is a further extension of the leadership model. ILT focuses on the task-oriented leadership essential for strategic leadership to ensure organisational effectiveness and outcomes, not included in TFL (Antonakis & House, 2004). ILT goes beyond the motivational leader behaviours associated with TLT, TCL, and CHT. It recognises the strategic leadership role in scanning the macro and micro-environmental factors, chart strategic direction and task objectives, and facilitate workforce interactions to accomplish task objectives (Antonakis & House, 2014).

Recent empirical studies of the four dimensions representing ILT two categories; strategic leadership (i.e., environmental monitoring and strategy formulation); and follower work-facilitation (i.e., Path-Goal Facilitation and Outcome Monitoring), confirmed that they could be distinguished and measured (Rowold, 2014). A more recent study demonstrated that ILT provides necessary support in terms of resources essential for work engagement (Rowold et al., 2017).

In a recent case study, ILT was referred to as "the unseen hands" concerning the European Council (EU) and the United Kingdom BREXIT deal. ILT enabled the EU to accommodate BREXIT beyond the bounds of the EU treaties. An informal network within the EU provided ILT through drafting texts and process management, through which a final deal was achieved (Beach & Smeets, 2020). Thus, ILT becomes essential as a new category of leadership behaviours to support strategic leaders in dealing with the complex phenomenon of their daily work (Rowold, 2014).

Complexity leadership

In *Complexity leadership theory (CXT)* Strategic leaders operate in many contexts, such as, traditional bureaucracy, complex environments, continuous change and emergence, and a high degree of volatility. The inability of leaders to recognise the complex interdependencies of performance factors, and interrelationships and interaction of multiple variables dictate the need for system thinking (N. Sharma & Singh, 2019). The new contexts call for new leadership perspectives (Osborn et al., 2002). Built on the complexity science and the complex adaptive systems theory (CAS), the complex leadership theory (CXT) (Uhl-Bien et al., 2007) was developed

to leverage the properties of CAS; dynamic interactions from which adaptive outcomes emerge (e.g., innovation, learning, and adaptability); new patterns of behaviours; new modes of operating) (Uhl-Bien et al., 2007). The study defines complexity leadership as: "A recognizable pattern of social and relational organizing among autonomous, heterogeneous individuals as they form into a system of action" (Hazy & Uhl-Bien, 2015, p. 80).

The current COVID-19 pandemic exemplifies a complex leadership setting (Bolden, 2020; Verma & Gustafsson, 2020). COVID-19 triggered long term and short-term changes, enabled learning, creativity and developed adaptive capacity in the workplace. Adaptive challenges (Heifetz, 2003) of this nature, where the solution lies outside the norm, call for a new leadership paradigm, in which organisation is interconnected, self-organised through interactions emerging information, involve continuous creativity with a level of autonomy (Mason, 2013). Mintzberg (2019) argue that "effective organisation in an interactive network, thus managing means engaging" (Mintzberg, 2019, p. 15).

Engaging leadership

Engaging Leadership Theory (ELT) suggested styles of leadership based on the self-determination theory (SDT), which posits that human thriving and well-being depend on three psychological needs: autonomy, competence, and relatedness (Ryan & Deci, 2000). ELT aims to configure a work environment that satisfies the psychological needs of employees (Tuin, Schaufeli, & Rhenen, 2020). ELT is defined as:

> "A style of leadership that shows itself in respect for others and concern for their development and well-being; in the ability to unite, different groups of stakeholders in developing a joint vision; in supporting a developmental culture; and in delegation of a kind that empowers and develops individuals' potential; coupled with the encouragement of questioning and thinking which is constructively critical as well as strategic. Engaging leadership enables organisations not only to cope with change, but also to be proactive in shaping their future" (Alimo-Metcalfe et al., 2008, p. 587).

ELT differentiate between the leader competence in performing the role and the extent to which they perform the role engagingly (Alban-Metcalfe & Alimo-Metcalfe,

2009). Engaging leadership style is essential for leadership effectiveness and organisation effectiveness (Alimo-Metcalfe et al., 2008; Schaufeli, 2015).

Other engagement related leadership theories

The research on leadership theories continues to grow, and theories continue to interweave. Researchers argue that the leader-follower process of influence has created a new paradigm (Samul, 2020) essential for survival in complex and competitive landscapes (Hannah & Lester, 2009; Uhl-Bien et al., 2007). New theories have extended and integrated existing trait, behaviours, contingency, transactional, transformational, charismatic, and visionary approaches. For example, Ethical leadership exemplify influence through action and proper conduct (M. E. Brown & Treviño, 2006). Authentic leadership fosters influence through moral views (Guenter et al., 2017). Spiritual leadership brings spirituality to the workplace, complimenting intelligence to the relational one that can show what it means to be human and help people find meaning (Burke, 2006; Niemiec et al., 2020). Collective leadership recognises the influence of the workforce on the leadership dynamics as a collective, through which collective leadership emerge (Contractor et al., 2012). Collective leadership (COT) encompasses other similar concepts; shared leadership (Pearce et al., 2007, 2008); and distributed leadership (Irvine, 2020). COT has gathered momentum, and it has a significant potential to positively impact leadership within the next decade or two (Fairhurst et al., 2020). Furthermore, COT can positively impact work engagement at all levels (Ogamba & Nwaberiegwu, 2020). It increases leadership effectiveness within the firm (Friedrich et al., 2009). One of the great consequences of the Covid19 pandemic was the representation of COT in complex crisis, where political leadership in each country called upon other domain of expertise (i.e., medical, security) to collectively lead their nations in the most uncertain times (Bolden, 2020).

Summary of leadership theories

The researcher recognised the different characteristics of the various leadership theories and their impact on supervisory leadership and strategic leadership. While there is evidence of numerous leadership theories that apply to work engagement, this study adopts the position that strategic leadership theory forms the theoretical foundation of this research due to its predictive nature.

2.4.4 Leader competencies and capabilities

There is evidence in the literature that leadership competencies and capabilities are related to leadership effectiveness (Ghasemy et al., 2016). For example, the construct of leadership effectiveness around the task, relationship and development-oriented leader epitomises the competencies required for strategic leaders to become adequate to function in diverse situations and contexts (Yukl et al., 2019). Likewise, the dynamic capability view of sensing, seizing, and transforming exemplifies the capabilities required for strategic leadership to enhance a firm's long-term evolutionary fitness to achieve competitive advantage and growth. The interest of this study was exploring the strategic leadership competencies and capabilities related to foresight, strategic thinking, and work engagement.

2.4.4.1 Competence, competency, and capability

The terms competence, competency, and capability are used as synonyms in the literature. Various authors produced many definitions, mostly revolving around skills and abilities that lead to results (Bartram, 2005; Boyatzis, 2008; Sanchez, 2004; Surrey & Paper, 2006). McClelland (1973) coined the term competency to refer to knowledge, skills, and abilities (KSA) required by leaders to become effective in their roles (McClelland, 1973). Boyatzis (2008) asserted that action and job performance are the basis of competency. Yukl (2012) suggested, task-oriented effectiveness may be fulfilled when a leader's abilities meet the responsibilities attached to the job (Boyatzis, 2008). Boyatzis defined competencies as "the underlying characteristics of a person that lead to or cause effective and outstanding performance." (Boyatzis, 2008). Sanchez (2004) defined competence as "the ability to sustain the coordinate deployment of assets in ways that help a firm achieve its goals… it requires competence that is explicitly dynamic, systemic, cognitive, and holistic (Sanchez, 2004). Boyatzis (2008) asserted that competence supports an underlying intent. The difference between competence and competency is the task and functional attributes that lead to action and performance.

Figure 2-11 illustrates a conceptual framework of how competence, competency, and capability relate to each other in terms of task performance related to defined performance. Van der Laan (2010) illustrated the difference between competence and competency concerning individual foresight and strategic thinking, as cognitive competence (knowledge-oriented) and functional competence (behavioural oriented),

respectively. Competence is acknowledged when an individual meets a threshold of the defined parameter of a task; further development of task-performance (i.e., knowledge, skills, and abilities) will lead to individual competency (Van der Laan, 2010).

Figure 2-11 Competence, competency, and capability
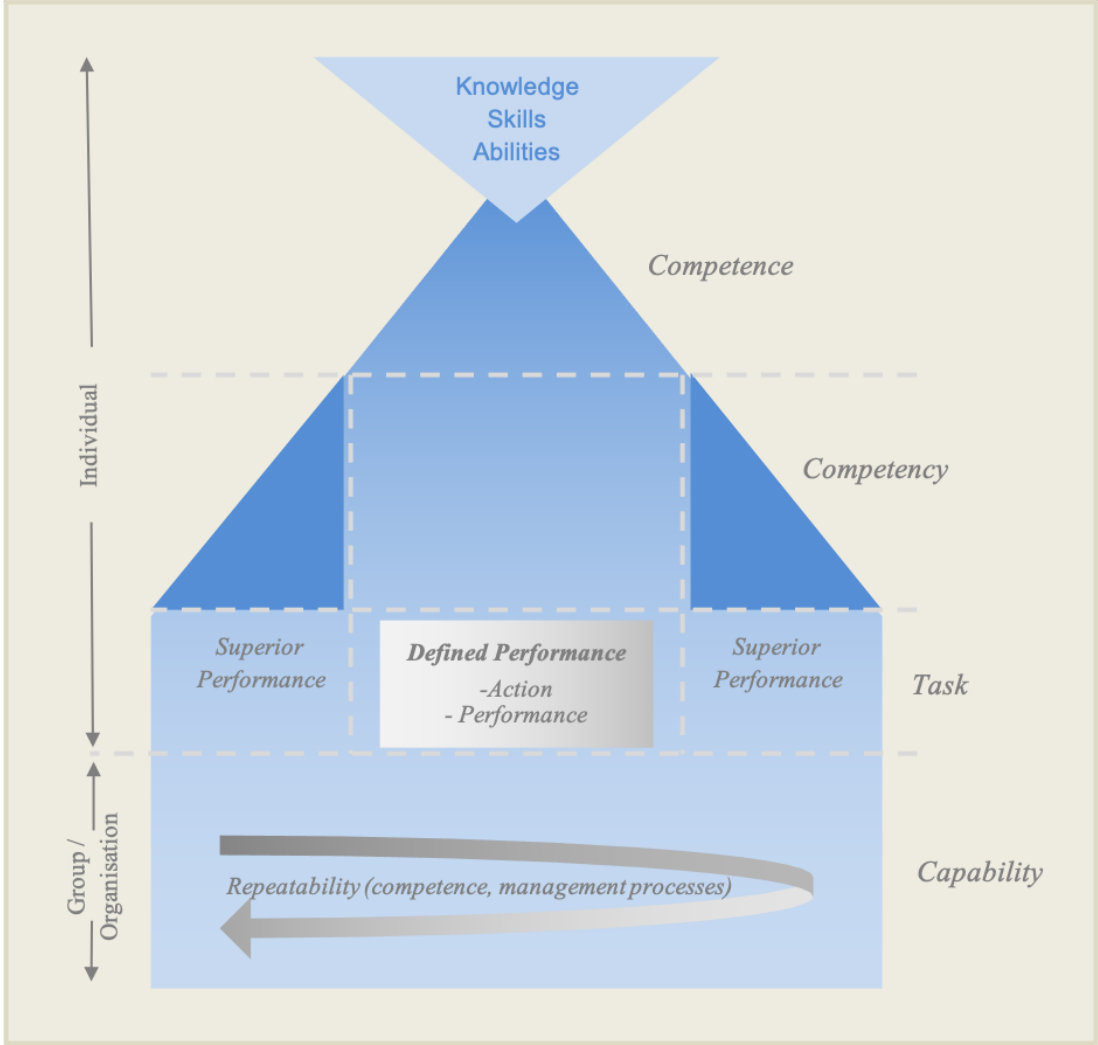
Source: Developed based on Van Der Laan (2010)

Sanchez (2004) defined capability as repeatable patterns of action using tangible and intangible assets, resources, and competences. Capabilities are a product of coordinated activities of groups based on a pool of competences (Sanchez, 2004).

2.4.4.2 Leadership competencies

Leadership competencies encompass personality traits, knowledge, and skills. There has been a plethora of academic and practitioner literature identifying leadership competences, usually specified in generic lists of leadership competencies, and grouped as competency domains. Most of the widely used lists are meant to serve the

supervisory leadership development needs and leadership development in general (Bolden & Gosling, 2006; Boyatzis, 2011; Cumberland et al., 2016; N. Hiller et al., 2016; Van der Laan, 2010). Bloden and Gosling (2006) argued that competency lists failed to capture sense-making as an emergent representation of the highly complex environment in the leadership discourse (Bolden & Gosling, 2006).

Competencies of strategic leadership are distinct from generic leadership. For example, strategic leaders are required to develop foresight to envision possible futures for their business creatively (Amsteus, 2011; Hines et al., 2017; Schoemaker & Day, 2020; Van der Laan & Erwee, 2012); to think strategically based on the futures foresight information and data to identify their strategic options and can see cognitively distant opportunities (Norzailan et al., 2016; Steptoe-Warren et al., 2011); and to make decisions concerning strategic choices and develop strategies to gain competitive advantage (Steptoe-Warren et al., 2011). Thus, foresight, strategic thinking, and decision making are regarded as key competences closely associated with competitive advantage (Van der Laan, 2010).

2.4.4.3 Dynamic capabilities for strategic leadership

Building on Boal and Hooijberg (2001) definition of essential abilities for effective strategic leadership (i.e., absorptive capacity, adaptive capacity, and leadership wisdom) (Boal & Hooijberg, 2001; Bui et al., 2019). A wide range of strategic leadership capabilities were noted in the literature review.

Relevant to this study, concerning strategic leadership and work engagement, influential strategic leaders require capabilities to develop and communicate a vision, effectively use human capital, build, and maintain an influential organisational culture, and engage in ethical practices (Hitt et al., 2010).

Dynamic cognitive capability of sensing sizing and reconfiguring; Helfat & Peteraf (2015) leadership cognitive capability of attention, perception, problem-solving, language, communication, and social cognition; and abilities to anticipate, challenge, interpret, decide, align, and learn as leadership disciplines that are closely linked to the clusters of dynamic capabilities, and entail considerable cognitive, emotional, social intelligence (Helfat & Peteraf, 2015; Schoemaker et al., 2018; Schoemaker & Krupp, 2015; Teece, 2007).

2.4.5 Fitting leadership capabilities into strategic leadership theory

The theoretical framework (Figure 2-9) portrays the various elements that can link strategy to strategic leadership theory (items 1-5 in figure 2-12) as discussed in section 2.2. In addition, item 6 portrays the cognitive leadership capabilities of strategic leaders as proxies that predict the strategic choices and strategic guidance provided by leaders to the organisation.

Figure 2-12 Theoretical framework- Leadership cognitive capabilities
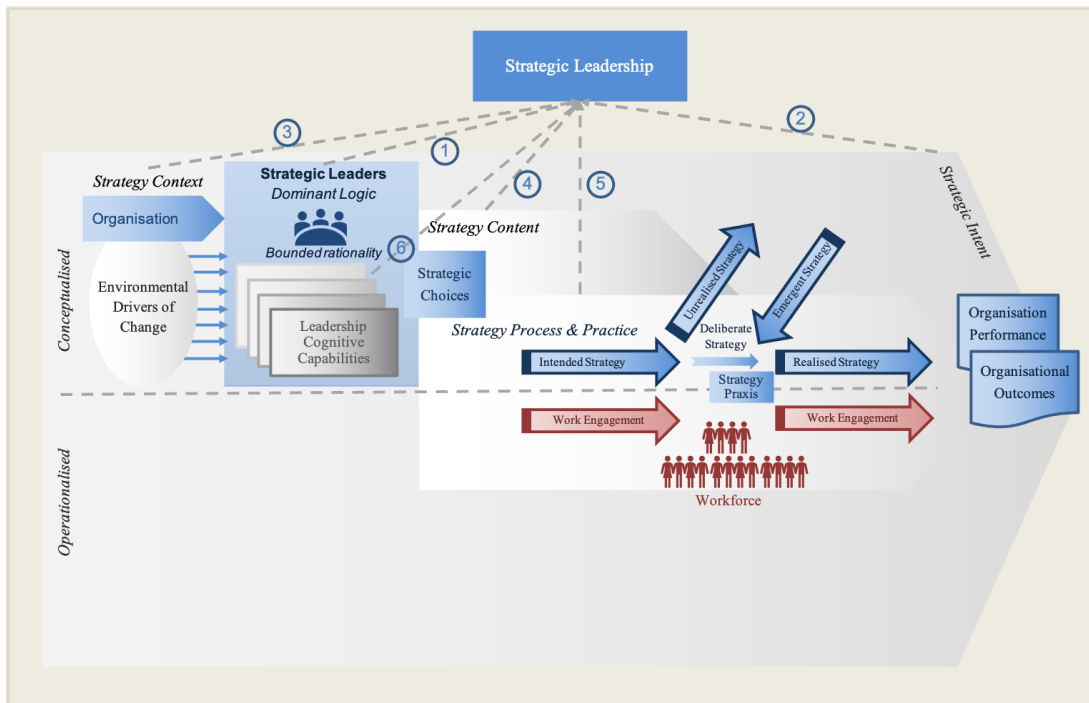
Sources: Developed for this research

In addition, the model draws the connection between the external environment and its impact on strategic leaders, the position of leaders in driving strategy, and highlights the integration of strategy and leadership (Fernandes & Silva, 2015) in delivering organisational outcomes, and the role of strategic leaders in engaging the workforce in the strategy processes and practices (Allio, 2015).

Schoemaker and Krupp 2015 argued that the integration of leadership and strategy within the strategic leadership framework is possible when leaders acquire the abilities to anticipate, challenge, interpret, decide, align, and learn as leadership disciplines (Schoemaker & Krupp, 2015). This study agrees with Schoemaker and Krupp's assertion that the leaders' capabilities fundamentally indicate an organisation's future.

2.4.6 Leadership and national culture

Until recently, most studies on leadership theory have been conducted in western, developed economies. It is unknown how strategic leadership behaviours vary through the rest of the world. Leading across culture poses severe challenges (Youssef-Morgan & Luthans, 2013). Cultures have consequences on leadership and organisation effectiveness (House et al., 2014; K. Lee et al., 2014).

Confucianism widely influences Asian culture. Confucian dynamics of harmony and stability are the essences of Asian culture. The leadership process is voluntary, collective, traditional, and informal. It is more concerned with achieving harmony and stability (Santoso, 2019). Confucian leadership emphasises human emotional bonds, group orientation, hierarchical relationships, virtues based on reciprocity, exemplary conduct, self-transcendence, human development and continuous transformation through life-long learning and education (P.-C. Han, 2013).

Bass (1997) asserted the universality of leadership and leader-follower relationship, with few exceptions due to cultural attributes (Bass, 1997). Long et al. (2012) confirmed that established leadership theories are applicable in Asia, and they can improve organisation effectiveness (Bai et al., 2012; Lam et al., 2012). Further studies on various leadership theories in Asia confirmed their applicability; ethical leadership theory (Bai et al., 2017); transformational and transactional theories (Bai et al., 2012); and authentic and engaging leadership (P. Li et al., 2020). Liden (2012) called for cultural factors to be modelled as contextual moderators between universal leadership constructs and their outcomes (Liden, 2012). Therefore, the cultural fit of leadership theories in Asia was of prime interest for this study as this research was conducted in Singapore, in which Asian cultural factors apply.

2.4.7 Summary

It is widely agreed that leadership theories evolved in three key paradigms that characterised contemporary leadership studies: Leader-centred (i.e., traits and behaviours). Leader-member (i.e., contingency, situational, transformational, and transactional). Collective-complex (i.e., complexity, collective, distributed, and engaging). The effectiveness of leaders is assessed against a criterion of three elects: task-oriented, people-focused, and change and developed oriented, which raises a

question about the capabilities required for effective leadership, especially in setting a strategic direction.

Foresight and strategic thinking have been proposed as essential capabilities for strategic leaders and strategy formulation (Hines et al., 2017; Van der Laan & Erwee, 2010; Voros, 2001). The most important factor for leaders to develop dynamic capabilities is foresight, which enables leaders to sense and act on signals of change (Schoemaker & Day, 2020) and would allow leaders to see sooner and act faster (Day & Schoemaker, 2019). For this study, foresight and strategic thinking of leaders are referred to as capabilities.

2.5 FORESIGHT

2.5.1 Introduction

Under conditions of growing ambiguity and volatility, where the business environment becomes increasingly regulated and disrupted simultaneously, business leaders are confronted with unprecedented challenges. Those who can anticipate the forces of change and harness the potential of the uncertainty more creatively than their competitors will gain a competitive advantage (Van der Laan, 2010).

Foresight is the ability to foresee how the future might unfold (Peter &Jarratt 2013). Literature review indicates that all theories of strategy related to competitive advantage and innovation suggest that strategic leaders must have some degree of foresight ability (Ahuja et al., 2005; A. V. Gordon et al., 2020). Foresight drives change in the mental models that decision-makers inherit from past experiences to interpret the environment better (Amsteus, 2008; Vecchiato et al., 2020). It assists strategic leaders to balance deliberate and emergent strategy approaches (Idoko & MacKay, 2020; Tushman & III, 1996). In essence, foresight at an individual level is the ability to envision what is possible rather than predict a singular future.

Foresight is also considered an essential element in leadership theories (Jakonen & Kamppinen, 2015; Sowcik et al., 2015; Tsoukas & Shepherd, 2004a). It is an essential capability of strategic leaders and critical for effective long-term strategy-making (Hamel & Prahalad, 1994; Major et al., 2001). It describes a future state and informs how leaders actively create it (Idoko & MacKay, 2020). Foresight corresponds with the sensing process of dynamic capabilities (Semke & Tiberius, 2020).

For this research, the term foresight is applied to strategic thinking and strategic decision making and its relationship with work engagement and organsiati0onal outcomes. It is necessary to build the needed dynamic capabilities that drive change and enable organisations to create and capture value in fast-moving environments characterised by complexity and uncertainty (Graen, 2008; Paliokaitė et al., 2014). Therefore, the study area focused on leaders' foresight capability concerning work engagement in the organisation. The question, what foresight constructs support this notion and provide the basis for answering the research questions were explored in this study.

2.5.2 Futures studies

In his influential article "the future has already happened," Peter Drucker (1997) asserted that:

> "It is possible—and fruitful—to identify major events that have already happened, irrevocably, and that will have predictable effects in the next decade or two. It is possible, in other words, to identify and prepare for the future that has already happened." (Drucker, 1997)

Futures studies is not about crystal-ball gazing and trying to guess what the future will be; instead, it is about how future outcomes can be influenced by the strategic choices that strategic leaders make in the present and how the future may evolve. Voros (2001) argues that leaders can create a better future by choosing wisely and responsibly among potential alternative futures. He builds on the work of Henchey (1978), where he distinguishes five classes of potential futures (Figure 2-13); possible futures include all kinds of imaginable futures; plausible futures which could happen; probable futures are likely to happen and preferable futures concerned with what leaders want to happen; and wildcards as low probability events but can have a very high impact (Voros, 2001, 2003).

All humans have an innate capacity for foresight. However, foresight can be developed, beyond our innate abilities, to respond to future challenges (Hayward, 2005). Moreover, foresight can arguably be altered to the extent that the environment can be altered (Amsteus, 2012).

Figure 2-13 Futures cone
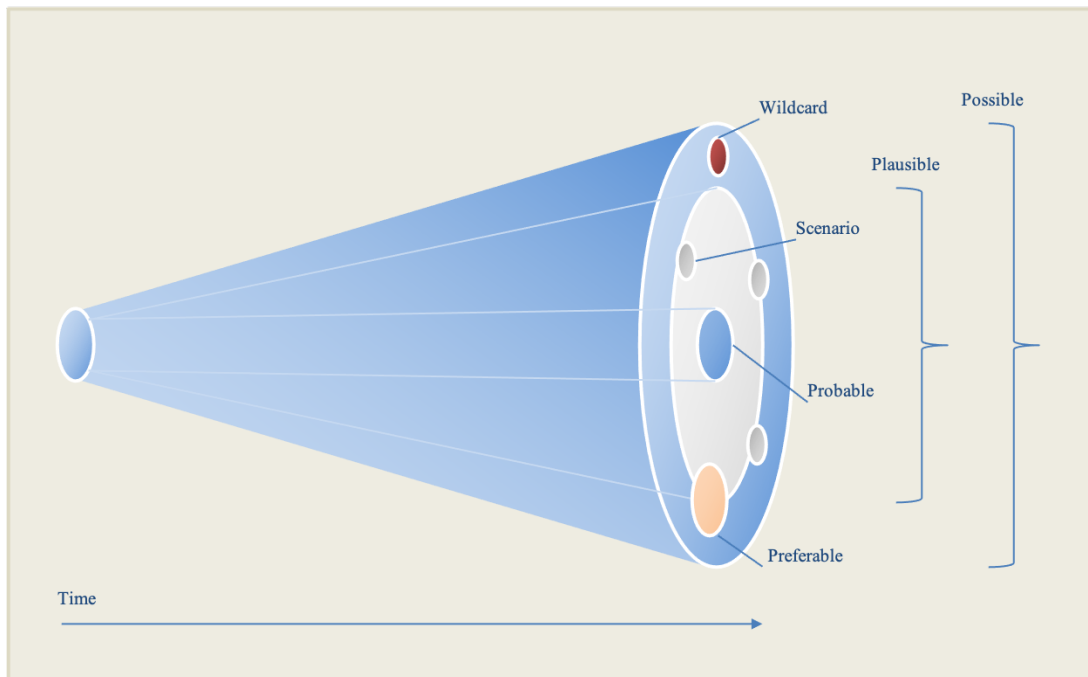
Source: adapted from (Henchey, 1978)

Futures studies differ from strategic planning. Strategic planning is generally up to five years, focused on reality and based on existing data and dominated mainly by upper echelons. Futures studies are longer term. It is committed to alternative futures and opens to multiple interpretations of reality. It is more participatory and more concerned with creating the future than simply predicting it (Inayatullah, 2013).

To succeed in dynamic environment, organisations need a plan based on multiple possible futures and implement foresight processes to build integrated systems dynamic capabilities that allow perceived change to occur (Rohrbeck & Bade, 2012).

2.5.3 Definition and concept of foresight

The concept of foresight is built on the assumptions that future developments are unpredictable and multiple futures are possible (Van der Laan, 2010). Still, change drivers can be identified to influence the future (G. Berger & Bourbon-Busset, 2007). Various research streams adopt different management research traditions in the field of foresight literature. Other terms have been used to relate foresight to strategic leadership in organisations (Paliokaitė et al., 2014; Rohrbeck et al., 2015). Industry foresight is used to identify industry trends to create a competitive advantage (Hamel & Prahalad, 1994). Corporate foresight is the practice of value creation to originate a future competitive advantage (Rohrbeck et al., 2015; Toni et al., 2020). Managerial foresight can predict managers' actions to produce a competitive advantage (Ahuja et

al., 2005). Strategic foresight represents a convergence between futures studies and strategy and the attendant process of foresight (Paliokaitė et al., 2014; Sarpong et al., 2013; Sarpong & Maclean, 2014; Slaughter, 1996; Wayland, 2015) and considered as an organisational capability (Sarpong et al., 2013; Tsoukas & Shepherd, 2004a).

Besides the various streams of foresight research, there are also multiple references to its nature and definitions, as a cognitive competence (Major et al., 2001), a process and technique (Keenan & Popper, 2008; Popper, 2008). It is an instrument to shape innovation and policymaking processes (Aguirre-Bastos & Weber, 2018). Table 2-6 represents a summary of the most prominent foresight definitions found in the literature. It shows a degree of overlapping among the various concepts in the field (Amsteus, 2012).

Table 2-6 Definitions and conceptualisations of foresight

Author(s)	Definition / Concept	Orientation
(Whitehead, 1967)	Foresight is the crucial feature of the competent business mind. Anticipating contemporary notions of ''sensemaking'', ''double-loop learning'', and ''scenario planning''	Organisational capability
(Coates, 1985)	"Foresighting is a process by which one comes to a fuller understanding of the forces shaping the long-term future which should be taken into account in policy formulation, planning and decision-making...Foresight involves qualitative and quantitative means for monitoring clues and indicators of evolving trends and developments and is best and most useful when directly linked to the analysis of policy implications."	Technique
(Slaughter, 1995, 1996)	A human capacity, a vision of the mind, a human attribute, competence, and process that pushes the boundaries of perception forward" in four ways: (a) by assessing the implications of present actions, decisions, etc. (consequence assessment); (b) by detecting and avoiding problems before they occur (early warning and guidance); (c) by considering the present implications of possible future events (pro-active strategy formulation); and (d) by envisioning aspects of desired futures (normative scenarios).	Human cognition
(Martin, 1995)	The systematic attempt to look into the longer-term future with the aim of identifying the areas of strategic research and the emerging of generic technologies likely to yield the greatest economic and social benefits.	Technological capability
(Raimond, 1996)	Foresight has two styles: 'creative imagination'. Imagine a future situation which for you would be ideal, valuable, meaningful, then invent ways to make it happen; 'predictive foresight'. It is the ability to identify which are the critical factors in the external environment, how they will behave in the future, and how that will affect us as we follow our planned course of action.	Institutional technique
(Horton, 1999)	Foresight is the process of developing a range of views of possible ways in which the future could develop and understanding these sufficiently well to be able to decide	Technique

	what decisions can be taken today to create the best possible tomorrow	
(Cuhls, 2003)	A systematic look into the future; to enlarge the choice of opportunities, to set priorities and to assess impacts and chances; to prospect for the impacts of current research and technology policy; to ascertain new needs, new demands and new possibilities as well as new ideas; to focus selectively on economic, technological, social and ecological areas as well as to start monitoring and detailed research in these fields; to define desirable and undesirable futures and; to start and stimulate continuous discussion processes.	Systematic Technique
(Voros, 2003)	Foresight is an aspect of strategic thinking, which is meant to open up an expanded range of perceptions of the strategic options available so that strategy-making is potentially wiser. It is concerned with the exploration based on limited and patchy information and options; it is intuitive and disruptive	Technique
(Hayward, 2005)	The capacity to bring a consideration of the future into the present decision perspective (foresight capacity) and acting upon that consideration (foresight actions). There is a range of actions that can be considered as foresightful; provisioning - taking action in the present to prepare for a probable future event; prevention - taking action in the present to prevent or mitigate the occurrence of a probable future event, and wisdom - taking action in the present that not only deals with the exigencies of the present but which also deals compassionately with the exigencies of the future.	Human cognition
(Gary, 2009b)	A cognitive temporal perspective that leaders use to anticipate, clarify, and structure the future so as to guide their organisation in the present based on future opportunities	Human cognition
(Amsteus, 2008)	Degree of analysing present contingencies and degree of moving the analysis of present contingencies across time, and degree of analysing a desired future state ort states a degree ahead of time with regard to contingencies under control, as well as degree of analysing courses of action a degree ahead of time to arrive at the desired future state	Human cognition
(Coates, 2010)	Foresight is an image, an insight, a picture, a concept about some future state or condition. It is an end state; is not a process for getting that end state and is not a particular instrument or tool for getting there.	Human cognition
(Rohrbeck et al., 2015)	Corporate foresight is identifying, observing, and interpreting factors that induce change, destemming possible organisation-specific implications and triggering appropriate organisational responses.	Human cognition

Source: Developed for this research

For the purpose of this research, the study defines foresight as:

> "Foresight is an individual's cognitive capability to creatively envision possible, probable and desired futures, understand the complexity and ambiguity of systems and provide input for the taking of provident care in detecting and avoiding hazards while envisioning desired futures" (van der Laan, 2010, p. 60).

This definition unites various concepts used in the foresight field.

As noted in Table 2-6, numerous definitions have recognised the cognitive view of foresight as cognitive competence. Foresight is also defined as a technique, as an institutionalised process of gathering, interpreting and understating information to create a range of future scenarios and develop associated plans towards the desired future (van der Laan, 2010).

This study investigated the relationship between foresight and strategic thinking capabilities of strategic leaders and work engagement. Therefore, it becomes essential to operationalise the concept of foresight to its competence-base and adopt its measurements.

2.5.4 Foresight as a cognitive capability

Van Der Laan (2010) confirms that foresight is a cognitive capability (Van der Laan, 2010, p. 62). In an organisational context, Voros (2003) confirms that foresight outcomes are an input to strategic thinking concerned with exploration and options and not with the implementation of actions. Voros argument focuses more on the analysis aspect than value creation. (Voros, 2003). Chia (2004) asserts that:

> "Foresight is a unique and highly valued human capacity widely recognized as a major source of wisdom, competitive advantage and cultural renewal within nations and corporations. The sometimes seemingly uncanny ability of great leaders, visionaries, and captains of industry to ''foresee,'' ''read,'' and then act pre-emptively to forestall disastrous outcomes is a quality much envied by those of us far too often caught up in the immediacy of daily life" (R. Chia, 2004, p. 21).

This study placed a strong emphasis on the role of individuals as strategic leaders concerning work engagement. The concept of competence links the part of individual leaders in strategy-making with their effectiveness as leaders, including engaging the

workforce as a cognitive competence. Foresight postulates an essential lens in terms of how knowledge is connected to action during strategy making.

The view adopted in this research is that individual foresight is a cognitive competence primarily concerned with mental processes involved in creating images of the future in an individual's mind (Van der Laan, 2010). Therefore, it was important to this study that the measurement of foresight competence was a validated and reliable measure construct. Van Der Laan (2010) validated the measurements of foresight. These include the foresight capability construct of the TimeStyle scale, which measures orientation to time and the Foresight Styles assessment, which determines the style of foresight adopted by an individual (Van der Laan, 2010; Van der Laan & Erwee, 2012).

Orientation to time

The term *Mental time Travel was coined* by Suddendorf and Corballis (1997). It refers to humans' ability to mentally project themselves backwards in time to re-live or forwards to pre-live events (Thomas Suddendorf & Corballis, 1997). Clardy (2020) argues that the ontological foundations for studying the future must be based on the present reality; how organisations understand it can lead to meaningful statements about the future (Clardy, 2020).

At the individual level, mental time travel stipulates the function of semantic memory, which contains general learnt knowledge, and episodic memory, which provides access to the personally experienced event, and gives rise to the notion of mental time travel, it also implies a mental reconstruction of some earlier event, as a mental journey to the past (T. Suddendorf & Corballis, 2007). Based on past experiences, we can imagine specific events in the future. The reconstruction of the past and construction of the future align the past, the present and the future on the same dimension and provides continuity. Sarpong et al. (2017) argue that: "A concurrent emphasis on the past, present, and the future, enables and leverages retrospective sense-making promoting a temporal connection and articulation between memory, attention and expectations, put it this way: 'reasoning flows not only forward from anticipation and hypothesis to confirmation or revision, but also backward, from the experience to what it reminds us of or makes us think about" p.34 (Sarpong et al., 2013). Thus, mental time travel is a generative process that facilitates foresight (T. Suddendorf & Corballis, 2007).

Another closely related concept to mental time travel is the theory of Mind Time (Fortunato & Furey, 2009). According to the Mind Time theory, three thinking perspectives exist as part of the human consciousness: (a) Past thinking, (b) Present thinking, and (c) future thinking. The theory asserts that the extent to which individuals utilise the thinking perspectives differs or postulates a combined effect, and it can be measured. It determines how the individual perceptions of the environment and others are shaped (Fortunato & Furey, 2009).

The three thinking perspectives of the Mind Time theory are illustrated in Table 2-7. These are defined in terms of the individual's ability to engage in mental time travel and describe what symbolises each thinking pattern.

Table 2-7 Mental Time travel perspectives and symbolism

Thinking perspective	Features	Symbolism
Past thinking	- Ability to access past experiences sorted in episodic memory through reflection and contemplation - Active reconstruction and recoding of information stored in semantic memory - Ability to minimise the risks when interacting with current and anticipated environmental situations	- Reflective thinking - Risk reduction - Critical evaluation
Present thinking	- Ability to step out of time mentally and observe sensory input, mental processes, self-behaviours as an observer - Ability to integrate current needs with past experiences and future thinking - Ability to organise resources to achieve goals and fulfil plans	- Organised thinking - Planning - Resource allocation - Implementation
Future thinking	- Ability to creatively imagine future possibilities - Apply cognitive flexibility to foresee and adapt to continuous changes in the environment - Ability to see gaps in existing knowledge and future trends - Ability to see the big picture	- Imaginative thinking - Creative problem solving - Divergent thinking - Generative process

Source: (Fortunato & Furey, 2009)

The thinking perspectives of the three distinguished mental time travel aspects symbolise cognitive competence. Van Der Laan (2010) confirmed that Fortunato and Furey's Time Style Inventory contains face validity in that it describes different types of thinking (e.g., imaginative thinking) among the three perspectives.

Foresight styles

Dian (2009) proposed Foresight Styles Assessment (FSA) as the human ability to visualise and plan the future and the reaction to external drivers of change. FSA proposed six styles of foresight: Futurist, Activist, Opportunist, Flexiest, Equilibrist, and Reactionist. In addition, FSA suggested four areas affecting the degree to which the different styles are utilised when confronted with environmental changes: temporal orientation, holistic or dual process thinking, structural orientation, and activity orientation (Dian, 2009).

Gary (2009) examined Dian's FSA to determine whether there is sufficient empirical support for its six proposed foresight styles. The study revealed a four-factor solution of Framer, Adapter, Tester, and Reactor. Gary confirmed that the refined 26-item FSA is a valid and reliable instrument with construct validity (Gary, 2008, 2009b). Table 2-8 illustrates the four factors and their features.

Table 2-8 Foresight styles

Foresight style	Features	Symbolism
Adapter	- Adjust to new situations when the future demands it - Help others to adapt to change in the present moment	- Change agent - Source of help - Adaptable leadership
Tester	- Try recent trends and put them to use - Desire to be first to test new trend	- Opportunistic - Trend adoption instead of cognitive trend analysis
Framer	- Ask the more significant questions about the future - Draw upon future time orientation - A firm grounding in action inquiry	- Transformation/Visionary Leadership - Action - Critical
Reactor	- Preserve current position against threats or change - Hold the line when new plans are imposed	- Resistance to change - Decision making based on past experiences

Source: Adapted from (Van der Laan & Erwee, 2012)

Gary (2009) asserted that the four factors of the adaptor, tester, framer, and reactor epitomise four different styles of visualising the future and reacting to change. The *adapter* adjusts to situations when they realise the need for change; adapting; initiating; and activating others, and finding new alternatives, a change catalyst and influencer. The *tester* tests recent trends that focus on adoption instead of analysis and independent from the social communication experience of others. *The*

framer someone who focuses on the future and long-term issues. The *adapter* is someone who tests new trends. Finally, the *reactor* resists change, either to preserve position against the threat or due to past experiences (Gary, 2009b). Van Der Laan (2010) argued that leadership effectiveness is about the ability to switch between styles according to the circumstances that may adequately reflect the required foresight competency at the time (Van der Laan, 2010). In a later study, Van der Laan confirmed the four styles (i.e., Famer, Tester, Adapter, and Reactor) as a valid and reliable measure of strategic leaders' propensity to adopt dominant and backup styles of engaging with foresight practices. Still, he questioned the relevance of the Reactor style (Van der Laan & Erwee, 2012).

Foresight capability construct

Both the Foresight Styles assessments and assessment of temporal orientation of strategic leaders were operationalised in a large study as a valuable indicator of foresight competence (Van der Laan & Erwee, 2010, 2012). Van Der Laan (2010) confirmed that the construct of foresight competence (Figure 2-14).

Figure 2-14 Foresight competence construct
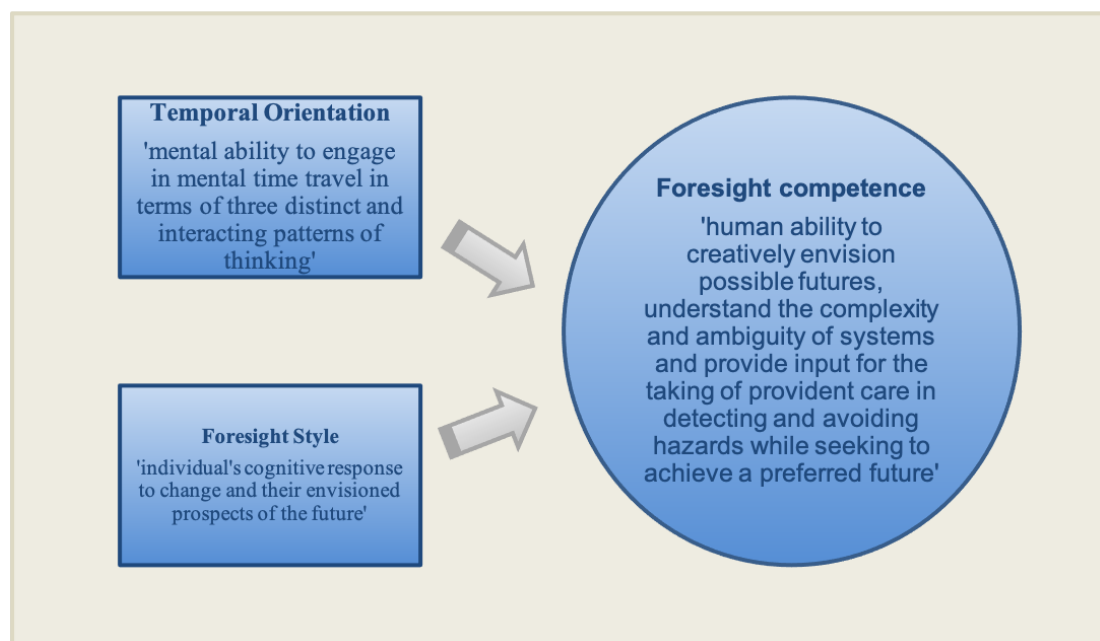
Source: Adapted from (Van der Laan, 2010)

He described it in terms of orientation to time as defined by mental time travel, as incorporated in the Theory of Mind Time (Fortunato & Furey, 2009) and the Foresight Styles of Dian (2009) and the reduced four factors model of Gary (2009). The characteristics described by these orientations and styles are linked to the

definition of foresight competence listed above. Van der Laan concluded that foresight competency involves the cognitive capability to process conjecture knowledge to envision alternative futures. The contextualisation and communication of such outcomes integrate into the task of strategic thinking (Van der Laan, 2010). The study adopted this conclusion as it perceived similar integration of the contextualisation and communication of foresight outcome into the task of engaging the workforce as it also integrates into strategic thinking.

2.5.5 Fitting foresight capability into strategic leadership theory

The theoretical framework (Fig 2-15) integrates the key themes of strategy and leadership introduced earlier (items 1-6). The framework portrays the connections that can be drawn from the foresight capability construct to other parts of the model. Item 7 introduces the foresight capability construct of thinking in time and foresight styles as a conceptualised element of the model and its operationalised measurements; the TimeStyles Inventory and Foresight Styles Assessment (Van der Laan, 2010).

Figure 2-15 Theoretical framework - Foresight capability
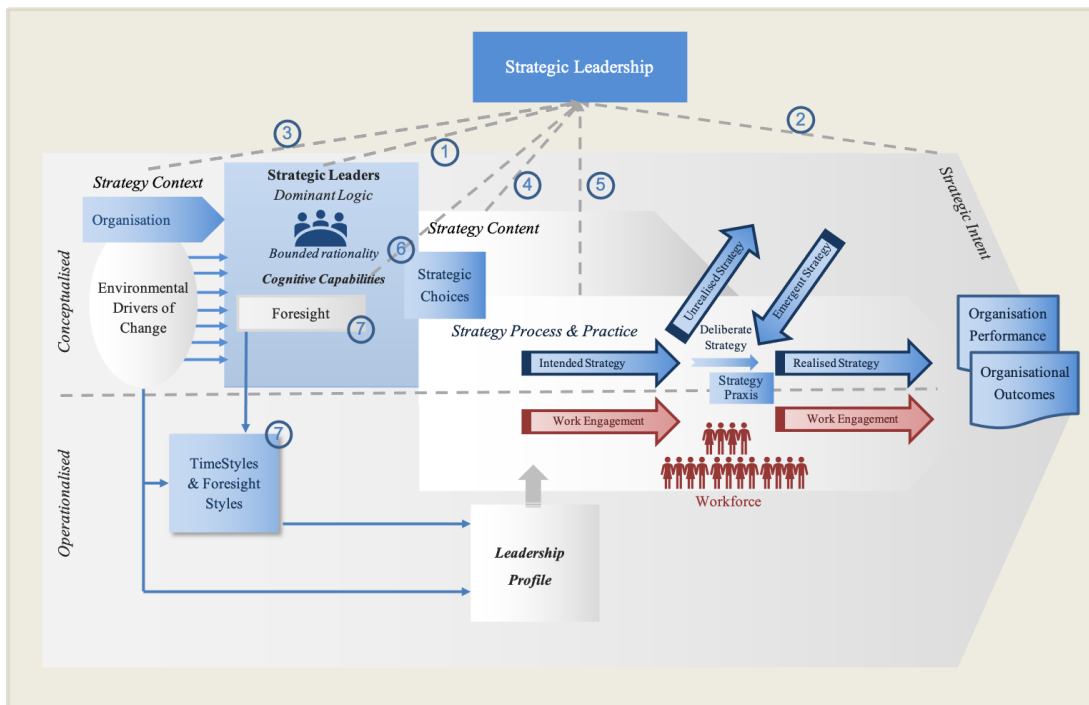
Source: Developed for this research

The model draws the connection between the external environment and foresight as an essential input to the foresight capability that shapes the cognitions of strategic leaders (Vecchiato et al., 2020). Environmental analyses represent the main feed to the

"sensing" element in the dynamic capability construct of foresight (Semke & Tiberius, 2020; Teece, 2007).

2.5.6 Summary

Foresight is the ability to foresee how the future might unfold; it is a cognitive competence. It is an innate ability and essential input to strategic thinking and a necessary element of strategy development and leadership competence and capability. Van Der Laan (2010) validated the measurements of foresight competence, into two scales: orientation to time style and foresight style. Van Der Laan (2010) asserted that foresight competence provides representations of possible futures that focus a leader's thought processes on evaluating strategic choices for further analysis and creativity as part of strategic thinking activity. In a later study, Van der Laan and Erwee (2012) confirmed the four styles of foresight (framer, adaptor, tester, and reactor) but questioned the relevance of the 'reactor' style.

2.6   STRATEGIC THINKING

2.6.1 Introduction

Strategic thinking represents an essential antecedent to strategic decision-making and achieving favourable organisational outcomes (Bonn, 2005). It precedes both strategic planning and emerging strategy, and it is essential in making them effective (Tavakoli & Lawton, 2005). Van Der Laan (2010) asserts that foresight is input to strategic thinking. While foresight is driven by anticipating possible alternative futures, strategic thinking is concerned with determining the options in developing the organisation's strategic intent (Van der Laan, 2010). Strategic thinking is recognised as an individual activity and a capability mastered through practical and educational activities (i.e., socio-cultural context, macro, and micro factors) (Goldman et al., 2017; Jarmoszko, 2020). Critical to strategy making processes is the ability of leaders to think strategically (Goldman et al., 2017). Conversely, the absence of strategic thinking has a negative effect on organisational effectiveness (Goldman, 2010).

The strategy literature indicates that the evolution of the discipline from a focus on strategic planning, then strategic management, and strategic thinking reflects the environmental changes that have taken place over time (Goldman, 2012; O'Shannassy, 2006). Strategic thinking practice is seen as a more divergent, generative, creative, and

intuitive activity. In contrast, strategic planning is seen as an analytical, convergent, conventional, and deliberate activity. Finally, strategic thinking is action oriented. Strategic leaders can act quickly based on previous thinking and concurrently inform future thinking (Bonn, 2005). The strategy-making process includes both planned and emergent activities; strategic thinking is the key to that process (Goldman et al., 2017).

2.6.2 Definition and concept of strategic thinking

There is no clear definition of strategic thinking, but several descriptions and attributes as shown in Table 2-9.

Table 2-9 Definitions and conceptualisations of strategic thinking

Author(s)	Definition
(Porter, 1987)	"The glue that holds together the many systems and initiatives within a company."
(Mintzberg, 1994b)	"Is about synthesis. It involves intuition and creativity. The outcome is an integrated perspective of the enterprise…a not too precisely articulated vision."
(Garratt, 1995)	"The process by which an organisation's direction-givers can rise above the daily managerial processes and crises to gain different perspectives of the internal and external dynamics causing a change in their environment and thereby giving more effective direction to their organisation. Such perspectives should be both future-oriented and historically understood."
(Heracleous, 1998)	"Refer to Synthetic, divergent and creative process to discover novel, imaginative strategies which can re-write the rules of the competitive game; and to envision potential futures significantly different from the present."
(Liedtka, 1998b)	"A particular way of thinking that includes five elements: a systems perspective, intent-focussed, thinking in time, hypothesis-driven and intelligent opportunism."
(O'Shannassy, 1999)	"Flexible means of solving strategic problems and conceptualising the future of the firm within the strategic management framework combining a range of individual and group mental activities."
(Davies & Davies, 2004)	"The skills of looking both forwards and backwards while knowing where their organisation is now, so that wise risks can be taken by the direction-givers to achieve their organisation's purpose, or political will while avoiding having to repeat the mistakes of the past."
(Bonn, 2005)	"A way of solving strategic problems that combines a rational and convergent approach with creative and divergent thought processes."
(Tavakoli & Lawton, 2005)	"The cognitive process that precedes strategic planning or action whereby an individual contemplates the future development of the organisation whilst considering its attributes, its past and present and the external realities within which it operates."
(O'Shannassy, 2006)	"A particular way of solving strategic problems and opportunities at the individual and institutional level combining generative and rational thought processes."
(Allio, 2006)	"Systematic analysis of the current situation of the organisation and the formulation of its longer-term direction."

(A. Casey, 2010)	"A dynamic, interactive, and iterative process that integrates thinking and action."
(Goldman et al., 2017)	"Conceptual, systems-oriented, directional, and opportunistic thinking leading to the discovery of organisational strategies."
(Mintzberg, 2018)	"Seeing ahead, seeing behind, seeing above, seeing below, seeing aside, seeing beyond, and significantly seeing it though.:

Source: Developed for this research

Table 2-9 represents a summary of the most prominent strategic thinking definitions found in the literature. It shows clear orientation towards environmental or situational positioning and reference to the organisation resources and how they are utilised to achieve the strategic objectives, with a clear focus on present and future. Also, the definitions seem to emphasise clearly the focus on the cognitive nature of strategic thinking.

Most definitions describe a synthesising process of factual knowledge and conjuncture information about the future derived from foresight (Pinto & Medina, 2020). They also emphasise the rational and generative perspectives of strategic thinking (van der Laan & Yap, 2016). The study defines strategic thinking as:

> "Strategic thinking is regarded as a synthesis of systematic analysis (rational) and creative (generative) thought processes that seek to determine the longer-term direction of the organisation. It is a dynamic and interactive iterative process integrating emergent strategy with intended strategy in order to achieve realised strategy" (Van der Laan, 2010, p. 75).

Strategic thinking capability contrasts sharply with strategic planning. Strategic thinking and strategic planning occur iteratively over time as leaders pursue creative strategies and plan for their realisation (Heracleous, 1998). Strategic thinking and strategic planning are positively related to competitive advantage (Hunitie, 2018). It is an iterative process and inputs and outputs of the different concepts in relation to one another are illustrated in Figure 2-16. Strategic thinking considers choices related to the future to redefine the firm's core strategy. Strategic planning supports those strategies through implementation and integrates this back to the mainstream activities in the form of plans. Foresight competences contribute to the functional capability of strategic thinking (Van der Laan, 2010). Furthermore, learning from action because of implementation can provide valuable insights that can enhance strategic thinking. Because *"there are times when thought should precede action and guide it... other*

times especially… with action that learning becomes better notion than designing for what has to happen" (Mintzberg et al., 2020, p. 42).

Figure 2-16 Strategic thinking and strategic planning
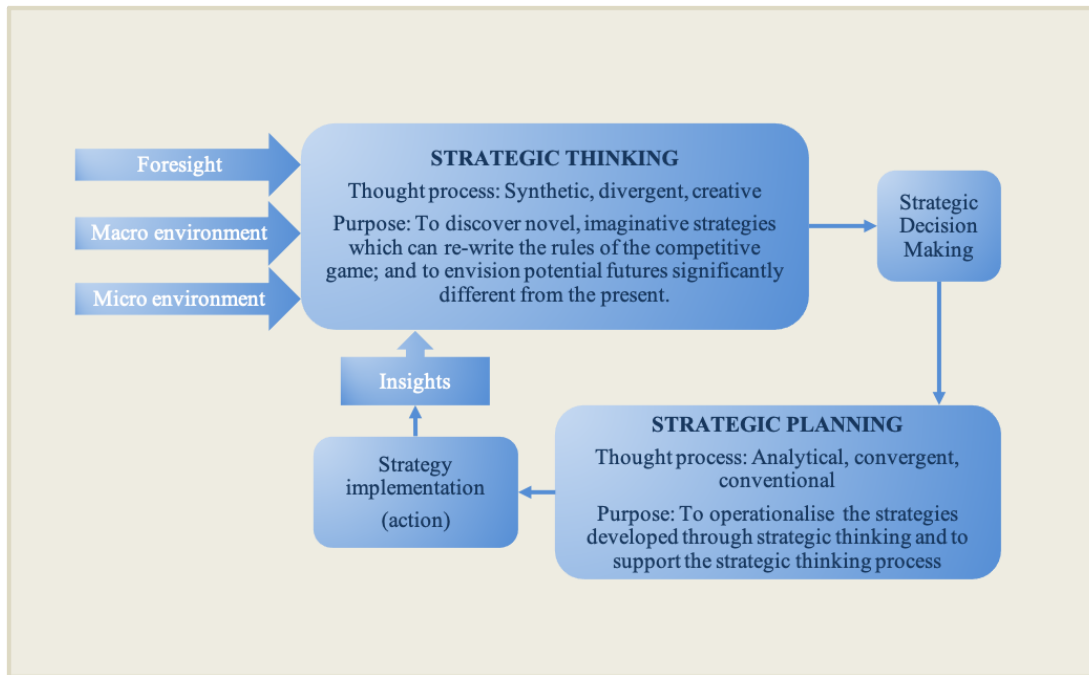
Source: Developed for this research

2.6.3 Strategic thinking as capability model

The development of models that describe strategic thinking capabilities is lagging in its practice:

> "… the strategy literature mainly concerned about the process of strategic thinking … the psychology literature focused on personality, and other factors affecting cognitive processing, and the leadership literature concentrated on inspirational and communication behaviours related to strategic thinking. However, these approaches possess few of the elements of competency models. Most are based only on academic literature; few provide behaviourally specific and detailed descriptions; none distinguish levels of performance or are situationally specific. In addition, behaviours related to the inclusion of others as one thinks strategically, and behaviours related to the management of knowledge in the process of strategy development were scant" (Goldman et al., 2017, p. 489,491).

Goldman et al. (2017) confirmed that certain cognitive styles are dominant in the literature; creative thinking (i.e., generative, divergent) and critical thinking (i.e., rational, and analytical). This is of interest to this study since it does indicate a gap in

the literature related to the operationalisation of strategic thinking capability. Goldman also confirmed the necessity of broader participation in strategic thinking activities, which is in line with findings from other researchers (Goldman et al., 2017; Liedtka, 1998b; O'Shannassy, 1999, 2006, 2014). One of the few models found in the literature that seems to gain remarkable support is proposed by Liedtka (1998).

Liedtka (1998) defined strategic thinking as a particular way of thinking that includes five elements: a systems perspective, intent-focussed, thinking in time, hypothesis-driven and intelligent opportunism (Figure 2-17).

A systems perspective builds on a foundation of systems thinking and understands the interdependencies and interconnectedness of the different subsystems. The system approach emphasises the role of mental models of "how the world works" both internally and externally of the organisation. It supports the innovation required in response to external pressures and identifies core competencies based on internal understanding. When mental models are shared across the organisation through communication and dialogue, it also contributes to higher consensus among managers (Ahmadi & Alizadeh, 2018). O'Shannassy (2006) argued that system thinking of value creation guides the leader to calibrate the leader's small role within the larger system (O'Shannassy, 2006).

Intent-focussed provides the centre that allows individuals to excel. *Strategic intent* (Hamel & Prahalad, 1989, 2005) guides organisation members into the future. Strengths in strategic intent predict better organisational outcomes based on the levels of environmental uncertainty (O'Shannassy, 2016).

Intelligent opportunism allows new ideas to emerge and invite participation from all organisation levels to shape and reshape the strategy (Van der Laan, 2010).

Thinking in time connects the past, present and future as such "think in time." Liedtka describes how to create future strategy requires an institution memory and historical context to present what is to be preserved and think about the future.

Hypothesis-driven; Liedtka confirmed that strategic thinking is creative and critical thinking working in iterative cycles based on generating and testing hypotheses (Liedtka, 1998a, 1998b). Liedtka summarised the outcomes of strategic thinking as follows:

"System perspective should allow them to redesign their processes for greater efficiency and effectiveness. Their intent-focus will make them more determined and less distracted than their rivals. Their ability to think in time will improve the quality of their decision-making and the speed of implementation. A capacity for hypothesis generation and testing will incorporate both creative and critical thinking into their processes. Intelligent opportunism will make them more responsive to local opportunities." (Liedtka, 1998b, p. 124).

Figure 2-17 Elements of strategic thinking
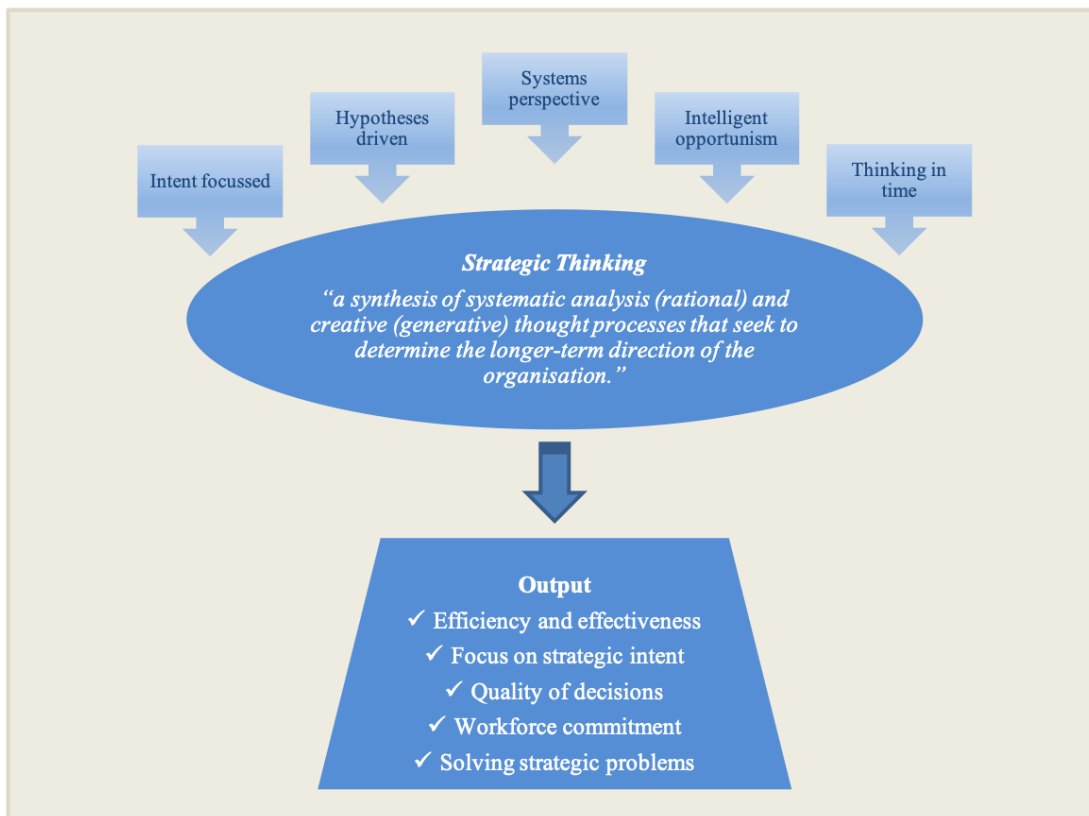
Source: Adapted from (Liedtka, 1998a; O'Shannassy, 2003)

The views presented by Liedtka, and others point to some key findings concerning strategic thinking and work engagement. Clearly participation is crucial for a meaningful strategic planning and implementation of strategy (Liedtka, 1998b; Liedtka & Rosenblum, 1996; O'Shannassy, 1999, 2003, 2006; Van der Laan, 2010). Strategic leaders are required to develop and adopt behaviours related to the inclusion of the workforce in strategy formulation and implementation and are primarily facilitated through effective communication (Goldman et al., 2017).

2.6.4 Strategic thinking and decision making

Strategic thinking is an under-researched concept. It is hard to measure. Bonn (2005) argued that most of the studies failed to address the cognitive element of decision-making, or how strategic decision-makers think strategically. Strategic thinking combines rational and convergent approach (analytical) with creative and divergent approach (conceptual); the two approaches represent the antecedents for strategic decision making in a complex, ambiguous, and competitive situation (Bonn, 2005).

Strategic leaders with high strategic thinking abilities show a greater diversity in representational/symbolic systems (i.e., how the human mind processes and stores information) than those with low strategic thinking abilities (Bonn, 2005). It is reasonable to assume that greater diversity reflects balanced convergent and divergent approaches to strategic decisions. Strategic thinking is considered a cornerstone of decision making (Brocas & Carrillo, 2018). Van Der Laan (2010) argued that: *"Strategic thinking implies flexibility and tolerance for ambiguity that is required because of environmental uncertainty. The ability to fulfil this task can be regarded as strategic thinking capability and is conceptually linked to decision making"* (Van der Laan, 2010, p. 75). Furthermore, foresight capability informs strategic thinking activities and affects decision-making as a cognitive process that incorporates foresight and strategic thinking within a cognitively complex process (van der Laan & Yap, 2016).

This study adopts the view that foresight is a cognitive competence that precedes the functional competence of strategic thinking (Van der Laan, 2010). Subsequently, this study also adopts the view that the decision styles of leaders reflect their foresight styles and strategic thinking and are directly related to strategic decision making. Therefore, strategic thinking precedes and is reflected in the strategic decisions made by leaders. Van der Laan (2010) confirmed that the Decision Styles Inventory (A. Rowe & Boulgarides, 1994) shows parallel indicators to the elements of strategic thinking. Decision Styles Inventory serves to operationalise the concept of strategic thinking in this research. The validity and reliability of this inventory is discussed in Chapter 3.

2.6.5 Rowe's decision style inventory

Rowe's Decision Style Inventory (DSI) incorporates two concepts that pertain to decision making styles (A. Rowe & Boulgarides, 1983; A. Rowe & Mason, 1987a). Values orientation and cognitive complexity. Values are oriented either to people and what concerns them or to task and technical concerns. Cognitive complexity deal with the issue of tolerance to ambiguity. The combination of these two dimensions yields four decision-making styles: directive, analytical, conceptual, and behavioural (Figure 2-18).

Analytical decision style is like directive in terms of task focus. The leaders of this style require much information and consider options when they make decisions. They need control and are often autocratic. They rely on hierarchical structures and can be effective during periods of unpredictable change. As they process more information, they tend to progress at a slow pace. They evaluate information through abstract thinking and are innovative in solving problems.

Conceptual decision style enjoys high cognitive complexity and people orientation. The leaders with this style consider alternatives take systems perspective and focus on the future. They prefer openness and shared goals. They are highly creative, open to new ideas and experimentation, and maintain a high organisational commitment. Independent, recognition, and achievements can describe how people perceive them. Ethics and values are important to these leaders, and they retain a more extended range focus.

Directive decision style leaders have a low tolerance for ambiguity and are oriented to tasks and technical matters. They have a strong need for structure in terms of systems and processes. They rely on limited information and options, and they focus on speed and action. They are effective in the implementing and achieving results, and they tend to be aggressive and authoritarian. They are internally focused and remain fixated on the short-term horizon. They operate best in hierarchical structures and less complex environments.

Behavioural/Participatory decision style leaders have a participatory approach, low tolerance for ambiguity, a concern for people and their needs, and people are central to their decision-making approach. They use limited data, maintain a short-term focus, and adopt a more collegial approach.

Figure 2-18 Rowe Decision -making style grid
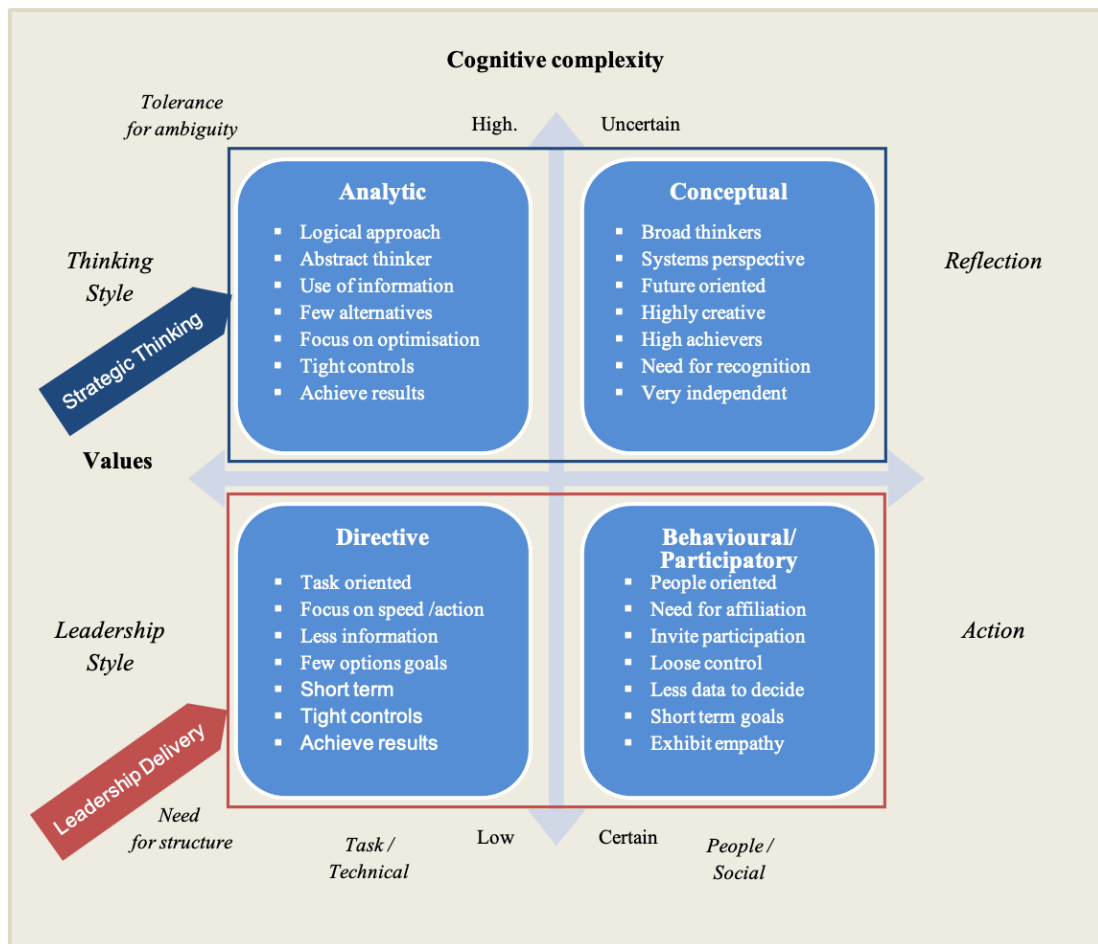
Source: adapted from (A. Rowe & Boulgarides, 1983; A. Rowe & Mason, 1987a)

DSI produces relative scores, which result in a profile of four styles, in which a higher score defines a dominant style or the most preferred one. The second-highest score within the same profile defines a backup style that provides the decision-maker with an alternative as the least preferred style when the dominant style is not appropriate to adopt. The below-average scores indicate the ones which are used less frequently.

More recent studies confirmed the applicability of DSI in terms of evaluating leaders' cognitive styles and decision making (Bukhari & Ashraf, 2020; Donalds & Osei-Bryson, 2020; Pennino, 2002). Also, another study in Asia confirmed similar outcomes (Martinsons & Davison, 2007).

2.6.6 Fitting strategic thinking into strategic leadership theory

The theoretical framework (Fig 2-19) integrates the key themes of strategy, leadership, and foresight capability introduced earlier (items 1-7). In addition, the

framework portrays the connections that can be drawn from the strategic thinking capability construct to other parts of the model. Item 8 introduces the strategic thinking capability construct as a conceptualised element of the model and its operationalisation measurements; the Decision Style inventory (Van der Laan, 2010).

Of interest to this study is the relationship between foresight as input to strategic thinking leading into strategic choices and strategy development, as reflected in the decision-making style of the leaders. In addition, the Decision Style Inventory is also a predictor of the leadership behavioural style. Thus, both strategic thinking and leadership behavioralist styles are of interest in terms of how they relate to work engagement.

Figure 2-19 Theoretical framework - Strategic thinking capability
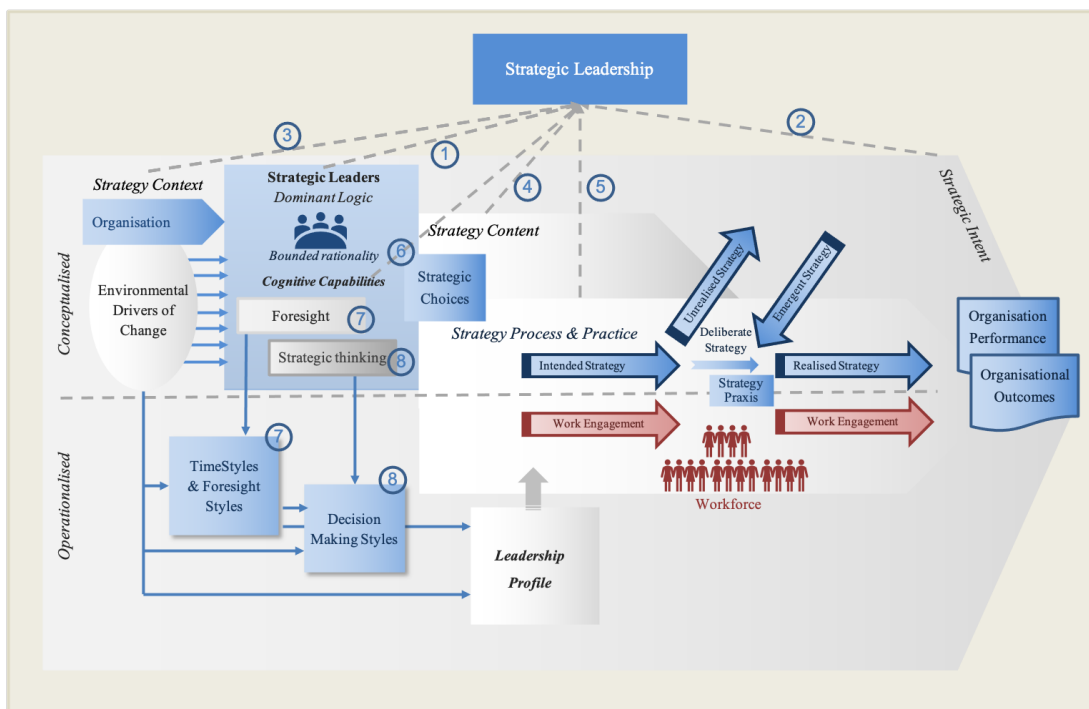
Source: Developed for this research

2.6.7 Summary

Strategic thinking is an antecedent to strategic decision making; it is a functional competence preceded by the cognitive competence of foresight. The firm's contextual factors influence it, and it is a distinguished task from the strategic planning activity.

Elements that constitute strategic thinking are system perspective, intent focused, intelligent opportunism, hypothesis-driven and thinking in time. The strategic thinking styles of strategic leaders manifest themselves in the decision-making processes. The cognitive models and values play a significant role in leading to

strategic decisions. Rowe and Boulgarides (1983) provide an operationalised model that enjoys the most support in the leadership literature. The model defines four styles of decision making, which reflect the various propensities of the decision-maker. There is a wide acceptance in the literature that strategic thinking as a cognitive model get reflected in the decision-making processes. The elements of foresight and strategic thinking capabilities related to future provided basis to link the constructs to the organisational strategy making process (Van der Laan, 2010). This study investigates how foresight and strategic thinking shape work engagement.

2.7 WORK ENGAGEMENT

2.7.1 Introduction

The concept of human engagement has its roots in the theory of human motivation (Maslow, 1943), which identified a link between the hierarchy of needs, from physical needs to self-actualisation, which leads to finding the meaning of fulfilment through the work one does. Strategic leaders realise that human resources' value, the resource-based view, and the competency-based view of strategy emphasises people as a critical resource to implement the strategy.

The challenge is to attract and retain employees who are motivated and can action the strategy. Therefore, engagement is an essential part of mobilising the workforce to enact strategy (Nienaber, 2019).

The term work engagement has gained considerable popularity in the past 20 years. Perhaps the reason that engagement has attracted so much attention lies in its dual promise of enhancing individual well-being, job performance, experience and development, and organisational outcomes (Bakker & Schaufeli, 2008; Christian et al., 2011; James Harter et al., 2002; T. Schwartz, 2011; Shuck, 2010). Yet, it remains inconsistently defined and conceptualised. Although much has been written on the subject, little rigorous academic research has been done (Shuck & Wollard, 2010). As a result, relatively little is known about how strategic leadership can influence work engagement and how strategic leadership can enact engagement to develop and sustain organisational outcomes.

This research focuses on conceptualising the relationship between the cognitive styles of foresight and strategic thinking of strategic leaders and work engagement. The terms personal engagement, work engagement, engagement, and staff engagement

are used interchangeably. This is because the terms reflect the same meaning for this research, which is individual engagement. At the same time, the term work engagement refers to the collective organisational engagement.

2.7.2 Definitions and concept of engagement

As the concept of engagement has grown in popularity in organisations, definitions, measurements, and conceptualisations, it has created a domain of knowledge that attracted equal attention from practitioners and researchers. Since the early work of Kahn (1990), there has been a steadily growing interest in research exploring the meaning and significance of engagement at work (Wollard & Shuck, 2011). Yet, despite the volume of material that has been written, the concept remains more contested (Soane et al., 2012). In consequence, Christian et al. (2011) conclude: "inconsistent construct definitions and operationalisations have plagued engagement research" (Christian et al., 2011). Table 2-10 summarises the most cited definitions in the literature.

Table 2-10 Definition of work engagement

Author(s)	Definition
(Kahn, 1990)	"The harnessing of organisation members' selves to their work roles; in engagement, people employ and express themselves physically. Cognitively and emotionally during role performance."
(Leiter & Maslach, 1997)	"The positive antithesis to burnout."
(Maslach et al., 2001)	"A persistent, positive affective-motivational state of fulfilment in employees that is characterised by high levels of activation and pleasure."
(James Harter et al., 2002)	"Refers to the individual's involvement and satisfaction with as well as enthusiasm for work."
(Schaufeli et al., 2002)	"A positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour."
(D. Robinson et al., 2004)	"A positive attitude held by the employee towards the organisation and its values."
(Saks, 2006)	"A distinct and unique construct that consists of cognitive, emotional, and behavioural components that are associated with individual role performance… as a work role and their role as a member of an organisation."
(Czarnowsky, 2008)	"Mentally and emotionally invested in their work and in contributing to their employer's success."

(Macey & Schneider, 2008)	"A desirable condition has an organisational purpose, and connotes involvement, commitment, passion, enthusiasm, focused effort, and energy."
(Storey et al., 2008)	"The effective commitment which employees make in practice."
(Shuck & Wollard, 2010)	"An individual employee's cognitive, emotional, and behavioural state directed toward desired organisational outcomes."
(Barrick et al., 2015)	"Shared perceptions of organisational members that members of the organisation are, as a whole, physically, cognitively, and emotionally invested in their work."

Source: Developed for this research

Engagement is easy to notice in practice yet challenging to define. There is no universal agreement on the exact definition or conceptualisation of engagement, although there are many ambiguous answers to what engagement is (Schaufeli, 2013; Schaufeli & Bakker, 2010; Shuck et al., 2017). The definitions (Table 2-10) show a clear orientation towards process and action. They reference the organisation resources and how they are utilised to achieve the strategic objectives, focusing on choice and action. Also, the definitions clearly emphasise the focus on the cognitive, emotional, and behavioural aspects of human nature.

Shuck (2011) argued that four significant perspectives defined the existing state of work engagement: (1) Kahn's (1990) need-satisfying perspective, (2) Maslach et al.'s (2001) burnout-antithesis perspective, (3) Harter et al.'s satisfaction-engagement perspective, and Saks's (2006) multidimensional perspective. An exploration of the four perspectives follows.

Need-satisfying perspective

In a seminal work, Kahn (1990) defined personal engagement as *"the simultaneous employment and expression of a person's 'preferred self' in task behaviours that promote connections to work and to others, personal presence, and active full role performances"* (Kahn, 1990, p. 700). Khan cast a wide net of scholarly inquiry across different disciplines; psychology (Freud, 1922), sociology (Goffman, 1961; Merton & Merton, 1957), and group theorists (P. Slater, 1966; K. K. Smith & Berg, 1987).

Khan (1990) stated that the psychological conditions of *meaningfulness, safety, and availability* were essential to fully understand why a person would become engaged in their work. *Meaningfulness* is defined as the positive "sense of return on investments of self in-role performance," in which a person both drives personal

energies into role behaviours (self-employment) and displays the self within the role (self-expression). *Safety* is defined as the ability to show oneself "without fear or negative consequences to self-image, status, or career." *Availability* is defined as the "sense of possessing the physical, emotional, and psychological resources necessary" to complete work. A field study found that these three conditions exhibited significant positive relations with engagement (May et al., 2004). Alternatively, disengagement is viewed as the decoupling of the self from work role, self-withdrawal, and exhibiting defending acts during role performance, which is considered robotic and apathetic behaviour (Hochschild, 1983; May et al., 2004).

The two engagement underpinnings of self-employment and self-expression are associated with involvement (S. P. Brown & Leigh, 1996) and flow (Csikszentmihalyi, 2008). Job involvement is a cognitive state; it depends on the individual need and the potential of a job to satisfy the demand. Flow is the state in which there is little distinction between the self and environment, where little conscious control is required, and feedback and rewards are a product of the experience itself. One can argue that self-employment is present in the flow. However, the flow concept has been conceptualised and measured as engagement about how the individual employs emotions and behaviours in addition to cognition during job performance (May et al., 2004).

Burnout-antithesis perspective

Maslach, Jackson and Leiter (1997) defined work engagement as positive scores in the Maslach Burnout Inventory. This approach views engagement and burnout as the positive and negative endpoints of a single continuum. More specifically, engagement is characterised by energy, involvement, and efficacy which are opposite to the three burnouts dimensions' exhaustion, cynicism, and lack of accomplishment (Leiter & Maslach, 1997; Maslach et al., 1997).

Maslach et al. (2001) conceptualised work engagement as the positive antithesis to burnout, defining engagement as "a persistent positive affective state , characterised by high levels of activation and pleasure" (Maslach et al., 2001). Accordingly, engagement was characterised as the opposite of the three burnout dimensions: exhaustion, cynicism, and ineffectiveness (Maslach et al., 2001). An alternative view considers work engagement a distinct concept negatively related to burnout (Schaufeli et al., 2002).

Maslach, Schaufeli, and Leiter (2001) conceptualised why employees developed job burnout. Maslach et al. (2001) posited that work engagement is the positive antithesis of burnout, promises to yield new perspectives on interventions to alleviate burnout (Maslach et al., 2001). Schaufeli defined work engagement as "a persistent, positive affective-motivational state of fulfilment on employees that is characterised by high levels of activation and pleasure" (Maslach et al., 2001).

Further research on burnout and engagement has found that the core dimensions of burnout (exhaustion and cynicism) and engagement (vigour and dedication) are opposites of each other (González-Romá et al., 2006). Later research also confirmed that engagement is the opposite of burnout and characterised by capability and willingness opposite to incapacity and withdrawal of burnout (Schaufeli & Salanova, 2011).

Engagement is different from satisfaction and motivation in this perspective. Employee satisfaction is about being satisfied with one's job, not measuring commitment to the job (James Harter et al., 2002). Employee motivation is caused by short term or long-term rewards, but engagement is for a more significant cause and meaning (Marciano, 2010).

Kahn's key dimensions contribute to work engagement; emotional, cognitive, and physical or behavioural dimensions. The *emotional* dimension describes the importance of feeling valued and involved as a critical driver (D. Robinson et al., 2004). The employee voice and the ability to have input into the decisions that are made in the organisation through involvement (Worley & Lawler, 2006). Being valued, appreciated, and having a sense of belonging leads to fulfilment (Penna, 2007). Involvement to capture employee ideas and commitment (Beardwell & Claydon, 2007). The cognitive dimension describes how employee cognitions may evolve. Expression of feelings and views drive trust, commitment, and loyalty (Cooper, 1997). A burnout state may mentally dissociate the employee from the job (Maslach et al., 2001). The internal feedback and talk based on feelings and the current positioning in the organisation influence the employee cognition and subsequently their actions (M. G. Wilson et al., 2004). The physical dimension focuses on the present while on the job and the level of attention given to the role (Edwards & Rothbard, 2000), where the person is energised, available and fully absorbed in the job (Bakker et al., 2011b).

Satisfaction-engagement perspective

Harter et al. (2002) defined work engagement as an "individual's involvement and satisfaction with as well as enthusiasm for work". The satisfaction perspective established a meaningful link between work engagement and business unit outcomes, such as customer satisfaction, profit, productivity, and turnover (Harter et al., 2002). Findings from the research extended current theory about a manager's role in creating a supportive psychological climate (S. P. Brown & Leigh, 1996) and paralleled early theories of engagement (Kahn, 1992; Maslach et al., 2001; Schaufeli et al., 2002).

Harter et al. (2002) suggested that engagement should be measured individually by looking at separate business units, separate unit leaders, and separate unit employees (Shuck & Wollard, 2010). Collective and individual work engagement are two different levels. Work engagement may be conceived as a collective team-level experience as well; hence, making the climate for engagement high (Bakker et al., 2011a; Salanova et al., 2005)   Schaufeli and Salanova (2011) differentiated between work engagement and task engagement since any job consists of different tasks (Schaufeli & Salanova, 2011). Saks (2006) posited a meaningful difference between job and organisation engagements and that perceived organisational support predicts both job and organisation engagements (Saks, 2006).

Britt et al. (2005) suggested engaged employee experience less stress and fatigue when involved at work (Britt et al., 2005). The concept of employee work passion is an emergent construct, unique from work engagement (Zigarmi et al., 2009).

Multidimensional perspective

Saks (2006) hypothesised that work engagement developed through a social exchange model and was the first to suggest separate states of engagement: job engagement and organisational engagement. In his conceptualisation, Saks defined the emerging multidimensional concept of work engagement as "a distinct and unique construct consisting of cognitive, emotional, and behavioural components associated with individual role performance" (Saks, 2006). This definition is similar to Khan's (1990), but Saks (2006) distinguishes between 'job engagement' (performing the work role) and 'organisational engagement' (serving the role as a member of the organisation).

Macey and Schneider (2008) proposed a multidimensional model of elements that have been employed to define engagement. It includes: (a) psychological state engagement (i.e., the feeling of energy and absorption); (b) behavioural engagement (i.e., extra-role behaviour); and (c) trait engagement (i.e., positive views of life and work). Besides, they offer propositions regarding the effects of job attributes and leadership as main effects on behavioural engagement and as moderators of the relationships among the three facets of engagement (Macey & Schneider, 2008). Macey and Schneider conceptual framework was empirically tested and appeared to have merits (Christian et al., 2011). However, Saks (2008) criticised the model; he noted that "engagement" serves as an umbrella term for whatever one wants is it to be (Saks, 2008).

In contrast, Schaufeli and Bakker (2010) proposed a work engagement model, conceptualising work engagement as an experienced psychological state which mediates the impact of job resources and personal resources on organisational outcomes (Bakker, 2011; Schaufeli & Bakker, 2010) (See Figure 2.20). Job resources such as social support from colleagues, performance feedback, skill variety, autonomy, and learning opportunities are positively associated with work engagement (Albrecht, 2011; Bakker & Demerouti, 2008). Personal resources such as self-esteem, self-efficacy, locus of control, and the abilities to perceive and regulate emotions are positive predictors of work engagement (Albrecht, 2011; Xanthopoulou et al., 2009). This research review the engagement antecedents and consequences in section 2.8.3.

Figure 2-20 Job resources and personal resources
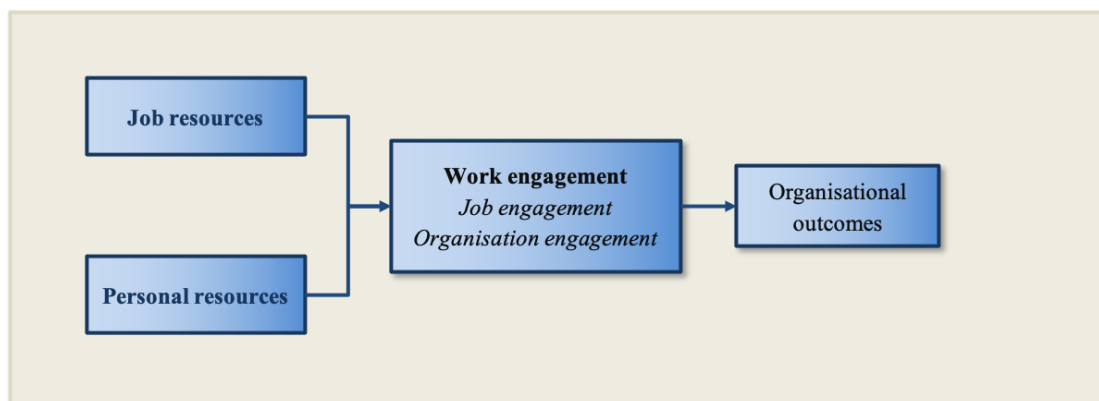
Source: Adapted from (Schaufeli & Bakker, 2010)

Schaufeli and Bakker (2010) concluded that their model distinguishes the experience of work engagement from its perceived antecedents and consequences (Schaufeli & Bakker, 2010), which means that neither job resources nor personal

resources constitute elements of work engagement. Schaufeli & Taris (2013) (Schaufeli & Taris, 2013), based on a meta-analysis by Christian et al. (2011), concluded that the study on a similar model supported their model, where autonomy, task variety, task significance and feedback were identified as job resources and conscientiousness and positive effect as personal resources, in addition to leadership which has a direct impact on in-role and extra-role performance as well as an indirect impact through work engagement (Christian et al., 2011; Schaufeli & Bakker, 2010; Schaufeli & Taris, 2013; Truss et al., 2014).

Schaufeli and baker confirmed that empirical studies supported the model. Table 2-11 summarises the different perspectives concerning engagement and the dimensions, measures and contracts involved in each perspective.

Table 2-11 Engagement perspectives

Author(s)	Approach	Elements	Dimensions	Characteristics	Constructs
(Kahn, 1990)	Needs-satisfying approach	Personal engagement/ Role Engagement	Cognitive, emotional, behavioural	attention, absorption	Social exchange
(Maslach et al., 1997)	Burnout-antithesis approach	continuum	burnout	energy, involvement, efficacy	Burnout
(Schaufeli et al., 2002)	Engagement as a distinct concept	work engagement	Cognitive, emotional, behavioural	Vigour(energy), dedication (persistence), absorption (focus)	Distinct
(James Harter et al., 2002)	Satisfaction-engagement approach	Satisfaction	Satisfaction	Involvement, satisfaction, enthusiasm for work	Job involvement, job satisfaction
(Saks, 2006)	Multidimensional approach	Job engagement, organisational engagement	Cognitive, emotional, behavioural	attention, absorption	Distinct
(Macey & Schneider, 2008)	Exhaustive approach	Trait engagement, State engagement, Behavioural engagement	Trait, state, behavioural	trait (positive affect), state (satisfaction, involvements), behavioural (in role and extra-role)	Multiple
(Schaufeli & Bakker, 2010)	Experienced psychological approach	Job resources, personal resources	Cognitive, emotional, behavioural	Vigour (energy), dedication (persistence), absorption (focus)	Distinct

Source: Developed for this research

Bakker and Demerouti (2007) expanded the work engagement research by proposing the job-demand resources model (JD-R) and acknowledged job resources (i.e., functional activities to achieve goals or personal growth) and personal resources (i.e., self-efficacy, optimism, and emotional stability) as resources to foster engagement in terms of vigour, absorptions, and dedication (Bakker et al., 2014; Bakker & Demerouti, 2007, 2008). JD-R mediates the relationship between the job and personal resources from one side and organisation outcomes on the other side (Schaufeli, 2015).

For purposes of this research, the study adopts a multidimensional perspective, acknowledging job resources and personal resources as antecedents to engagement and engagement as distinct construct that contribute to organisational outcomes.

The debate continues within the academic community concerning the definition of engagement, its antecedents, settings, and consequences. This study adopts the following work engagement definition, and it incorporates both job and organisation engagement:

> "A positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any object, event, individual, or behaviour" (Schaufeli et al., 2002, p. 74).

Schaufeli et al. (2002) operationalised the definition of work engagement around vigour, absorption, and dedication in the Utrecht Work Engagement Scale (UWES). The scale has been widely adopted in most studies of engagement, antecedents, and engagement consequences (Bailey et al., 2017; Schaufeli et al., 2002). Table 2-16 summarises the characteristics of the three engagement dimensions of Vigour, Dedication and Absorption.

A recent review indicated that 86 % of the engagement studies used the UWES (Bailey et al., 2017) to investigate the mediating effect of work engagement (i.e., vigour, dedication, and absorption) between engagement antecedents and consequences. Therefore, for this study is of particular interest was to understand the antecedents and consequences of work engagement related to individual outcomes and organisational outcomes.

Table 2-12 Work engagement dimensions - characteristics

Dimensions	Vigour	Dedication	Absorption
Definition	characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties.	Refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge.	Characterized by being fully concentrated and deeply engrossed in one's work, whereby time passes quickly, and one has difficulties with detaching oneself from work.
Experiential Features	- Busting with energy - Strong and vigorous - Feel like going to work - Continue work for a long time - Very resilient - Always persevere	- Meaning and purpose - Enthusiastic - My job inspires me - Proud of my work - Job is challenging	- Time flies at work - Focused on what I do - Happy when I work intensely - Immersed in my work - Carried away when I work - Difficult to detach

Source: Developed based on definitions from (Bakker et al., 2008; Rahmadani & Schaufeli, 2020; Schaufeli et al., 2002, 2006).

2.7.3 Antecedents and consequences of work engagement

A review of the engagement literature produced various engagement antecedents, which relate the primary psychological conditions and cultivate individual engagement concerning individuals' attitudes, intentions, and behaviours. Engagement is an individual-level construct (Saks, 2006). At the individual level, there are three primary psychological conditions associated with engagements; meaningfulness; safety; and availability, which can be fulfilled if the employee works in situations that offered them (Kahn, 1990). The three conditions exhibit a logical approach for people to engage, according to the benefits (meaningfulness), assurance of safety, and the resources they can bring to the job (Kahn, 1990). Table 2-12 summarises the dimensions of the three psychological conditions.

Table 2-13 Dimensions of psychological conditions

Dimensions	Meaningfulness	Safety	Availability
Definition	Sense of return on investments of self in role performances.	Sense of showing and employing self without fear of negative consequences to self-image, status, or career.	Sense of possessing the physical, emotional, and psychological resources necessary for investing self in role performances.
Experiential Features	Feel worthwhile, valued, valuable; feel able to give to and receive from work and others in the course of employment.	Feel situations are trustworthy, secure, predictable, and transparent in terms of behavioural consequences.	Feel capable of driving physical, intellectual, and emotional energies into role performance.
Sources of influence	Work elements that create incentives or disincentives for investments of self.	Elements of social systems that create situations that are predictable, consistent, and non-threatening.	Individual distractions that are preoccupying in role performance situations.
Influence Factors	**Tasks**: Jobs involving a challenge, variety, creativity, autonomy, and clear delineation of procedures and goals. **Roles**: Formal positions that offer attractive identities, through fit with a preferred self-image, and status and influence. **Work interactions**: Interpersonal interactions with the promotion of dignity, self-appreciation, sense of value, and the inclusion of personal and professional elements.	**Interpersonal relationships**: offer support, trust, openness, flexibility, and lack of threat. **Group and intergroup dynamics**: Informal, often unconscious roles that leave room to safely express various parts of self, shaped by dynamics within and between groups in organisations. **Management style and process**: Leader behaviours that show support, resilience, consistency, trust, and competence. **Organisational norms**: Shared system expectations about member behaviours and emotions that leave room for investments of self during role performances.	**Physical energies**: Existing levels of physical resources available for investment into role performances. **Emotional energies**: Existing levels of emotional resources available for investment into role performances. **Insecurity**: Levels of confidence in own abilities and status, self-consciousness, and ambivalence about fit with social systems that leave room for investments of self in role performances. **Outside life**: Issues in people's outside lives that leave them available for investments of self during role performances.

Source: Adapted od psychological conditions (Kahn, 1990)

Psychological condition of meaningfulness

A meaningful job provides the employee with a sense of value, return on effort, capacity to contribute and be recognised. Truss et al., (2014) reviewed the meaningfulness related constructs and how it influences task and role performance. Table 2-13 summarises the meaningfulness antecedents, features, and engagement outcomes findings (Kahn, 1990; Truss et al., 2014)

Table 2-14 Psychological meaningfulness antecedents

Antecedent	Features	Individual outcomes
Job challenge	- Job scope and/or responsibility - Cognitive demands & complexity - High workload	Motivation, the potential for accomplishment, mastery, personal growth, problem solving and innovation
Autonomy	- Freedom - Independence - Employee discretion	Sense of ownership, control over outcomes, satisfaction, self-determination
Variety	- Different activities - Use of different skills	Feeling useful
Feedback	- Performance feedback - Coaching	Evaluate growth and progress, feel valued and appreciated, rewarding relationship
Role fit	- Fit for the work environment - Consistent with self-images	Sense of pride, consistent self-perception, power to shape their work
Opportunities for development	- New skills and knowledge - Meet job demands	Pathways for growth and fulfilment, new roles, preferred self-images,
Reward and recognition	- Formal pay and benefits - Informal recognition	Return on personal investment, satisfaction,

Source: Developed for this research based on (Kahn, 1990).

Psychological condition of safety

A safe environment provides the employee with a sense of investing oneself in work role performance. Table 2-14 summarises the safety antecedents, features, and engagement outcomes findings (Kahn, 1990; Truss et al., 2014).

Table 2-15 Psychological safety antecedents

Antecedent	Features	Individual outcomes
Social support	- Perception of care for employee well-being - Perceived contribution value	Flexibility to take the risk, the obligation to care for the organisation,
Leadership	- Supportive - Resilient - Clarifying	Support to perform and innovate, motivate to reach potential
Leader follower relationship	- Degree of interaction - Trust - Support	Supportive, connected, and trusted relationship, without fear
Workplace climate	- Climate for safety - Service achievement - Quality and innovation	Explicit norms, predictable and consistent, clear boundaries, and consequences
Organisational justice	- Fairness of outcomes distribution and allocation - Fairness of the distribution procedure	Explicit organisational norms and expectation
Job security	- Employment for foreseeable future	Provide predictability and non-threatening conditions

Source: Developed for this research based on (Kahn, 1990).

Psychological condition of availability

Psychological availability is about the individual's readiness to engage. It is about feeling capable and prepared to invest their cognitive, emotional resources in the role performance. Table 2-15 summarises the availability antecedents, features, and engagement outcomes findings (Kahn, 1990; Truss et al., 2014).

Table 2-16 Psychological availability antecedents

Antecedent	Features	Individual outcomes
Role overload	- Overwhelming work demands - Negative emotions, anxiety, and fear	Feeling less capable, less cognitive, and emotional energy
Work-role conflict	- Inconsistent behavioural expectation - Conflicting demands	Sense of inability
Family-work conflict	- Family situation affecting work - Work situation affecting family	Distraction and reduced energy
Resource inadequacies	- More physical energy - More emotional energy	Work task is made harder
Time urgency	- Time constraint - Attention focus	Focused energy, eliminate distraction, strain
Off-work recovery	- Disengage when off-work	Recharge physical and emotional resources
Dispositions	- Conscientiousness - Positive and negative affectivity	Achievement, striving, stay focused, positive, or negative emotions
Personal resources	- Self-efficacy - Organisation-based self-esteem - Optimism	Sense of confidence, ability to negotiate own role performance, role self-satisfaction, desire to stay, feel secure, reduce anxiety, and free up energy

Source: Developed for this research based on (Kahn, 1990).

Engagement Antecedents and outcomes

Kahn's conceptualisation of engagement remains the foundation for subsequent engagement studies as a basis for human needs to engage. Nevertheless, the literature demonstrated new and enhanced levers of engagement over time, satisfying the psychological conditions of meaningfulness, safety, and availability. This reflects the extent to which an employee is psychologically present in a particular role pertaining to job engagement and organisation engagement. Furthermore, researchers focused on engagement antecedents and how they relate to individual outcomes and organisational outcomes. More recent studies highlighted various antecedents and consequences for engagement and disengagement that lead to individual outcomes and organisational outcomes and considered downstream of the primary psychological antecedents of

meaningfulness, safety, and availability (Aktar & Pangil, 2017; Bakker et al., 2014; Bedarkar & Pandita, 2014; Dixit & Singh, 2020; Iqbal et al., 2017; Kao et al., 2021; Khodakarami & Dirani, 2020; B. Randall, 2017; A. Rastogi et al., 2018; Ruck et al., 2017; T. Schwartz, 2011; Shuck & Reio, 2014; Tian et al., 2021; Truss et al., 2014).

Saks (2006, 2019), based on the social exchange theory (Cropanzano & Mitchell, 2005), identified the antecedents of work engagement, which included job characteristics, perceived organisational support (POS), perceived supervisor support (PSS), rewards and recognition, procedural justice, and distributive justice, fit perceptions, leadership, opportunities for learning, job demands, dispositional characteristics, and personal resources. Saks also identified job satisfaction, organisational commitment (OC), intention to quit, and organisational citizenship behaviour directed to the individual (OCBI) and organisation (OCBO), task performance, extra-role performance, health and well-being, stress and strains, and burnout as consequences for work engagement. Saks also confirmed that the UWES dimensions (i.e., vigour, dedication, and absorption) partially or fully mediated the relationship between the antecedents' variables and consequences. Finally, Saks suggested that interventions focused on job design with particular emphasis on skill variety and POS seem especially worth considering in organisational interventions (Saks, 2006, 2019). Table 2-17 summarises Saks (2019) findings. It includes a synthesis of the most cited studies in the literature supporting Saks' study and additional antecedents by other scholars, comprehensive coverage of individual outcomes of engagement, and organisational outcomes.

Research on the consequences of work engagement indicates that engagement may result in positive health and positive feelings towards work and organisation. Gallup (2006) reported improved health and well-being in engaged employees. Organisational engagement outcomes could be customer loyalty, employee retention, employee productivity, organisation advocacy, and business success (Robertson-Smith & Markwick, 2009).

Table 2-17 Antecedents and outcomes of engagement

Antecedent	Individual Outcome (per antecedent)	Individual Outcomes [1,2,3,4,15,16,17,19,20,21,22,35,39,40,41,43,46,49]	Organisational Outcomes [19,21,24,32,36,42,43,46,51]
Job Characteristics[1,2,3,4,13,17,19,22,23,24,28] (autonomy, task identity, **skill variety**, task significance, feedback from others and feedback from the job, Job Design/enrichment, resources)	- Job satisfaction - OC, OCBI, OCBO - Intention to quit - Performance	- Job satisfaction - OC, OCBI, OCBO - Intention to quit - Job/task/in-role Performance - Extra role - Contextual performance - Physical health - Psychological health - Perceived stress - Burnout - Life satisfaction - Positive relationships - Active learning - Taking initiative - Perceived organisation performance - Innovative behaviour - Employee voice behaviour - Discretionary efforts - Wellbeing - employee ambidexterity	- Better working environment - Organisational efficiency - Operating effectiveness - Less Turnover - Achieving innovation - Creativity - Loyalty - Competitiveness - Productivity - Profitability - Customer satisfaction & Loyalty - Employee retention - Employee safety - Competitive advantage
Reward and recognition[1,2,3,4,11,22,28] (Compensation, general recognition for efforts)	- Job satisfaction - Return on investment		
Perceived organisation support (POS)[1,2,3,4,6,7,8,9,10,14,21,23] (supportive, trusting environment, social support. Workplace climate. Employee voice, upward communication, and receptiveness)	- Job satisfaction - OC, OCBI, OCBO - Intention to quit - Performance		
Perceived supervisor support (PSS)[1,2,3,4,10,11,23] (supportive, trusting management)	- Job satisfaction - OC, OCBI, OCBC - Intention to quit - Performance		
Perceived Environmental Support [50] **(PES)**	- Motivation - Attitudes		
Distributive justice[1,2,3,4] (Perception of fairness, being accepted and treated)	- Job satisfaction - OC, OCB - Withdrawal - Performance		
Procedural Justice[1,2,3,4,33] (Confidence in the process fairness)	- Job satisfaction - OC, OCB - Withdrawal - Performance		
Leadership[4,13,14,23,28,34,39,40,41,42,43,44,45,46,49] (LMX, Transformational, distributive, collective, engaging. **Strategic leadership,** purpose, vision, strategy)	- Motivation - Safety		
Fit perceptions[4,19] (Needs-supplies fit)	- Job satisfaction - OC		
Job Demands[4,17,4,47,48] (Heavy workload, unfavourable physical environment,	- Strain - Burnout		
Opportunities to learn[4,28] (Job-related as resources)	- Ability to perform		
Dispositional characteristics[4,17] (self-efficacy, optimism, emotional stability, core self-evaluation))	- Motivation - Resilience		
Personal resources[4,28]	- Motivation		

Source: Developed for this research based on the following studies:
1. (Kahn, 1990), 2. (Saks, 2006), 3. (Maslach et al., 2001), 4. (Saks, 2019), 5. (Bakker & Demerouti, 2008), 6. (Schaufeli & Bakker, 2004), 7. (Xanthopoulou et al., 2007), 8. (Xanthopoulou et al., 2009), 9. (Khodakarami & Dirani, 2020), 10. (Shi & Gordon, 2020), 11. (Baqir et al., 2020), 12. (S.-H. Han et al., 2020). 13. (Caulfield & Senger, 2017), 14. (Mahon et al., 2014), 15. (Farndale et al., 2014), 16. (Aktar & Pangil, 2017). 17. (Bakker et al., 2014), 18. (Mäkikangas et al., 2013), 19. (Kao et al., 2021). 20. (Rees et al., 2013), 21. (Ruck et al., 2017), 22. (Iqbal et al., 2017), 23. (B. Randall, 2017), 24. (Tian et al., 2021), 25. (Shuck & Reio, 2014), 26. (Truss et al., 2014), 27. (Gruman & Saks, 2011), 28.

(Robertson-Smith & Markwick, 2009), 29. (James Harter et al., 2002), 30. (Kerdpitak & Jermsittiparsert, 2020), 31. (Nienaber & Martins, 2020), 32. (Albrecht et al., 2015), 33. (Rahmadani & Schaufeli, 2020), 34. (Tuin, Schaufeli, Broeck, et al., 2020), 35. (Bakker, 2017), 36. (Schneider et al., 2018), 37. (S. C. H. Chan, 2019), 38. (Y.-Y. Chang et al., 2019), 39. (Eva et al., 2019), 40. (James Harter et al., 2002), 41. (James Harter et al., 2013), 42. (Taylor et al., 2014), 43. (Joo et al., 2016), 44. (Mehrzi & Singh, 2016), 45. (Marquard, 2010), 46. (Fischer et al., 2020), 47. (Bakker & Demerouti, 2007), 48. (Bakker et al., 2014), 49. (Carasco-Saul et al., 2015b), 50. (Hameduddin, 2021), 51. (Chandani et al., 2016)

Engagement is an individual-level construct that can lead to organisational outcomes if it first triggers individual-level outcomes (Saks, 2006). Existing literature confirms that work engagement drive outcomes, both for the individual and the organisation. Engagement is a well-researched strategy by which competitive advantage can be achieved because of organisational outcomes concerning performance and innovation (Albrecht et al., 2015). Work engagement is a significant source of competitive advantage at all levels (T. Schwartz, 2011). Psychological states, job design, leadership, organisational and team factors are associated with individual outcomes and organisation outcomes (Bailey et al., 2017). Higher work engagement also linked to higher customer engagement levels (Chandani et al., 2016).

Significant attention has been given to the linkage of work engagement to the financial results of organisations. Several studies observed that work engagement initially resulted in greater employee performance, leading to enhanced organisational outcomes (Tower Perrin, 2006; Gallup, 2006). Attitudes to work, particularly job satisfaction, are the best predictors of organisational outcomes, measured in productivity and profitability. There is also consistent evidence that overall organisational culture/climate is significantly correlated with work-related attitudes, such as job satisfaction, motivation, and organisational commitment and perceived performance (Patterson et al., 2004; Xenikou & Simosi, 2006).

Harter et al. (2002), in their meta-analysis of 7,393 business units, covering three companies, found that there exists a relationship between work engagement, customer satisfaction, productivity, profit, and employee turnover, which ultimately would lead to an increased likelihood of business success (James Harter et al., 2002). Furthermore, work engagement provides a well-developed and researched strategy to achieve a sustainable competitive advantage (Albrecht et al., 2015; Kerdpitak & Jermsittiparsert, 2020; Swarnalatha & Prasanna, 2013; Turner, 2019).

This study adopted Saks (2006, 2019) formulation, meaning work engagement (i.e., dedication, vigour, and absorption) partially or fully mediated the relationships between antecedents' variables and the individual outcomes. Furthermore, the study adopted the organisational outcomes suggested by Albrecht et al. (2015) as part of the underpinning theoretical links between the engagement theory and organisational outcomes (Figure, 2-21).

Figure 2-21 Engagement antecedents and outcomes
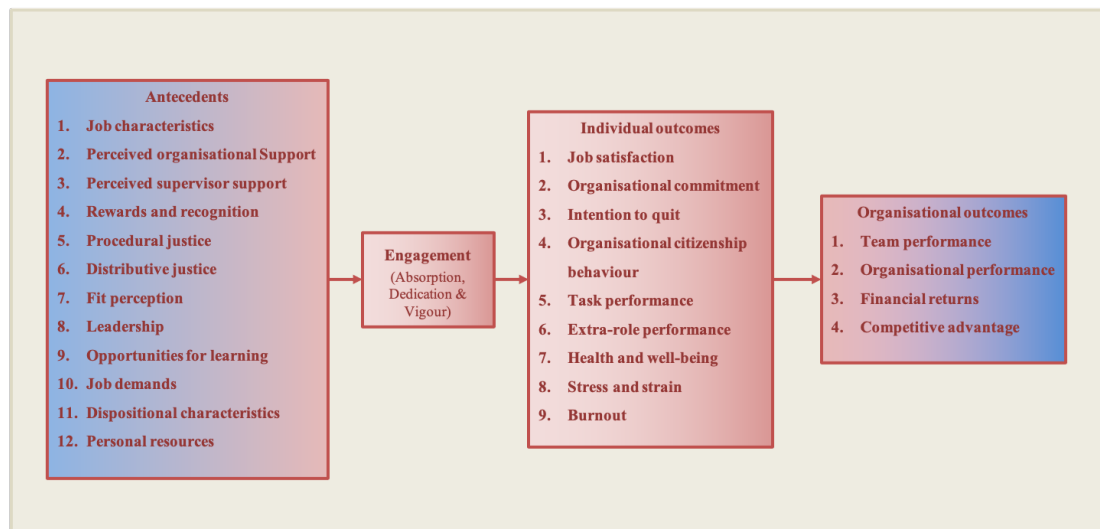
Source: Adapted from (Albrecht et al., 2015; Saks, 2019; Schaufeli et al., 2002).

In addition to the formulation of Saks (2019), and particularly concerning strategic leadership, a bivariate correlation study on the relationships between employee involvement in the strategy-making process and their engagement scores in the workplace confirmed that employee involvement in the strategy-making process positively correlated with the three dimensions of vigour, dedication and absorption, with dedication has the most significant relationship with the level of involvement (Reed, 2016).

2.7.4 Fitting work engagement into strategic leadership theory

The theoretical framework (Figure 2-22) portrays the various elements that can link strategy, leadership, foresight, and strategic thinking capabilities to strategic leadership theory (items 1-8 in figure 2-22) as discussed previously. In addition, item 9 portrays the engagement antecedents in relation to the leadership profile and work engagement as a mediating variable between the leadership profile and organisational outcomes.

Figure 2-22 Theoretical framework – Work Engagement
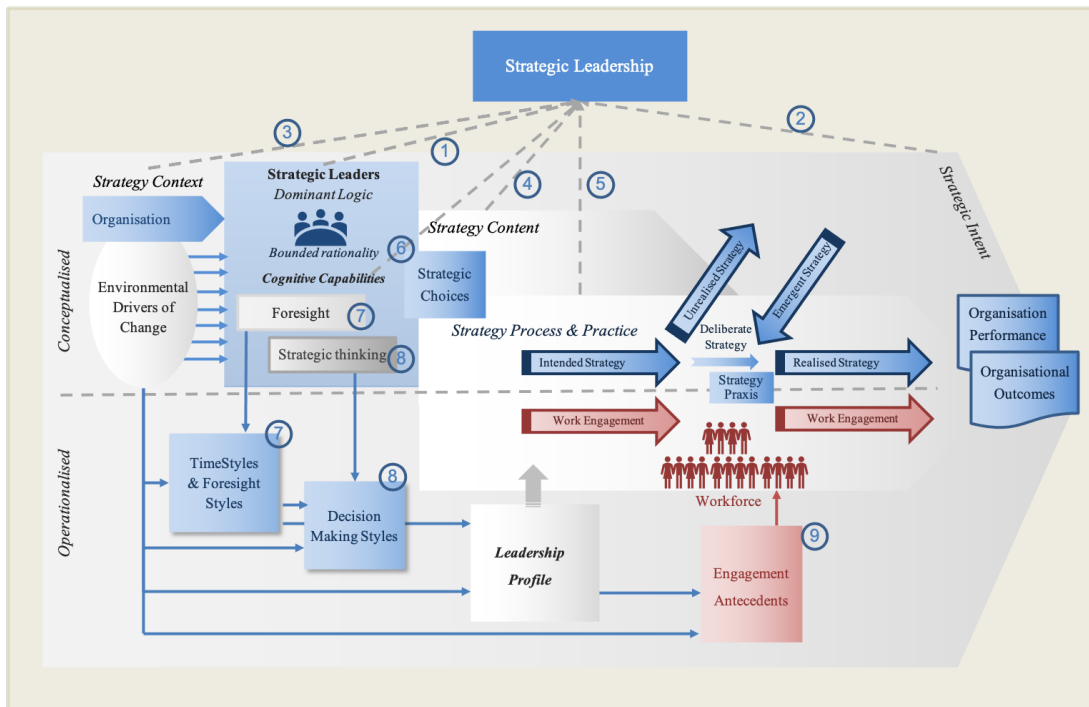
Source: Developed for this research

In addition, the model draws the connection between the environmental factors and their impact on engagement (Hameduddin, 2021). The study covered the environmental factors in Chapter 4.

2.7.5 Summary

Engagement is a distinct and unique construct that consists of cognitive, emotional, and behavioural components. It is associated with three psychological conditions: meaningfulness, safety, and availability. Work engagement is characterised by vigour, dedication, and absorption. Engagement characteristics mediate the relationship between engagement antecedents and engagement outcomes.

Is it of particular interest for this study to understand the antecedents and consequences and the mediation effect of work engagement between the leader's capabilities of foresight and strategic thinking and organisational outcomes.

2.8 STATE OF WORK ENGAGEMENT

2.8.1 Introduction.

Arguably, work engagement has become one of the most significant concepts in the management field (Crawford et al., 2013). A low level of work engagement is proving to be a source of continued trouble for the organisation. Despite significant sums of efforts and resources spent on engagement surveys and initiatives, work engagement has been declining for years (Jim Harter, 2017). According to various studies by Deloitte, strategic leaders considered work engagement as an urgent or important issue for them (Deloitte, 2014, 2016, 2017, 2018, 2019, 2021). In addition, work engagement has been a topic of interest for researchers and partitioners. Regretfully, the academic literature falls behind the practitioner literature in addressing the state of engagement worldwide (A. Rastogi et al., 2018).

The practitioner literature often measures engagement in three categories (Aon, 2018b; Gallup, 2013, 2017):

1. Fully engaged: Employees are highly involved in and enthusiastic about their work and workplace. They are psychological "owners," which drive performance and innovation and move the organisation forward.

2. Not engaged: Employees are psychologically unattached to their work and company. Because their engagement needs are not being fully met, they're putting time — but not energy or passion — into their work.

3. Actively disengaged: Employees aren't just unhappy at work — they are resentful that their needs aren't being met and are acting out their unhappiness. Every day, these workers potentially undermine what their engaged co-workers accomplish.

The most recent global engagement trends analysis highlights compelling reasons for strategic leadership to address the low levels of engagement to reduce its impact on the workforce and the organisational outcomes (Jim Harter, 2017; Merry, 2013). Furthermore, the adverse effects of COVID-19 on work engagement added a sense of urgency for leaders to focus on the state of engagement in the workforce (Jung et al., 2021; Liu et al., 2021; Ren et al., 2020).

2.8.2 The global state of engagement

Despite the increased interest in work engagement and how it predicts organisational outcomes, it has been reported that work engagement is on the decline (Aon, 2017). Gallup research across 142 countries has shown that 13 % of employees worldwide are engaged in their organisation (Gallup, 2013). Further observation indicates that level of engagement is as low as 10% in the Middle East, and the highest score is 30 % in the United States (Figure 2-23).

Figure 2-23 Work engagement Global Results
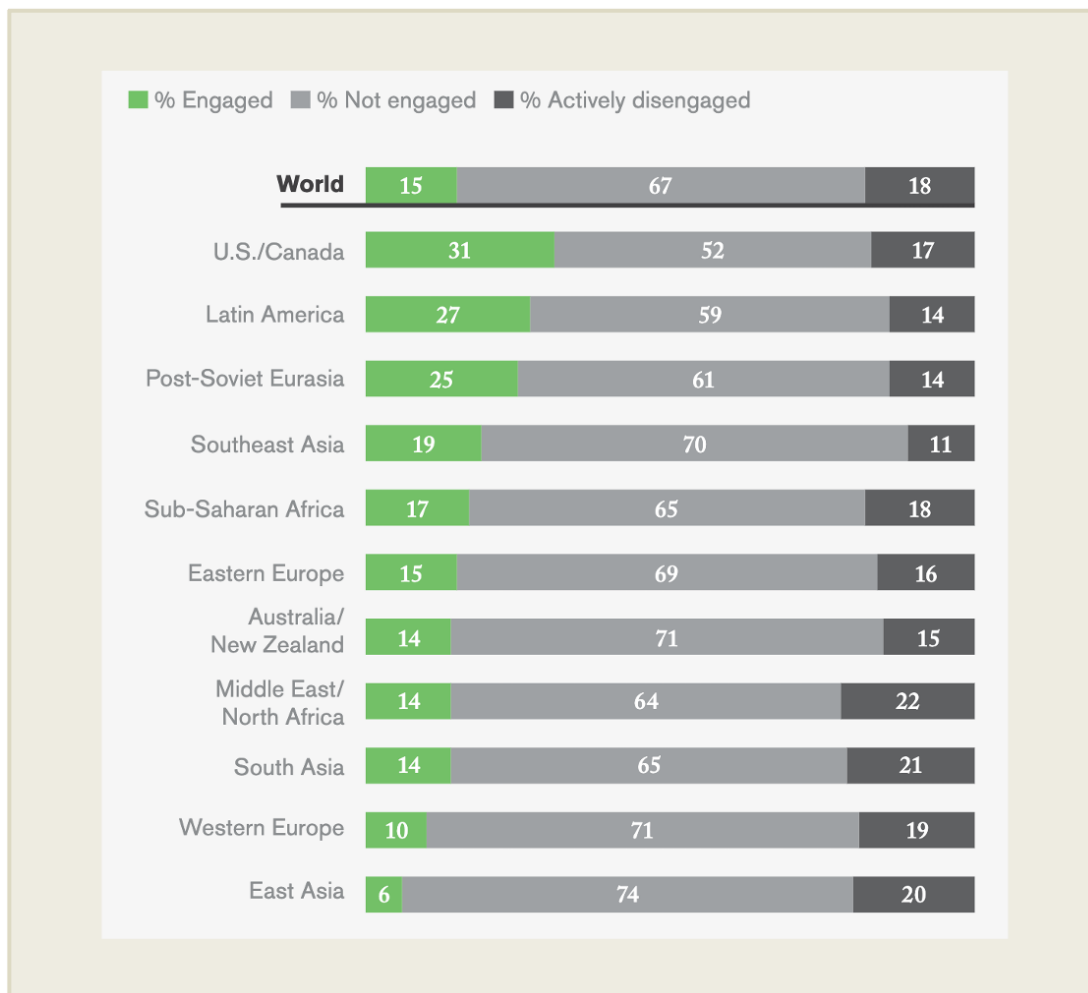
Source: Bases on Gallup, 2017, aggregated data from 2014-2016

Country-level variations are likely due to cultural differences (Mehrzi & Singh, 2016). High levels of not engaged employees to mean they may come to work to do what they asked to do but not engaged in the workplace, while actively disengaged employees can severely damage the organisation. Recent estimates place the cost of low levels of engagement at close to $400 billion per year (Byrne, 2015).

Gallup State of the Global Workplace 2017 reported 85% of employees worldwide are not engaged or actively disengaged in their job. Only 15% of the workforce are engaged at work and involved in their work and workplace, while 18% are actively disengaged (Gallup, 2017). The economic consequences are approximately $7 trillion in lost productivity (Jim Harter, 2017). According to Gallup, disengaged employees have 37% higher absenteeism, 18% lower productivity and 15% lower profitability. In monetary terms a disengaged employee's cost 34% of their annual salary in lost productivity (Forbes, 2019; Gallup, 2017).

2.8.3 Work engagement in Asia and Singapore

Even though the Singapore government sets productivity at the centre of the economic agenda, work engagement in Singapore has declined consistently over the last few years, directly impacting productivity (Mercer, 2017). Aon's analysis in 2018 found Singapore Employees least engaged among major Asian Markets. With the rise of internet platforms and the gig economy, more graduates are taking temporary jobs and engaging the millennial workforce is a growing challenge for Singapore employers (Aon, 2018a). In 2003, Gallup estimated that 94% of Singaporean employees are either not engaged or actively disengaged and cost the Singapore economy $6.7 billion every year in lost productivity (Gallup, 2006). In 2012, Gallup reported 15 % actively disengaged employees in Singapore, among the highest in the world, with 76 % not engaged and only 9 % engaged (Gallup, 2013). Gallup (2017) found 23 % of Singaporean employees engaged at the workplace and 77% are either not engaged or actively disengaged (Gallup, 2017).

Moreover, the labour market in Singapore is characterised by heavy dependence on imports of foreign labour and skills to attract foreign investments. The policy has contributed to declining and even negative productivity growth (Bhaskaran, 2018; Fong & Lim, 2015).

2.8.4 COVID19 and work engagement

Covid-19 has disrupted the organisation as we know it. Social distancing norms forced remote work conditions through telecommunication and virtual settings. The effects prompted anxiety and burnout, influencing work engagement and organisational outcomes (Adhitamaa & Riyanto, 2020). The pandemic provoked an increase in mental health issues in the workforce. Furthermore, foreign workers in

Singapore were affected due to mass quarantine and isolation of migrant worker accommodation (L. G. Chan & Kuan, 2020). Job insecurity in affected industries like hospitality significantly impacted job engagement and turnover intent (Jung et al., 2021). The healthcare sector is facing unprecedented challenges in protecting the safety and well-being of employees to keep their services on (Haque, 2021). Leadership and employees must engage during these crucial times (Dixit & Singh, 2020). Leadership during increased healthcare and psychological challenges is highly influential (Bhatti et al., 2021).

2.9 STRATEGIC LEADERSHIP AND WORK ENGAGEMENT

2.9.1 Introduction

Strategic leadership is about the leaders who have the overall responsibility for the organisation. Strategic leaders provide vision, resources, and strategic intent. They develop human and social capital and capabilities to meet real-time opportunities and threats. They make sense of and give meaning to environmental turbulence and ambiguity and provides a road map that allows an organisation to evolve and innovate (Boal, 2004; Finkelstein et al., 2009). In advancing a vision, strategic leaders instil meaning in the workforce for the individual roles they play in fulfilling the vision motivate employees to engage actively and innovatively in new situations and challenges (Boal & Schultz, 2007). Engaging people in the vision creation facilitates the operational implementation of that vision (Joubert & Roodt, 2011).

Chanpoom and Intrawong (2019) asserted that Strategic leadership positively influences employee organisation commitment (Chanpoom & Intrawong, 2019). Strategic leadership is positively associated with and engagement (Bhardwaj et al., 2020). Paisarn and Intarawong (2019) confirmed that strategic leadership could predict engagement, and both leadership and engagement could predict organisational outcomes (Paisarn & Intarawong, 2019). Strategic leadership is an indicator of employee performance, employee motivation, commitment, and engagement (Bonau, 2019; Zia-ud-Din et al., 2017). Strategic leadership is indeed evident in the organisation as a significant predictor of work engagement (Muzee et al., 2016). Upper-echelons leaders can intentionally impact work engagement by considering engagement antecedents as they pursue the firm's strategic objectives (Barrick et al., 2015).

Questions arise whether the cognitive capabilities of strategic leaders influence work engagement? And can whether work engagement contributes to strategic leadership? Can engagement boost the leaders' foresight; inform their strategic thinking; enhance the decision-making processes; refine strategy-making process; cultivate the needed leadership practices where required; and improve strategic leadership effectiveness to achieve organisational outcomes.

Strategic leadership practices that engage people have not been part of the traditional role of strategic leaders but could significantly impact the ability of leaders to facilitate change and drive alignment (Joubert & Roodt, 2011). Limited research has been conducted on strategic alignment and how engaging people can enable a significant organisational-level resource (Biggs et al., 2014; Kim et al., 2020). Furthermore, as an organisational resource, strategic leadership was associated with organisational engagement climate as an essential determinant of work engagement (Albrecht et al., 2018). Strategic leadership and Organisational climate can predict organisational commitment (Chanpoom & Intrawong, 2019). Investigating the relationship between strategic leadership and work engagement is of the utmost importance since it impacts organisational outcomes and productivity (Marquard, 2010; Mehrzi & Singh, 2016; L. Singh Anu et al., 2016).

2.9.2 Strategy and work engagement

Strategic intent encompasses an active engagement process, where leaders communicate, build, and sustain enthusiasm and work engagement to drive success (Hamel & Prahalad, 1989). Strategic leaders should ensure that work engagement is crafted into their strategic intent to have engaged employees (Biriowu & Augustina, 2020). Novel and creative strategies can be born from the grassroots of the organisation (Heracleous, 1998). Strategy is about individuals across all organisational levels developing strategy-making capabilities. Strategic leaders are required to facilitate the strategic conversations and engage employees to create capacity for emergent strategies and create a dynamic capability for innovation (Liedtka, 2018; Liedtka & Rosenblum, 1996). The internalisation of the organisation purpose and vision is more manageable when individuals contribute to it (Liedtka, 2000). Research also suggests that successful firms with a supportive culture will likely use a transactive or generative strategy, which engages employees (Thakur et al., 2018).

Strategy formulations necessitate broader inclusion in strategy-making processes; individuals who are closer to customers are better informed; local learning represents great value; broader inclusion has an energising effect; and internalisation and construction of the organisation purpose, vision and strategy are easier when individuals contribute to strategy processes (Boal & Schultz, 2007; Liedtka, 2000). In strategy-making capability, work engagement can facilitate strategy implementation and achieve organisation outcomes (Nienaber, 2019). On the strategy view side, a high commitment engagement strategy creates more significant organisation-level employee-based resources that are rare and valuable and can achieve core competence for the organisation (Bani-Hani, 2021; Bhatnagar & Biswas, 2010; C. J. Collins, 2020).

The broader organisational participation in strategy making is positively associated with commitment to strategy and enhanced work engagement and organisational commitment (Nketia, 2016; Reed, 2016). Identification with the strategy is associated with job satisfaction and engagement (Alegre et al., 2016). Organisations need to include work engagement as a capability in their overall business strategy because what differentiates one firm from another is its employees (Taneja et al., 2015).

Individual-level work engagement dominates the engagement literature. However, one of the early studies to consider an organisation-level engagement in the literature confirmed that when work engagement aligns with strategic objectives, it mediates the relationship between the objectives and organisational outcomes (Thurgood et al., 2013). The study focused on job design characteristics, work systems and transformational leadership as motivational practices addressing the psychological conditions of meaningfulness, safety, and availability (Thurgood et al., 2013). At the organisational level, work engagement can be enhanced in the presence of a strategy framework that impacts employee's competence and has meaning for them and provides autonomy. At the same time, it facilitates cooperation (Nienaber, 2019).

Barrick et al. (2015) were the first to develop a conceptualisation of how engagement functions at the organisational level, as they coined the term Collective organisational engagement (OCE) (Barrick et al., 2015). This construct portrays OCE as a shared perception among organisation members. It is built on RBV, where resources are acquired, developed, and bundled to create unique capabilities that can differentiate the organisation and achieve a competitive advantage. For example,

leadership capabilities, including cognitive style, leads to greater employee-based resources, and when deployed effectively, it leads to competitive advantage (C. J. Collins, 2020). Strategic leaders manage the bundling process to ensure a unique capability across the organisation, and absence from work is a resource-based process related to perceived meaningfulness of work and engagement (Soane, Shantz, et al., 2013).

2.9.3 Leadership and work engagement

Literature review reveals significant development in different leadership domains (Dinh et al., 2014). Most leadership theories are defined by their behavioural outcomes rather than precise capabilities and core processes that can enable its operationalisation (Alvesson & Einola, 2019; Anderson & Sun, 2017; Gardner et al., 2020; Knippenberg & Sitkin, 2013; Lemoine et al., 2019). Also, there is a wealth of theoretical and empirical research that has demonstrated associations between leadership styles and a range of business outcomes concerning work engagement (Taylor et al., 2014). Yet, the processes by which leaders achieve engagement have received relatively little attention (Soane, Truss, et al., 2013). Furthermore, most leadership theories disregard environmental, contextual, and situational factors that may influence the relationship between leadership styles and engagement outcomes (L. Chen et al., 2020; McCleskey, 2014). Recent studies in the work engagement field concerning leadership focused on the joint mechanisms of leadership styles between the different leadership theories, proposing that positive leadership styles translate into similar leader behaviour that influences work engagement (Decuypere & Schaufeli, 2020).

This study adopts the view that a cognitive-socio approach provides an underlying theory explaining the leader's behavioural complexity (Anderson & Sun, 2017). Leaders exercise engagement enabling behaviours that link their capabilities to specific behaviours that can trigger antecedents of engagement and desired outcomes. Thus, engagement is central for leadership effectiveness:

> "Leadership effectiveness cannot be built exclusively around controlling the future; rather, it depends on being able to foster interactive conditions that enable a productive future. Nor is it limited to human relations concepts that focus on the leader and his/her ability to foster relations with followers. Complex leaders cultivate largely undirected interactions among individuals,

ensembles, and sets of ensembles to create uncontrolled futures. They understand organisational behaviour in terms of global interactions rather than focusing narrowly on controlling local events. Complex leaders understand that the best innovations, structures, and solutions to problems are not necessarily those they, with their limited wisdom, ordain, but those that emerge when interacting aggregates work through issues. Part of the role of leaders may involve exerting an interpersonal influence (e.g., relationship-oriented behaviour), but part of it may not (hence, the broader definition of leadership)" (Marion & Uhl-Bien, 2002, p. 394).

While there is evidence of numerous leadership theories that apply to work engagement, this study adopts the position that strategic leadership theory forms the theoretical foundation of this research due to its predictive nature.

2.9.4 Foresight and work engagement

Hamel and Prahalad (1994) argued that "senior executives are not the only ones with industry foresight. In fact, their primary role is to capture and exploit the foresight that exists through the organisation" (Hamel & Prahalad, 1994, p. 6). The organisation's foresight ability to envision possible futures from sources of potentialities into competitive advantage resources is a competitive advantage in itself (Rohrbeck et al., 2015; Rohrbeck & Bade, 2012; Sarpong & Maclean, 2016). Sarpong and Maclean (2016) argued that relationships of lower-level employees might play a significant part in cultivating organisational 'foresightfulness' (Sarpong & Maclean, 2016).

Organisational culture plays a role in facilitating successful corporate foresight. Foresight is deeply connected to work engagement; as a process, it must be done by those whose job it is to carry out the resulting actions; going through the process generated not only ownership of the outcome but also facilitates assimilation and commitment to a broader audience (Horton, 1999). Wiener (2018) shed lights on two critical elements. First, the design of a "foresight-friendly" culture characterised by flexibility, dynamic, entrepreneurial, and creative place to work. Second top management involvement and commitment to creating a foresight friendly culture and facilitating foresight conversations (Wiener, 2018).

A significant advance within the foresight literature has developed a clear focus on the theory of foresight as a social practice (Sarpong et al., 2013). Sarpong and

Maclean (2016) described foresight conversations involving lower-level employees as strategic conversations (i.e., discourse on potentialities, boundaries, and limits), and reflexivity-in-practice (i.e., thinking in time, past, present, and future) to construct meaning, perspective taking and sense-making (Sarpong & Maclean, 2016). Foresight approaches have called for broader inclusion for a highly participatory process (Inayatullah, 2008; Voros, 2003; Wilkinson et al., 2014). Psychological safety and availability (Kahn, 1990) is a precursor for employees to engage in foresight conversations.

2.9.5 Strategic thinking and work engagement

Mintzberg (1994) asserts that strategic thinking is about synthesis; it involves intuition and creativity and must be free to appear at any time and any place in the organisation, through informal learning, by people at various levels who are deeply involved with the specific issues at hand (Mintzberg, 1994b; Voros, 2003). Strategic thinking is an individual ability influenced by its external environment and internal culture (Liedtka, 1998a). Organisational culture can nurture strategic thinking across all levels of an organisation (Goldman, 2010). Strategic leaders are responsible for creating and transforming organisational culture (Schein, 2017). Taking a system perspective of organisation culture (Liedtka, 1998a), strategic leaders must understand and appreciate the complementary and supporting knowledge and conceptual capability that other organisation members can add to the collective strategic thinking of the top management team (Jarmoszko, 2020). Leaders can establish a culture of strategic thinking by embedding behavioural practices that encourage strategic thinking (A. Casey, 2010; Goldman, 2012; Goldman et al., 2015; Schein, 2017).

Strategic thinking is reflected in the decision-making process (Van der Laan, 2010). There is substantial evidence that employee job satisfaction is positively associated with participative decision-making on job-related decisions (Pacheco & Webber, 2016). Liedtka (2000) argued that internalising the organisation's purpose and vision is more manageable when individuals contribute (Liedtka, 2000). A high level of work engagement on all dimensions (i.e., vigour, absorption, and dedication) was reported when employees are encouraged to make decisions and take responsibility (Baran & Sypniewska, 2020). The research shows that employee perceptions when participating in decision making are consistently positively related to perceived organisational support and work engagement (Allen et al., 2003; Wayne et al., 1997)

Nutt (2003) argues that half of the decisions made in organisations fail and confirms that predictors of success or failure in decision making could be found not in cognitive but in social processes. The degree of participation of key stakeholders in the decision making is a positive indicator of successful decision implementation (Nutt, 2009).

AlQershi (2021) confirmed that employees play a key role in mediating the relationship between strategic thinking and strategic planning (AlQershi, 2021). Applying strategic thinking in work engagement practices increases the manager's strategic thinking and can assist in developing and sustaining core competences in organisations and ensure continued commitment to the organisation (Bani-Hani, 2021). In addition, psychological safety meaningfulness and availability (Kahn, 1990) are precursors for employees to engage in strategic thinking conversations.

2.9.6 Summary

The strategic leadership theory and work engagement theory play a central role in this research as discussed in chapter two and illustrated in figure 2-24.

Figure 2-24 Study theoretical framework
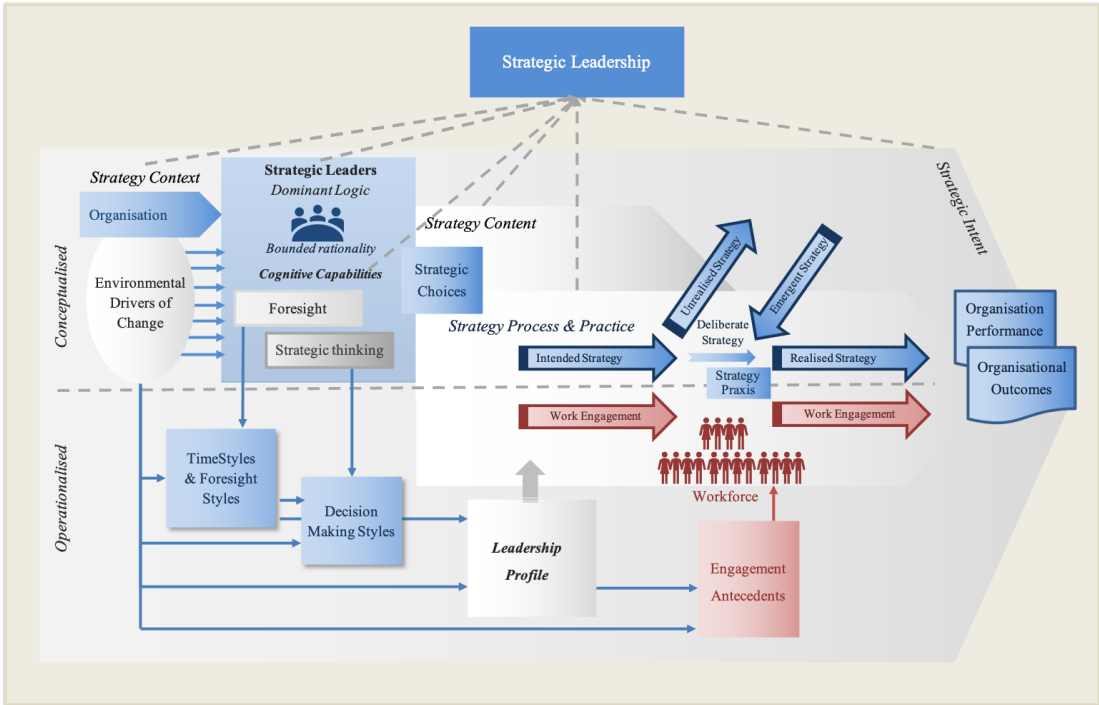
Source: Developed for this research

The study conceptualised strategic leadership in terms of strategy and leadership practice, specifically key capabilities of foresight and strategic thinking, in addition to the psychological conditions and antecedents responsible for work engagement to define the various links between the two theories.

The review demonstrated clear links between strategic leadership theory and work engagement theory. Strategic leadership and work engagement have strong links at the organisational level to create organisational engagement capability (Barrick et al., 2015). Which in return lead to organisational outcomes and competitive advantage. Such a capability is a product of leadership and strategy disciplines.

Strategic leaders foresee the significant contribution of work engagement into organisational outcomes and the creation of competitive advantage. Strategic leaders enact organisation strategy and elect the strategy view to serve the organisation. Strategy theory provides the dynamic capability view as a framework for developing organisational capabilities. Leadership theory provides an instrumental leadership framework to enable leadership effectiveness across the organisation. Instrumental leadership and dynamic capability view are powerful frameworks to allow the development of organisational engagement capability.

Foresight and strategic thinking as cognitive capabilities can be furthered through work engagement. Cognitive diversity can positively influence the comprehensiveness and extensiveness of the strategy-making process and lead to better organisational outcomes (Miller et al., 1998). When strategic leaders allow a more expansive range of options and time for employees to contribute, it improves innovation and develops creative ideas (Kauppila et al., 2018).

2.10 IDENTIFIED GAPS IN THE LITERATURE

The central theme of this study is the strategic leadership theory. The study focuses on the strategic leader's orientation to time, their foresight propensities, as representative of the leader's foresight capability, and how this relates to their decision-making style as a reflection of their strategic thinking propensities (Van der Laan, 2010). Of particular interest to this study is how foresight and strategic thinking capabilities influence the futures of work engagement in Singapore by 2030.

Strategic leadership theory (Finkelstein et al., 2009; Hambrick & Mason, 1984) has served as a catalyst for examining how executive characteristics shape their perceptions and impact organisational outcomes. Over the last three decades, the research continued producing growing evidence in support of UET and SLT core premise. Nevertheless, broad critiques concerning the conceptual and methodological limitations opened the doors for further reach (Neely et al., 2020). Hence, calls to focus

on the mediators and moderators between strategic leadership and organisational outcomes to explore the "black box" of leadership effects (Wang et al., 2012), to understand the cognition and information processing that could open some of the black boxes in upper echelons theory in terms of how they value human capital (Holmes et al., 2021), to address the inadequate exploration of the relational black box and its influences on the relationships and actions of the workforce and work engagement (Neely et al., 2020), to study strategic leaders cognitions through direct tools rather than proxies to understand how they affect engagement processes (Abatecola & Cristofaro, 2018), to integrate conceptual approaches from related research streams to fully unpack the cognitive processes of strategic leaders in relation to engagement (Neely et al., 2020), to explore to factors that influence employee reactions to executive symbolic actions (Hambrick & Lovelace, 2018). Similarly, findings outlining the role of environmental drivers as moderators in the relationship between cognitive capabilities, work engagement, and organisational outcomes are generally lacking (Hambrick & Quigley, 2014). Therefore, exploring these roles could deepen the understanding of the reasons behind the levels of work engagement that translates into individual and organisational outcomes. Through such research, we will better understand how strategic leadership impacts work engagement and organisational outcomes.

A review of the literature related to strategic leadership in terms of strategy and leadership practice, specifically key capabilities of foresight and strategic thinking, revealed several research areas discoursed in relation to work engagement theory. However, despite the numerous references to the prominence of foresight and strategic thinking in shaping the possible futures of an organisation, the research areas addressing the role of foresight and strategic thinking in shaping the possible futures of engagement remain under-developed. Findings outlining the role of work engagement as a mediator between the leaders' cognitive capabilities (i.e., FS and ST) and organisational outcomes are mainly inconclusive. Similarly, findings outlining the role of environmental drivers as moderators in the relationship between cognitive capabilities, work engagement, and organisational outcomes are generally lacking. Therefore, exploring these roles could deepen the understanding of the reasons behind the levels of work engagement that translates into individual and organisational outcomes.

The study went beyond the debate on a unifying definition and conceptualisation of work engagement. The study also aimed to go beyond the overly simplistic assumption that there is a direct causal relationship between strategic leadership and work engagement. Instead, the study focused on examining the strategic leadership variables (i.e., FS and ST) as proxies for predicting work engagement, which is viewed as a poorly understood phenomenon. Furthermore, the study examined the mediating effect of engagement and the moderating effect of environmental factors on the relationship between the cognitive capabilities of FS and ST and organisational outcomes.

The extant literature revealed that the existing studies have not examined the cognitive capabilities of FS and ST concerning work engagement in the same framework. Therefore, an integration of the cognitive capabilities of FS and ST in conjunction with work engagement and individual and organisational outcomes into a single framework could potentially enrich the body of knowledge regarding the way these variables interact with one another. Consequential, this would provide fresh perspectives to researchers and practitioners.

In view of the futures research gaps, this study incorporated strategic leadership theory to complement futures research in the development of scenarios of possible futures. The scenario planning process unpacked the cognitive capabilities of foresight and strategic thinking as variables to generate various plausible scenarios. Consequently, the study produced the first rigorous and mixed-method research that explores the futures of work engagement in Singapore by 2030.

2.11 THESIS CONCEPTUAL FRAMEWORK

2.11.1 Introduction

Strategic leadership theory asserts that top executives' cognitive styles affect their field of vision, their selective perception of information, and their interpretation of such information, subsequently affecting the strategic choices that top executives evaluate and select (Carpenter et al., 2004; Chatterjee & Hambrick, 2007; Finkelstein et al., 2009; Finkelstein & Hambrick, 1996; Hernandez et al., 2011). The study builds on the arguments that epistemology and methodological rigour are essential to bolster the research approach (C. S. Collins & Stockton, 2018). Hence the centred use of

theoretical framework in this research that permeates almost every aspect of the study (Figure 2-25).

Figure 2-25 The central role of theory
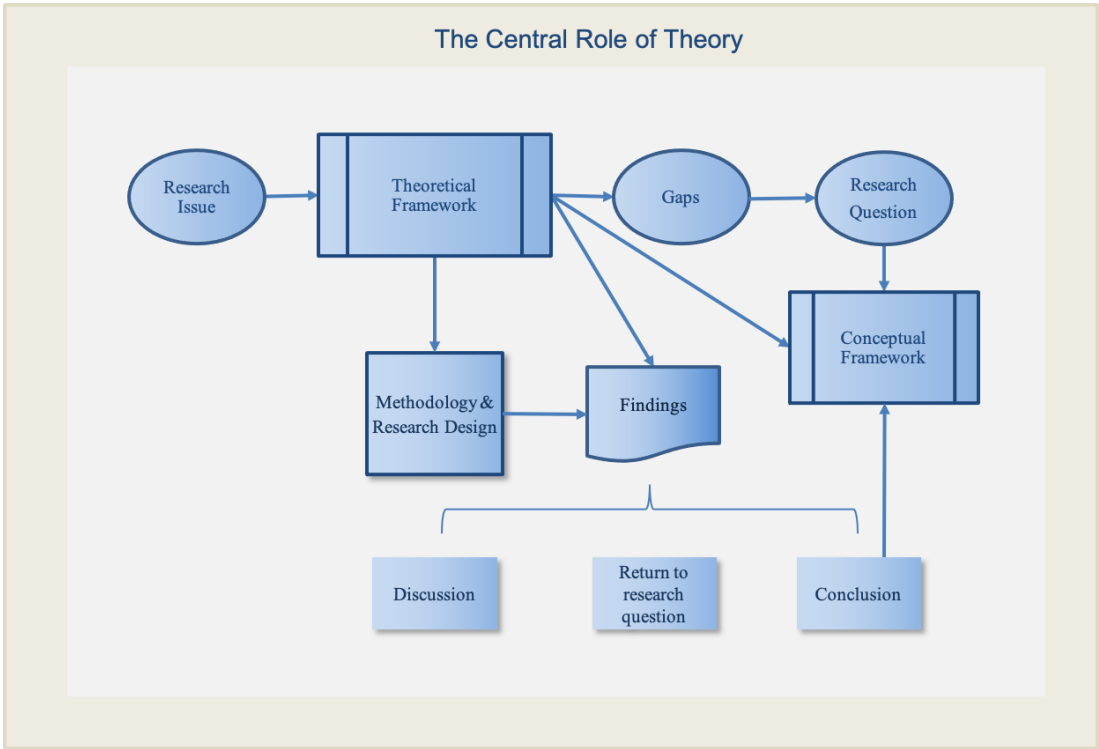
Source: Based on the qualitative process by (C. S. Collins & Stockton, 2018)

2.11.2 Research questions

This research is focused on the Republic of Singapore to study the state of work engagement and its futures in Singapore, by 2030, as a function of strategic leadership. The overarching research question is:

What are the possible futures of work engagement in Singapore given the strategic leadership capabilities of foresight and strategic thinking of leaders, and the drivers of change, by 2030?

To answer the overarching research question, the study covered four research streams. First, it completed a literature review to determine if foresight and strategic thinking do relate to work engagement. Second, it conducted an environmental scan to determine drivers of change in Singapore that may influence work engagement. Third, it analysed a sample foresight and strategic thinking profiles of strategic leaders in Singapore to assess their cognitive capabilities of foresight and strategic thinking. Fourth, it conducted a futures study on possible work engagement in Singapore by 2030.

The following sub-questions guide the research streams:

RQ 1: Is strategic leadership associated with work engagement?

RQ 2: What are the drivers of change that impact the futures of work engagement in Singapore?

RQ 3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?

RQ 4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?

RQ 5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?

2.11.3 Research conceptualisation

The conceptual framework provides parameters for determining the relationship between foresight strategic thinking cognitive capabilities of strategic leaders and work engagement and to what extent the environmental drivers of change can impact work engagement, individual outcomes, organisational outcomes as they shape possible futures of engagement in Singapore, by 2030. Figure 2-26 illustrates the conceptual links between the key constructs and for the research questions to answer.

The conceptual framework has three sections. First, literature review on the theoretical foundation that underpins this study, strategic leadership theory and work engagement theory provided answers to RQ1. Second, the key variables conceptualised in the research were foresight and strategic thinking as independent cognitive variables, work engagement as a mediating variable and organisational outcomes as a dependent variable. Third, to operationalise these constructs the research applied the following methods to address the research questions. The researcher conducted PESTEEL analysis to uncover the drivers of change as moderating variables to answer RQ2. A survey produced a leader profile of FS and ST styles of leaders in Singapore to answer RQ3. A Delphi panel validated the PESTEEL analysis and confirmed the leader profile to answer RQ4. The Delphi panel also examined and provided feedback in relation to the possible scenarios.

Figure 2-26 The conceptual study framework
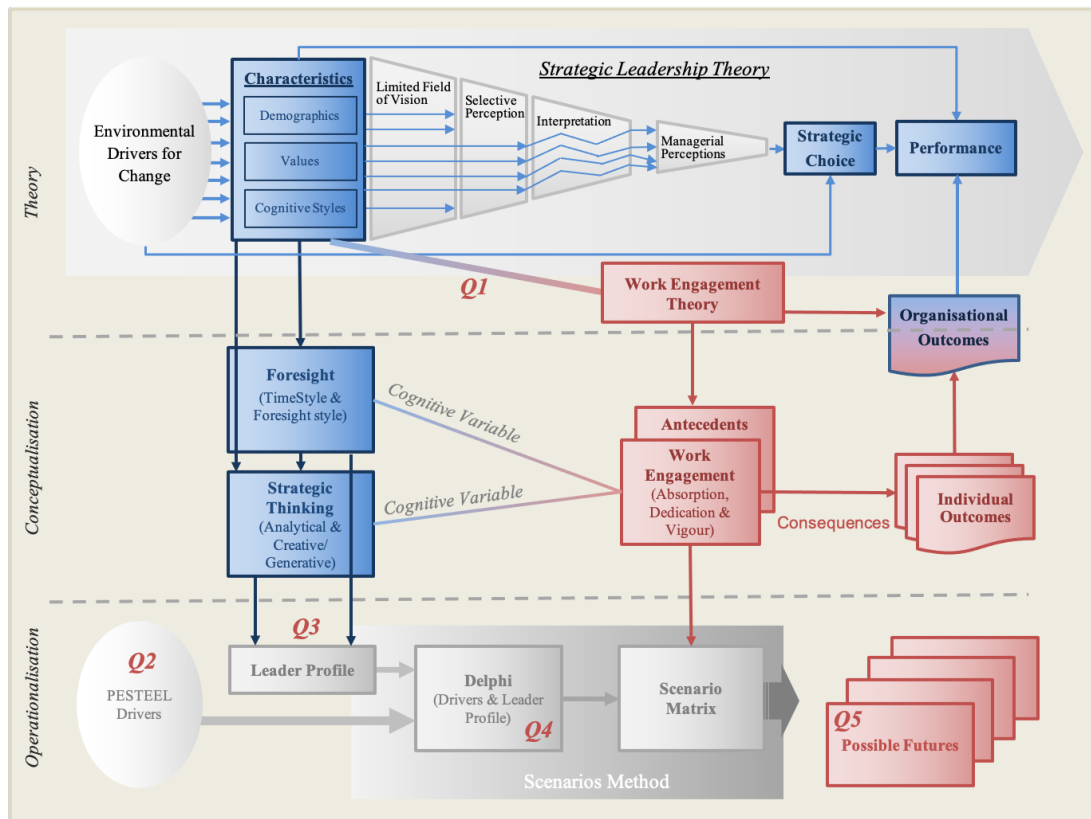
Source: Developed for this research

2.11.4 Summary of conceptual framework

The research addressed the following issue:

What are the possible futures of work engagement in Singapore given the strategic leadership capabilities of foresight and strategic thinking of leaders, and the drivers of change, by 2030?

Following from the research question, the following propositions emerge:

P1: Strategic leadership is associated with work engagement.

P2: Environmental drivers of change are associated with the futures of work engagement in Singapore and can be defined.

P3: Foresight and strategic thinking cognitive capabilities of strategic leaders in Singapore are validated using the TimeStyle Inventory, Foresight Styles Assessment and Decision Style Inventory.

P4: Time Orientation style of strategic leaders is associated with work engagement.

P5: Foresight style of strategic leaders is associated with work engagement.

P6: Strategic thinking style as measured by decision-making style of strategic leaders is associated with work engagement.

P7: Work engagement is associated with individual outcomes.

P8: Work engagement is associated with organisational outcomes.

P9: Foresight, strategic thinking, leadership delivery styles, are associated with engagement dimensions and outcomes in Singapore.

2.12 CONCLUSION

The temporal and contextual settings of this study are embedded in the literature review. The literature review identified and organised and distilled the concepts, theories, and empirical support in literature to provide a comprehensive and integrative perspective on the research topic (C. Hart, 2018; Rowley & Slack, 2004; Torraco, 2016).

This chapter presented a synthesis of the extant literature relevant to the research problem from the disciplines associates with the core concepts under research. Which included the definition of the core concepts and described the foundations of the conceptual framework, which will guide the nature of the design of the methodology and the data collection and the fittest for purpose analysis. The conceptual framework represents a unique and eclectic approach to exploring the research problem and has been derived from a logically deductive approach to the literature. The claim that strategic leaders' foresight and strategic thinking styles are associated with work engagement has not previously been tested. To bring coherence to the body of knowledge on engagement, this research conducts a study on a sample of foresight and strategic thinking profiles of strategic leaders and an environmental scan to establish the possible futures of work engagement in Singapore.

Table 2.18 summarises the emergent research questions and a series of research propositions which the study covers according to the research design, methodology and appropriate analysis as detailed in chapter 3.

Table 2-18 Summary of the research questions and propositions

Research Question	Research Propositions	Evidence
RQ1: Is strategic leadership associated with work engagement?	*P1: Strategic leadership is associated with work engagement*	Literature review, confirmed by Delphi panel
RQ2: What are the drivers of change that impact the futures of work engagement in Singapore?	*P2: Environmental drivers of change are associated with the futures of engagement in Singapore and can be defined*	PESTEEL analysis, confirmed by Delphi panel
RQ3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?	*P3: Foresight and strategic thinking capabilities of strategic leaders in Singapore are validated using the TimeStyle Inventory, Foresight Styles Assessment and Decision Style Inventory*	Survey results, confirmed by Delphi panel
RQ4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?	*P4: Time Orientation style of strategic leaders is associated with work engagement* *P5: Foresight style of strategic leaders is associated with work engagement* *P6: Strategic thinking style strategic leaders is associated with work engagement*	Delphi panel
RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?	*P7: Work engagement is associated with individual outcomes* P8: Work engagement is associated with organisational outcomes *P9: Foresight, strategic thinking, leadership delivery styles are associated with engagement dimensions and outcomes in Singapore*	Scenario development process, confirmed by Delphi panel

Source: developed for this research

The purpose of this study was to investigate the relationship between the key strategic leadership capabilities of foresight and strategic thinking and work engagement as an indicator of the futures of engagement in Singapore by 2030. The study conceptualisation (Figure 2-26) illustrates the operationalisation path of this research which is covered under the research design in chapter 3.

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Chapter 3: Methodology & Research Design

3.1   INTRODUCTION

Chapter 2 provided a review of the extant literature concerning strategic leadership, strategy, leadership, foresight, strategic thinking, and work engagement. In addition, a conceptual framework (Figure 2-24) of strategic leadership and work engagement was proposed based on a theoretical framework (Figure 2-22). Finally, this chapter presents the research approach, the methodology, and research design from broad philosophical assumptions to detailed data collection methods, analysis, and interpretation (Creswell, 2014).

The overarching purpose of the study was:

Purpose:

To investigate the possible futures of work engagement in Singapore, by 2030, based on the strategic leadership theory and work engagement theory association. The objectives of this study were:

Objectives:

1. To investigate the links between strategic leadership theory and work engagement theory in defining the constructs relevant to the study.

2. To develop a conceptual framework that integrated strategic leadership, work engagement and organisational outcomes to inform the research methodology.

3. To specify a rigorous research design and inform a structured scenario development process.

4. To identify the environmental drivers for change pertaining to work engagement in Singapore by 2030.

5. To apply empirical measurements of strategic leadership capabilities (foresight and strategic thinking) associated with work engagement and organisational outcomes.

6. To determine the possible futures of work engagement in Singapore by 2030.

This study investigated the research question based on a defined and compelling research methodology. This chapter deals with selecting an appropriate research design that systematically collected relevant data for analysis to address the research questions. Section 3.2 covers the research questions. Section 3.3 discourses the methodological approach used in the study. Section 3.4 details the strategy of inquiry. Section 3.5 introduces the research design and the different stages of implementation. Section 3.6 addresses the limitations of the methodological approach taken by the study. Section 3.7 discusses the ethical considerations of the research. Section 3.8 presents the conclusion of the chapter. Figure 3.1 outlines the structure of this chapter.

Figure 3-1 Chapter 3 - Contents

Source: developed for this research

3.2 THE RESEARCH QUESTION

In Chapter Two, the literature review included a review of extant literature related to strategic leadership, the concepts of foresight, strategic thinking, and work engagement. The study revealed evidence of the relationship between these key concepts. In addition, the research uncovered evidence in the literature to support the links between work engagement and strategic leadership capabilities of foresight and strategic thinking as explored in the literature review. Nevertheless, there were gaps in the literature concerning:

- The relationship between strategic leadership and work engagement from a strategic leadership theory perspective.
- The use of leader capabilities as proxies for predicting work engagement as an indicator of organisational outcomes.
- The use of strategic leadership theory to compliment futures research in the development of scenarios of possible futures.
- Research specific to the futures of work engagement in Singapore.

Hence, the approach is pragmatic and eclectic and contributes to strategic leadership and work engagement theories. The study developed a conceptual framework (Figure 2-24) to demonstrate the relationships between the different constructs of interest. The model highlights the link between the strategic leaders' capabilities and work engagement in the strategy-making process as it leads to a realised strategy.

The conceptual framework establishes a theoretically justified model depicting the relationships between engagement and the cognitive capabilities of foresight and strategic thinking of strategic leaders. based on previous studies. The framework based on strategic leadership theory, aims to inform the research methodology and design complimenting a well-established futures research method, namely scenario development.

Aligned from the research purpose, the following research questions (RQs) emerged out of the review of the literature and the conceptual framework of this study:

RQ1: Is strategic leadership associated with work engagement?

RQ2: What are the drivers for change that impact the futures of engagement in Singapore?

RQ3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?

RQ4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?

RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?

The following sections cover the research methodology and design and the philosophical assumptions that guide the direction of the study.

3.3 METHODOLOGY

3.3.1 Introduction

The research methodology covers the choice of a paradigmatic perspective approach to research design, data sources and collection, the testing and analysis of data, and the results' interpretation. These choices ensure that validation of findings occurs throughout the research process and incorporates validity strategies to assess the accuracy of conclusions.

3.3.2 Methodology Design Framework

This research embraces Crotty's (1998) framework for designing a study, as adapted by Creswell (2014), to provide the four levels of developing a research study. Crotty's framework stipulates the philosophical assumptions that researchers bring to the study and how they gain knowledge. Such beliefs inform the theoretical lens assumed by the research, and it informs the research methodology and design that incorporate the procedures used to collect, analyse, and interpret the data. Figure 3-2 illustrates the methodological design for this study (Creswell, 2014; Crotty, 1998).

Figure 3-2 Research design framework
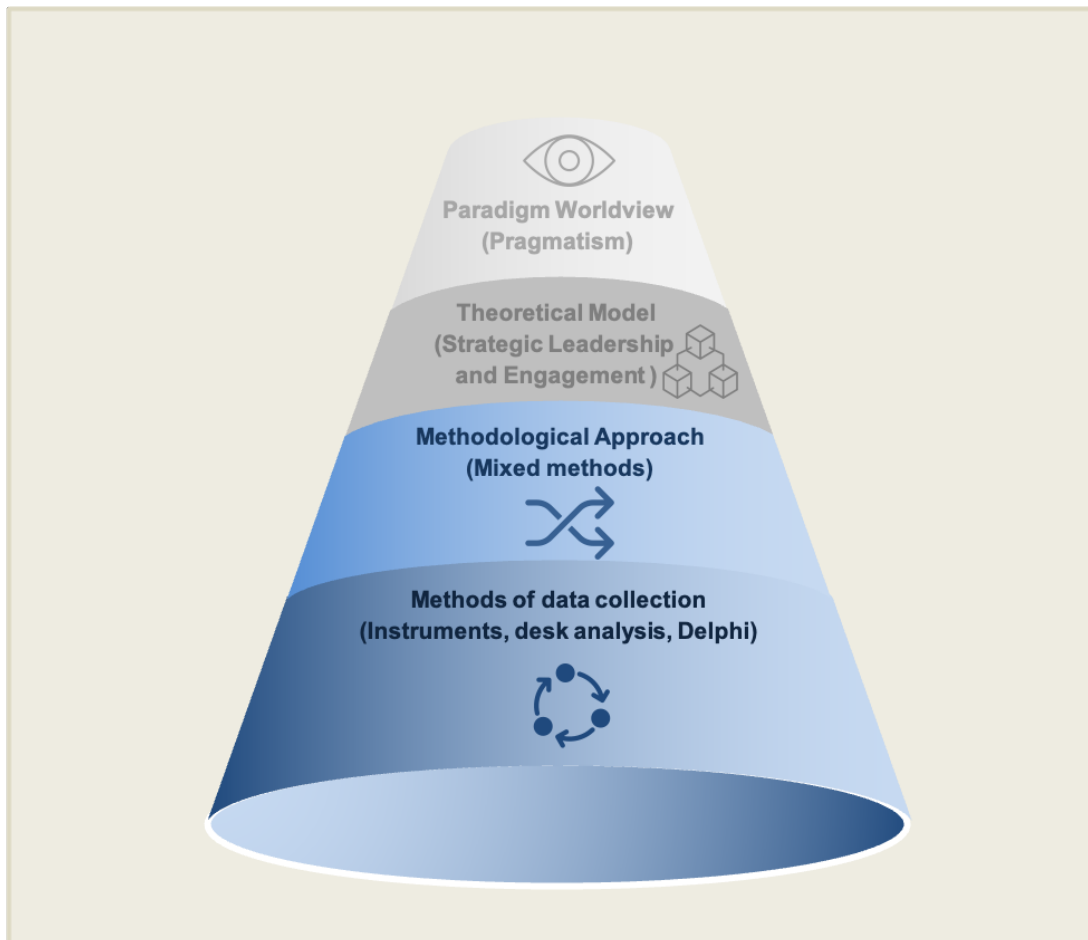
Source: developed for this research

In this section, based on the research framework, the selected methods for data collection, analysis, and interpretation are discussed, followed by the research design, the research approach, and justification for robustness (Gorard, 2013). A conclusion explains the issues related to the research methodology and limitations relating to this research.

3.3.3 Paradigm Worldview

Creswell (2014) used "worldview" to substitute for the term "research paradigm" (Kuhn, 1970). He described it as a general philosophical orientation about the world and its nature to reflect the fundamental beliefs that guide the research activities (Guba, 1990; Kuhn, 1970; Lincoln et al., 2011). Creswell (2014) highlighted four worldviews commonly used in the literature: post-positivism, constructivism, participatory or transformative and pragmatism. Each worldview adopts certain assumptions about the ontology, epistemology, and methodology of the related inquiry, reflecting the nature

of knowledge and how we know; process; and research such knowledge (Creswell, 2014; Vaus, 2001).

Postpositivism worldview is deterministic, value quantitative research and perceived as a scientific method for theory verification (Phillips & Burbules, 2000). Constructivist worldview favours qualitative research to understand the world through subjective meanings of the experiences directed towards objects. The worldview is formed through the participants' social interaction with others and their own experiences (P. L. Berger & Luckmann, 1967; Creswell, 2014; Lincoln et al., 2011). Finally, a participatory or transformative worldview addresses the marginalised individuals in society or power and social justice issues. It intertwines the research inquiry needs with politics through an action change agenda (Mertens, 2007, 2010), and it is more often associated with qualitative methods than quantitative ones.

The Pragmatism worldview is not committed to any philosophy and has the freedom of choice; it looks at "what" and "how" to research based on the intended consequences; and seek insights in social, historical, political, and other contexts (Creswell, 2014; Morgan, 2007; Patton, 1990). The pragmatist views typically associated with mixed methods research. In other words, pragmatism is problem focused. Its knowledge claim is the truth related to a problem at a moment and place in time. Creswell (2014) asserted that the pragmatist researcher applying mixed methods needs to establish a rationale why quantitative and qualitative data was combined to provide the best understating of the research problem.

A pragmatic worldview eliminates the constraints of both the postpositivism and constructivism paradigms. It allows the research to draw liberally from both quantitative and qualitative assumptions while capturing elements of the constructivists and positivists approaches associated with both quantitative and qualitative methods within the mixed-method approach (Creswell, 2014).

Pragmatism is grounded in transactional realism, which suggests a continuous interaction process between the mind and the world, which results in feedback and knowledge gathering, with the ability to reconstruct reality and lead to adaptive behaviour in the most dynamic fashion (Biesta & Burbules, 2003). The pragmatic paradigm deals with the research inquiry consequently arising out of actions and situations rather than antecedent conditions as in postpositivism (Creswell, 2014;

Patton, 1990). Therefore, truth is temporal and generated through experiential transactions (Hall, 2013).

Pragmatism holds the research problem as the main deciding factor when selecting data collection and analysis approaches. It also assumes that research occurs in social, historical, political, economic, ethical, and other contexts to stimulate insights. Furthermore, pragmatists do not see the world as an absolute unity—instead, the perception of reality shifts over time, hence the need for various methods and techniques. Finally, pragmatists adopt a pluralistic approach to problem-solving and maintain a real-world practice-oriented course (Creswell, 2014).

Unlike the other world views that connect theory to data using either deduction or induction, the pragmatic worldview relies on abduction to move back and forth between deduction and induction (Brierley, 2017). On one side, the study can acquire knowledge from an objective stance without interacting with the research subject. On the other hand, the study can pursue subjective routes and interact directly with the subject to construct realities. In other words, pragmatist epistemology does not view knowledge as reality; instead, knowledge is constructed to serve the need to address research problems and integrate with the world where it exists (Kaushik & Walsh, 2019). Contemporary realist was defined as an approach that comprises both objectivist ontology and subjectivist epistemology, which covers the characteristics of pragmatism (Rabetino et al., 2020).

The pragmatic paradigm was most suited for this research for all the above reasons. The study dealt with a real-world problem and identified the possible futures of engagement in Singapore by 2030. The researcher acquired both objective evidence and subjective data to construct the possible futures of engagement. The study contextualised its findings based on the environmental drivers of change (e.g.., political, social, economic).

3.3.4 Theoretical foundation

This study takes a pragmatic worldview informed by strategic leadership theory and work engagement theory (Figure 3-3). Strategic Leadership Theory draws on Upper Echelons Theory (UET) by expanding the suggested proxies (i.e., demographics according to UET), which resulted in the inclusion of values and cognitive abilities, as predictors that influence information processing and strategic decision-making

(Carpenter et al., 2004; Finkelstein et al., 2009; Hambrick, 2007; Hambrick & Mason, 1984; Hambrick & Quigley, 2014).

Work Engagement Theory represents a complex interplay of multiple variables: psychological conditions (Kahn, 1990) depicting a trait-level as a prerequisite for engagement (i.e., meaningfulness, safety, and availability), and state-level defined as an affective-cognitive state that is typified by three engagement dimensions: vigour, absorption, and dedication (Schaufeli et al., 2002, 2019). Furthermore, antecedents trigger engagement, linking to individual outcomes and organisational outcomes (Saks, 2006, 2019).

Figure 3-3 Research question and related theories
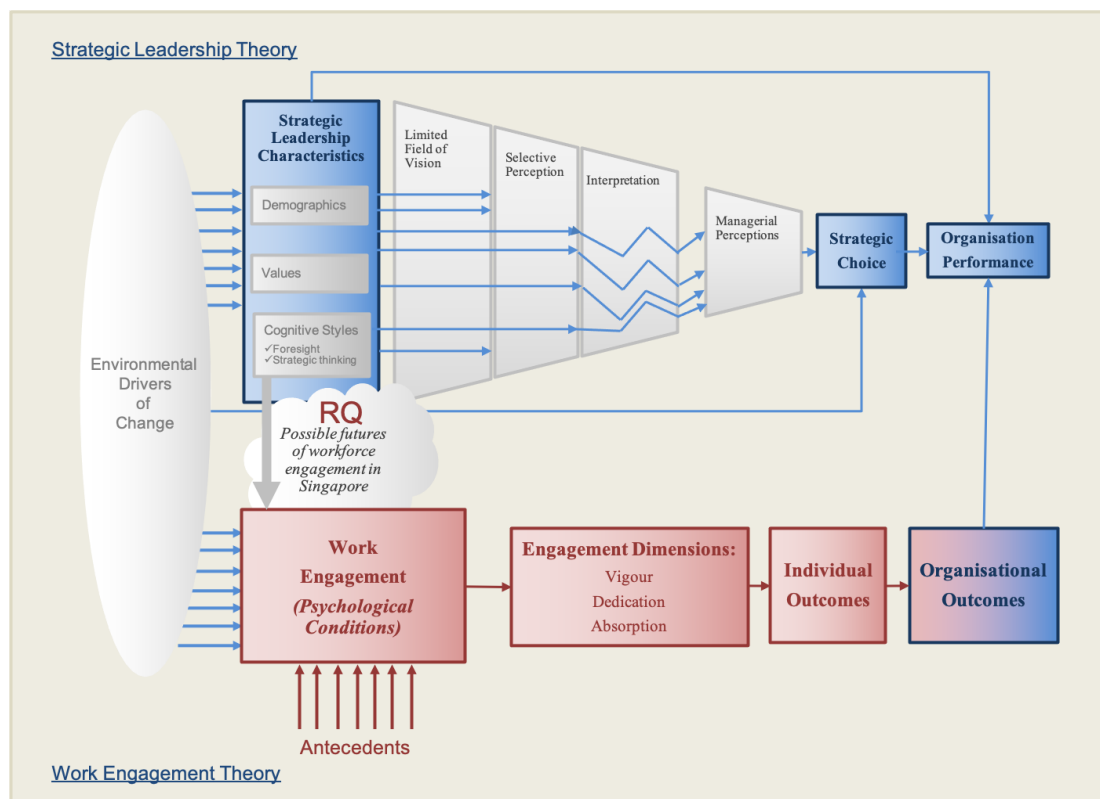
Source: Developed for this research

Additionally, environmental conditions illustrated by drivers of change constraint management and shape strategy in organisations. Environmental complexity and instability create additional challenges to strategic leaders. They reduce consensus and social integration within the top management team and influence their cognitions, impacting organisational outcomes (Finkelstein et al., 2009; Torres & Costa, 2021). Thus, environmental variables form a causative link to strategic leadership actions (Brooks & Weatherston, 2000; Mason, 2013; Polonsky, 1999). Similarly, environmental factors can influence work engagement (Jenkins & Delbridge, 2013;

Kidane & Xuefeng, 2021). Figure 3-4 illustrated how strategic leadership theory and engagement theory are influenced by the environmental drivers of change (e.g., political, economic, social).

Furthermore, the review of the extant literature (section 2.9) demonstrated relationship between strategic leadership and organisation outcomes, also the relationship between work engagement and organisational outcomes. Engagement antecedents trigger psychological conditions that start the engagement and yield individual and organisational outcomes. Nevertheless, the literature review uncovered a gap concerning the relationship between foresight and strategic thinking capabilities and work engagement. The study focused on the strategic leadership capabilities of foresight and strategic thinking concerning the possible futures of work engagement within the environmental context of Singapore.

Next, the research considers the most appropriates methods to answer the research questions.

3.3.5 Methodological Approach

This section represents the approach of how the research examined the inquiry. The literature identifies three advanced techniques: qualitative, quantitative, and mixed methods. They signify a continuum, where quantitative research and qualitative research represent the two ends of a continuum: and mixed methods in the middle. The pragmatic worldview adopted in this research attracted a mixed-methods approach to drawing liberally from quantitative and qualitative research types (Creswell, 2014; Creswell & Clark, 2017; Tashakkori & Creswell, 2007).

Quantitative research

Quantitative research examines the relationship between variables and applies deductive analysis to test assumptions and strive to generalise and replicate the findings (Creswell, 2014). Thus, quantitative research is causal-comparative research. The inquiry takes place to study the relationship between independent variables and dependent ones, aiming at validating a theory with the intent of generalisations from a sample to a population (Fowler, 2013).

The post-positivism worldview is widely associated with quantitative research due to its deterministic philosophy and the need to determine the cause-outcome effects. Thus, observations, measurements, objective reality, and other quantifiable

provisions are paramount for a postpositivist. In addition, the researcher maintains objectivity and tests for bias to achieve competent inquiry, validity, and reliability of the results (Creswell, 2014).

Qualitative research

The qualitative research aims to entrench an understanding of social reality and the meaning behind a social or human problem. The process of qualitative research has an inductive nature, where the researcher identifies emerging questions and collects data for analysis by inductively building general themes from findings. This approach focuses on individual meanings while emphasising the complexity of a situation (Creswell, 2014). The constructivist world view is commonly associated with the qualitative research approach; it addresses social problems and develops subjective meanings directed towards specific issues or goals (Creswell, 2014; Creswell & Clark, 2017).

In qualitative research, the primary source of data comes from the participant's views. Therefore, the questions are broad and general so that participants can develop meanings concerning their experiences. The researcher role is to make sense of meanings that others express and acknowledge that the researcher's own experience influences the interpretation of outcomes (Creswell, 2014; Lincoln et al., 2011).

Mixed method

The mixed-method research (MMR) involves both qualitative (QUAL) and quantitative (QUAN) that get integrated into a variety of designs and frameworks. Such a combination provides a complete understanding of the research problem than either approach alone. The integration of qualitative and quantitative data counteracts the imperfection of each form of data. The pragmatic worldview is widely associated with mixed methods research (Creswell, 2014). There is a general agreement among research scholars on the characteristics that distinguish mixed-method research and delineate methodological principles for mixed research (Tashakkori & Teddlie, 2010; Teddlie & Tashakkori, 2012).

The definition of mixed methods evolved over the years from mixing two methods to a fully integrated methodology (Creswell & Clark, 2017). As a result, the study adopted the following MMR definition:

"Research in which the investigator collects, and analyses data integrates the findings, and draw inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry" (Tashakkori & Creswell, 2007, p. 4).

3.3.6 Data Collection

Quantitative research adopts surveys and experiments to collect data for examining relationships between and among variables to answer the research questions. Which result in empirical measures with validity and reliability scores that lead to a meaningful interpretation of data (Creswell, 2014).

Conversely, qualitative research demonstrates a different approach. The researcher draws on numerous data resources (e.g., surveys, interviews, and observations) and analyses different data types (e.g., text and images), which lead to various approaches for verifying the validity of the data collected (Creswell, 2014).

Mixed method research incorporates both quantitative and qualitative data collection methods. For example, Creswell and Clark (2017) recommend a qualitative strand that includes "Persuasive" qualitative data collection procedures and a quantitative strand that incorporates "rigorous" quantitative procedures. A strand is a constituent of a study that incorporates the fundamental process of conducting quantitative or qualitative research (Creswell & Clark, 2017). The recommended procedures are organised into the critical stages required for data collection, sampling procedures, obtaining permissions, collecting information, recording data, and administering the procedures. In addition, decisions related to the sample contents and size of participants for each strand and the assessment questions for each strand are prerequisites for data collection procedures. (Creswell & Clark, 2017).

Mixed methods may be fixed or predetermined and planned at the start of the research process or emergent as the needs arise due to issues during the research. A fixed design may also invite an emergent one based on the researcher's interpretation of the results during the fixed phase (Creswell & Clark, 2017; Morse, 2016).

Creswell, Clark, Gutmann and Hanson (2003) summarised the range of available classifications of mixed methods design that tend to use different terminology and emphasise various mixed methods designs (Creswell et al., 2003). Creswell and Clark (2017) recommended six primary mixed methods designs that provide a valuable

framework for this research. The different models characterise how the quantitative and qualitative strands of the research relate to each other, where a strand is a constituent of a study that incorporates the fundamental process of conducting quantitative or qualitative research (Creswell & Clark, 2017):

- *The convergent parallel design*: the method symbolises concurrent QUAN and QUAL strands, both kept independent during the analysis and then mix or relate during the overall interpretation.

- *The explanatory sequential design* starts with collecting and analysing quantitative data, followed by the collection and analysis of qualitative data to explain the initial quantitative data.

- *The exploratory sequential design* starts with collecting and analysing qualitative data, where the exploratory results are followed by a second quantitative phase to test or generalise the initial findings.

- *The embedded design* collects and analyses both QUAN and QUAL data within the traditional quantitative and qualitative designs. This design allows the researcher to embed a QUAL strand within a quantitative design or a QUAN strand within a qualitative design to enhance the overall design.

- *The transformation design* is a transformative approach; the researcher shapes the design within a transformative theoretical framework.

- *The multiphase design*: this method combines both sequential and concurrent strands over a period in multiphase research.

3.4   STRATEGY OF INQUIRY

This futures study embraced a scenario development approach underpinned by strategic leadership theory and QUAN measures (Leaders' profile) in mixed methods approach that was informed by an environmental scan of QUAN and QUAL data related to work engagement theory, particularly engagement antecedents and outcomes. By their very nature, studies concerned with the future are speculative and have no facts. However, constructivists interpretations of how the future may evolve, especially when based on empirical indicators, are a valid form of academic enquiry.

3.4.1 Pragmatic worldview

The primary objective of this research was to find answers for real-world problems, concerning work engagement, within the strategic leadership and work engagement theories. Therefore, the best fit for this research was the pragmatic worldview that allowed drawing from qualitative and quantitative assumptions, focusing on real-world practice, and accepting both singular theoretical underpinning but allowing various individual inputs into the nature of the enquiry (Creswell, 2014). The pragmatic worldview was the most appropriate paradigm to answer the research questions because, by definition, future studies include speculative methods that rely on subjective views.

3.4.2 Theoretical framework

The ontological orientation towards strategic leadership theory (Finkelstein et al., 2009; Hambrick & Mason, 1984) presents the foundation of this research. The study identified the possible futures of work engagement in Singapore by 2030, given the strategic leadership cognitive capabilities of foresight and strategic thinking, as valid and reliable constructs. Furthermore, the epistemological orientation of the study was to uncover what is known to be true and current, which opened the door for multiple sources of knowledge to address the research question. Finally, the research axiology represents the role of values, hence the need to include both biased and unbiased perspectives into the study (Creswell, 2014).

3.4.3 Mixed methods approach

The study adopted mixed methods approach to collect, analyse, and interpret the combined quantitative and qualitative data, using the convergent parallel method (Figure 3-4). The reason for applying mixed methods was the complexity of the many different factors influencing work engagement and the nature of studies related to the future. Given all the factors that affect virtually every aspect of leadership and engagement, it is easy to appreciate the different strengths that mixed-method research offers. When a single research method is inadequate, triangulation ensures that the most comprehensive approach is taken to solve the research problem. Other reasons for a mixed methods strategy of inquiry include illustrating quantitative results with qualitative findings, synthesising complementary quantitative and qualitative results to develop a complete understanding of a phenomenon, and comparing multiple levels

within a system (Creswell & Clark, 2017). In addition, the researcher collected the opinions and perceptions of experts, alongside other sources of empirical data, in considering what reality is or how to approach the possible futures of work engagement (Turoff, 1970).

Figure 3-4 The convergent parallel design
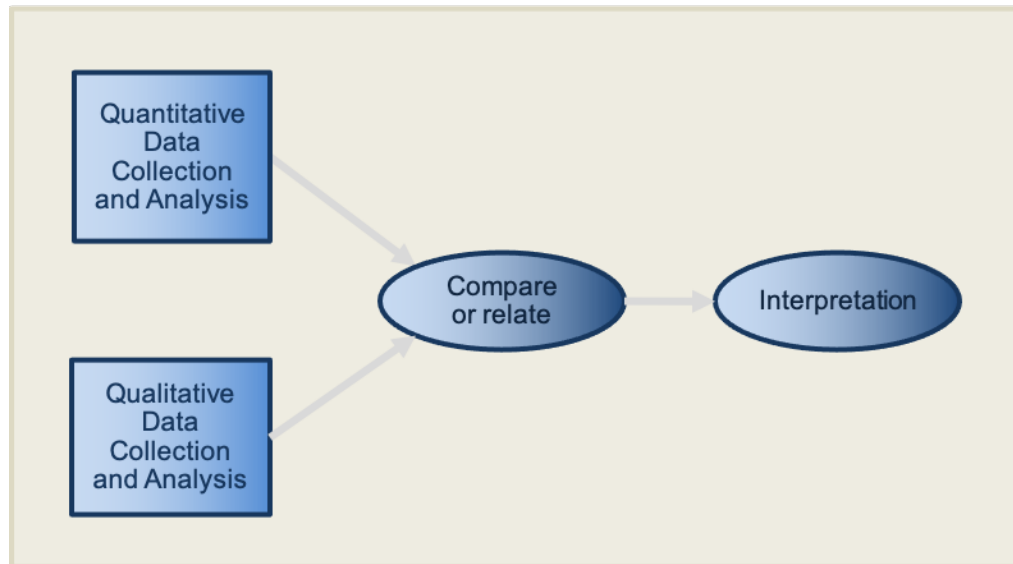
Source: Adapted from (Creswell & Clark, 2017)

The research adopted the convergent parallel design (Fig 3-4), in which two different methods (quantitative and qualitative) were used to obtain triangulated results about a single topic (Creswell & Clark, 2017)The purpose of the convergent design is "to obtain different but complementary data on the same topic" (Morse, 2003) to provide comprehensive coverage of all the factors under investigation.

The flowchart in figure 3-5 outlines the procedures for implementing a convergent design method, using a parallel-databases variant, where two parallel strands are conducted independently and are only brought together during the interpretation (Creswell & Clark, 2017).

This design uses separate quantitative and qualitative methods to offset the weaknesses inherent within one method with the strengths of the other method. In this case, the quantitative data collection and qualitative data collection are concurrent, allocated equal priorities. This design integrates the results of the two methods during the interpretation phase. This interpretation notes the convergence of the findings to strengthen the knowledge claims of the study in articulating the possible futures of work engagement.

Figure 3-5 Convergent design procedures
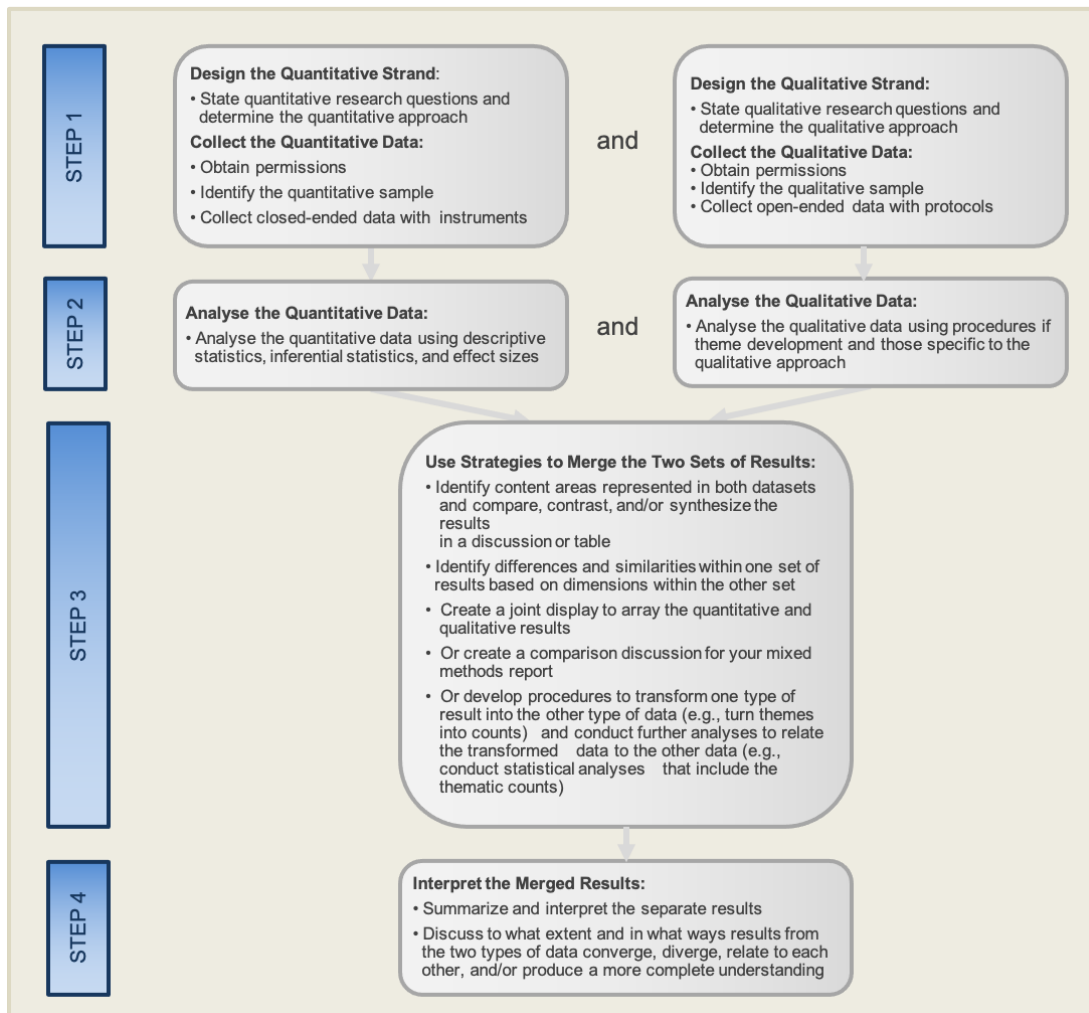
Source: Adapted from Creswell & Clark (2017)

3.4.3.1 Reasons for convergent parallel design

There are many reasons for mixing methods reported in the literature (Bryman, 2006; Creswell & Clark, 2017; Greene et al., 1989). The study considered few key reasons as to why the research adopts the convergent parallel design:

- Triangulation: the study seeks convergence, corroboration, and correspondence of results from different methods, to identify the possible futures of engagement in Singapore.

- Complementarity: the study seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method. Convergence processes assist the study in relating the different strands to complement each other for a better understanding of the possible futures.

- Expansion: the study seeks to extend the breadth and range of inquiry by using different methods. The possible futures of engagement can be more accurately identified if the study consider more of the influencing factors that can impact engagement (i.e., environmental besides cognitive).

- Completeness: the study can bring together a more comprehensive account of the area of inquiry. Strategic leadership have the most significant impact on work engagement and organisational outcomes, through which the study can develop well informed possible futures of engagement.

- Credibility: employing both approaches enhances the integrity of findings. The application of valid and reliable QUAN measures support, which is confirmed QUAL measures strengthen the validity of this study.

3.4.4 Study data sources

This study examined four sources of data. First, the researcher reviewed the scholarly literature on strategic leadership and work engagement, including a thorough review of leadership, strategy, foresight, and strategic thinking literature. Second, the researcher obtained a secondary dataset representing the foresight and strategic thinking profiles of strategic leaders in Singapore, which provided the quantitative data strand for the study. Third, the researcher conducted an environmental scan to identify drivers of change that may impact work engagement in Singapore by 2030, containing both quantitative and qualitative data. Fourth, the researcher instigated a Delphi study which applied procedures in multiple phases to triangulate QUAN and QUAL data while collecting qualitative data in the Delphi process and combined the data into specific research methods that directed the study under the research design.

3.5   RESEARCH DESIGN

3.5.1 Introduction

The research consisted of four phases. Figure 3-6 illustrates the research design and workflow activities in four phases. In Phase One, the researcher reviewed the extant literature (Chapter 2), covering strategic leadership, strategy, leadership, foresight, strategic thinking, and work engagement. The strategic leadership and work engagement theories informed the study, particularly about the first research question (RQ.1 Is strategic leadership associated with work engagement?).

Figure 3-6 Research design
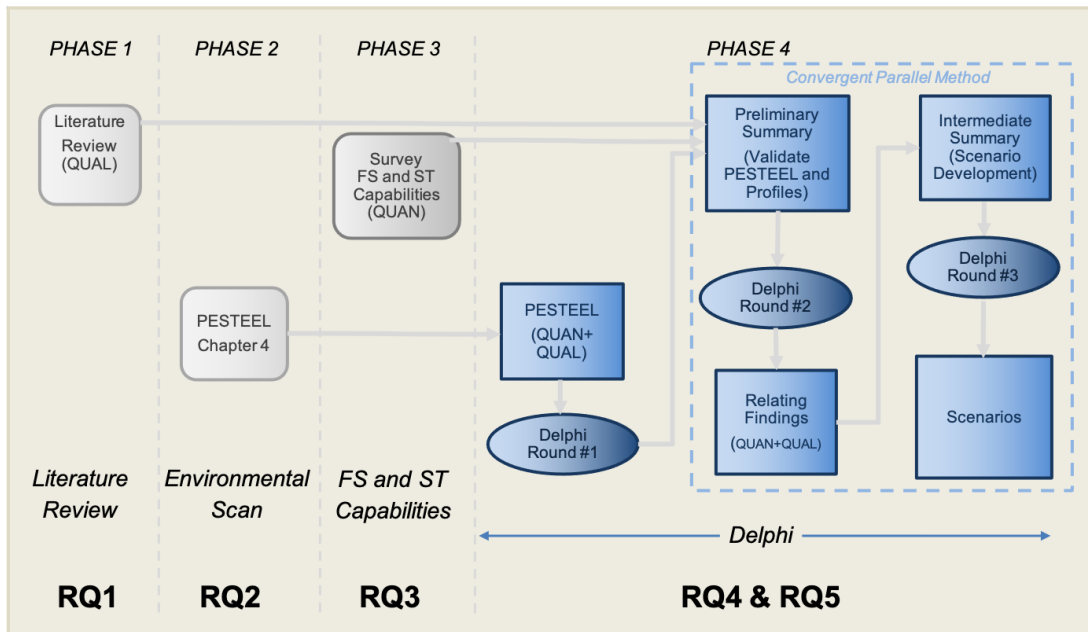
Source: Developed for this research

Phases two, three, four and five integrated a PESTEEL analysis, a Delphi method, and a scenario development process in a futures study. Phase Two investigated the drivers of change that may impact the future of work engagement in Singapore, addressing the second research question (RQ. 2 What are the drivers of change that affect the futures of work engagement in Singapore?). In Phase Three, the study analysed survey results representing the foresight and strategic thinking profiles of strategic leaders in Singapore to answer the third research question (RQ. 3 What are the foresight and strategic thinking capabilities of strategy leaders in Singapore?). In Phase Four, the research adopted the Delphi technique to develop work engagement scenarios in Singapore. This Phase applied the converged parallel method. It merged the QUAL strand (i.e., Delphi survey) with the QUAN strand (i.e., leader's profiles) to explore the relationship between foresight and strategic thinking capability and work engagement to answer the fourth research question (RQ4: Are foresight and strategic thinking styles of strategic leaders in Singapore an indicator of work engagement?) and to identify the possible futures of work engagement in Singapore by 2030 (RQ.5 What are the possible futures of work engagement in Singapore given the strategic leadership capabilities of foresight and strategic thinking in terms of engagement, individual outcomes, and organisational outcomes, by 2030?).

3.5.2 Phase One – The literature review

3.5.2.1 Introduction

The researcher conducted a systematic review of the extant literature (Chapter 2), covering the strategic leadership theory and the work engagement theory. The review covered the conceptualisation and related constructs of strategic leadership and work engagement theories. The review identified how strategic leadership is associated with work engagement and how that contributes to organisational outcomes through strategy and leadership practices. The study focused mainly on foresight and strategic thinking capabilities and validated measures to operationalise the two constructs.

3.5.2.2 Data collection

The data collection focused on the constructs identified concerning strategic leadership and engagement (i.e., strategic leadership, strategy, leadership, foresight, strategic thinking, and work engagement). The search included academic resources identified by keywords related to each construct and based on the available literature. The collected material was screened for usefulness and relevance. The search for each construct identified the most prominent definitions and conceptual frameworks pertained to the various constructs.

3.5.2.3 Data analysis

The sources of the literature review were grouped under each topic and analysed in terms of relevance and significance to the study. The researcher carefully selected a definition and conceptualisation for each construct to underpin the theoretical framework of the research. The review identified the theoretical links relevant to the study, and where appropriate (e.g., leadership), the study identified the impact of the relevant construct on individual and organisational outcomes. Furthermore, the study explored how each unique construct links back to work engagement and how work engagement contributed to organisational outcomes.

Additionally, the researcher designed an illustration showing how each construct fitted into the strategic leadership theoretical framework at the end of each topic. Finally, the links between the various constructs and engagement were illustrated to demonstrate how strategic leadership is associated with work engagement.

3.5.2.4 Data interpretation

The literature review produced a theoretical framework demonstrating the theoretical framework's conceptualisation and operationalisation that defines how the different constructs link and interact with each other within the strategic leadership and work engagement theory. Furthermore, the study identified the antecedents and consequences of engagement, engagement dimensions, and associated individual and organisational outcomes. Conclusively, the study identified the gaps in the literature and constructed the research conceptualisation model to guide the research.

3.5.2.5 Summary of Phase One

Literature review highlighted gaps in research concerning the study and listed scholars who have called for this research and provided methodological insights. The literature review indicated how the current study and its implications for practice are critical (Faryadi, 2018; Randolph, 2009; Webster & Watson, 2002).

The conceptualisation framework guided the research design. The theoretical links and variables ascertained from the literature were scaffolded in the Delphi study.

3.5.3 Phase Two – Environmental scan

3.5.3.1 Introduction

The researcher conducted an environmental scan to uncover the drivers of change that may impact the future of work engagement in Singapore. This phase answers the second research question (RQ. 2 What are the drivers of change that impact the futures of engagement in Singapore?). Scanning is a crucial input into scenario planning (R. Sharma & Yang, 2015), an enabler to foresight and futures studies (Correia & Wilson, 1997; Idoko & MacKay, 2020), and an antecedent to change (Ben-Menahem et al., 2013). It allows identifying the external environment and provides data and information to predict possible future encounters (Yüksel, 2012). Critical theorists have called for addressing other drivers for engagement, specifically, political, economic, and social, to avoid pared-down versions of true engagement in the workplace (Doughty & Rinehart, 2004; Elmes & Smith, 2001; Fineman, 2006). The environmental scan informed the study about the drivers that may impact the futures of work engagement in Singapore by 2030.

3.5.3.2 Scanning Methodology

The study employed the environment scanning technique as a research method. The method is an analytical tool to consider external environmental factors that can lead to change. It helps an organisation adapt proactively to the ever-changing environment and allows forward-thinking to anticipate issues in advance. Aguilar (1967) was the first to address environment scanning as a research method. Aguilar defined key areas for gathering external information that could assess actual and future strategic contexts (Aguilar, 1967). The earlier definition of "environmental scanning" covered four clusters of the environment: Economic, Technical, Political, and Social, referred to as ETPS (Aguilar 1967). Others further developed the term over the years (K. R. Andrews, 1971; Ansoff & McDonnel, 1990; Stiener, 1979). Over the last three decades, the term PESTEL (Political, Environmental, Social, Technological, Economic and Legal) has been used regularly. However, its true history is difficult to establish (Richardson, 2006). A review of the literature reveals different models for analysing the macro-environment drivers (Lynch, 2015), including PEST (Dale, 2000), STEPE (Richardson, 2006), and PESTLE (Walsh et al., 2019). Recently the dimension of ethics became significantly crucial in addressing some of the critical challenges facing our world, hence considering an updated PESTEEL (where the extra E stands for Ethical) (Duus & Bjerre, 2015).

This researcher selected the environmental scanning method of PESTEEL analysis (Political, Economic, Social, Technology, Environment, Legal and Ethical). It fitted the need to identify the environment within which the research question was raised. In addition, it provided data and information that enabled the researcher to identify drivers that may impact work engagement in future. Global politics, technological advancements, and globalisation mean that national boundaries lose their relative importance in everyday leadership activities and effect change; the change process discerns the structure of the continually broadening and changing environment in which strategic leaders operate. PESTEEL allowed the identification of the environment within which strategic leaders operate, and it provided data and information that enable leaders to identify situations and circumstances that may impact engagement (Yüksel, 2012).

The PESTEEL analysis comprised the political, economic, social, technological, environmental legal and ethical dimensions that can influence work engagement:

Political drivers*:* These determine the extent to which a government policy or ideology may influence work engagement in Singapore. Policies may include revenue generation related policies, restrictions and controls over trade, social services provided by the government, environmental regulations and political stability or instability within Singapore and overseas markets, and the government strategy in driving internal and foreign affairs.

Economic drivers: These factors are determinants of the economy's performance in inflation, interest rates, GDP, interest rates, unemployment, and exchange rates. Such factors can directly impact business performance and employment conditions. In a global economy, such factors can be local, regional, or international.

Social drivers: The sociological factor considers all events that affect the business and society like cultural norms, population dynamics, social issues, the standard of living, general demographics, education standards, people aspirations, safety consciousness, and ethnic matters.

Technology drivers: These factors pertain to technological innovation and modernisation of the workplace like automation and artificial intelligence. Such new trends can have a significant impact on the nature of work and employment.

Environmental drivers: These factors include the surrounding environment like location, climate, weather, and natural resources. Such issues can be local or global, like global warming.

Ethical drivers: These factors address the range of social values that shape business ethics, like social responsibility, integrity, transparency, morality, professional behaviour, and duties. It helps to shape business processes and people behaviours around them.

Legal drivers: These factors include how local, regional, or international legislation affect business and employees, especially around employment laws and taxation.

The tool provides essential knowledge for analysing the macro-environment, but it has some limitations. First, it does not adopt a quantitative approach to measurement. Second, the different factors are usually diagnosed and evaluated independently. In addition, the relative importance of the various factors and subfactors and the

interactivity between all factors demand the analysis to adopt an approach based on the inter-dependence of factors and their degree of importance (Yüksel, 2012).

The researcher collected data and information from all available and relevant resources, from local agencies in Singapore and international institutions covering the different PESTEEL dimensions. The study considered essential changes that affect engagement and shape the possible futures of work engagement in Singapore within a global context (Hines & Bishop, 2015).

3.5.3.3 PESTEEL Data collection

The set of projections (i.e., drivers of change) were developed based on the available knowledge on the topic and obtained from multiple sources (Bokrantz et al., 2017). The information-gathering was practised both narrowly to pursue facts needed for the analysis and broadly to inform the research and to pose more significant questions (P. Schwartz, 2012). The researcher collected data and information from all available and relevant resources, from the extant literature, local agencies in Singapore, international institutions, and a panel of experts.

1. A review of the academic literature investigated the impact of various PESTEEL drivers on engagement (Chapter 4).

2. A review of the academic literature investigating the impact of the leader's cognitive abilities of foresight and strategic thinking on engagement (Chapter 2).

3. A review of the practitioner literature, including white papers and reports published by management consulting firms, multinational companies, government bodies, and other international organisations.

4. A Delphi panel of experts provided feedback and refinements over three rounds to finalise the PESTEEL projections.

The data from these four sources were thoroughly analysed, following well-established practices in qualitative research (Creswell, 2014; Creswell & Poth, 2018; Tashakkori et al., 2020). The data were coded according to predetermined themes to identify any positive or negative impacts on work engagement. The themes were defined based on the engagement dimensions of vigour, dedication, and absorption (Schaufeli, 2013; Schaufeli et al., 2002). After each round, the coding activity resulted in a list of impacts, which were significantly rationalised to remove redundancies and

combine similar projections and themes across different analytical dimensions (R. Jiang et al., 2017).

3.5.3.4 PESTEEL analysis and interpretation

The PESTEEL represented an environment scan of secondary resources related to the future of work engagement in Singapore. The PESTEEL analysis examined a combination of political, economic, social, technological, environmental, legal, and ethical drivers to understand the pressure within any organisation connected to work engagement.

Drivers of Change: these are factors, forces or events which may be susceptible to changes according to one's choices or activities (e.g., policies and regulations).

The drivers of change were categorised as "predetermined elements" as trends and megatrends, and the "critical uncertainties" known as wild cards (Saritas & Smith, 2011).

Trends: These are broad forces of diverse actors that lead and cause societal change (e.g., aging population).

Megatrends: These can extend over many generations and represent a significant shift in environmental, economic, and social conditions that will play out over the coming decades (e.g., climate change).

Wild Cards: Surprise situations and unforeseen developments that can alter our expectations and action plans (e.g., natural crisis).

The scanning process adopted the following steps:

1. First, identify the main factors under each PESTEEL dimension.
2. Identify the drivers of change under each factor in the form of a hierarchic structure of the PESTEEL model.
3. Categorise the different types of drivers (i.e., trends, megatrends).
4. Determine the potential inter-dependences between PESTEEL drivers.
5. Define the degree of certainty (i.e., likelihood) for each driver and its impact on work engagement.
6. Set priorities according to how vital each driver is to the future of engagement.

7. Determine the drivers for change in each factor and select the key drivers for change and other drivers.

8. Prepare a summary for phase three.

Figure 3-7 illustrates the different steps of the environmental scan.

Figure 3-7 PESTEEL analysis process steps
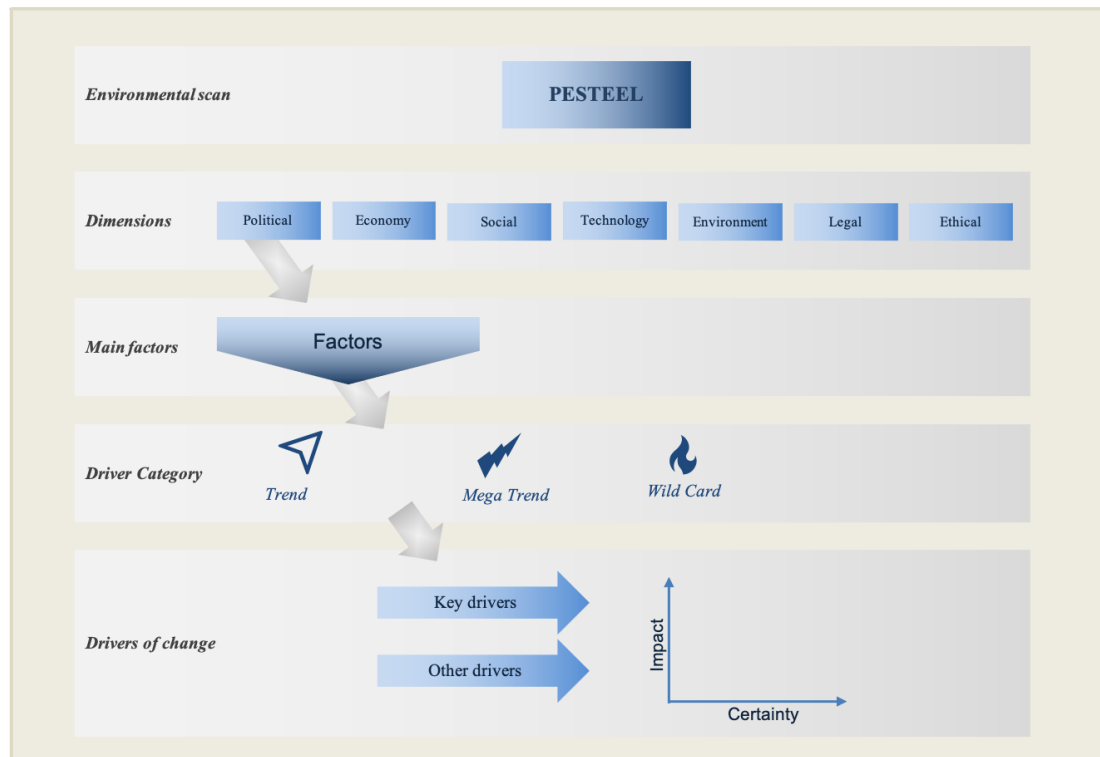
Source: Developed for this research

The illustration portrays the measures the study adopted to define the drivers for change concerning work engagement. The outcome of the PESTEEL study represented the input for round one of the Delphi study in Phase three of this research process.

3.5.3.5 Summary of Phase Two

The process of environment scanning resulted in identifying a range of external drivers that can impact work engagement in response to the shift in the events occurring in the environment and as perceived by individuals. Through this, employees and leaders can adjust to the new conditions (Correia & Wilson, 1997).

PESTEEL analysis provided a holistic, rich, and diverse array of drivers that may impact engagement and inform possible engagement futures in Singapore.

3.5.4 Phase Three – FS and ST Capabilities (QUAN)

3.5.4.1 Introduction

The foresight and strategic thinking capabilities of strategic leaders in Singapore represent the cornerstone of this research. The study measured these capabilities most validly and reliably to answer the third research question (RQ. 3 What are the foresight and strategic thinking styles of strategic leaders in Singapore?). This study adopted survey research to determine the leader's profile in Singapore by surveying a population sample to understand the predominant propensities in the large population (Creswell, 2014).

Thus, the first step was choosing appropriate instruments that had suitable validity and reliability indicators and include measures associated with a theoretical framework that had been empirically tested.

3.5.4.2 Selected Instruments

The measurement selection process included the conceptual definition of the relevant construct and its operationalisation to a specific measure using a selected instrument to observe the concept empirically (W. L. Neuman, 2006). The researcher chose the survey questionnaire that aligned with foresight and strategic thinking constructs as defined in the literature review (Chapter 2).

This study focused on three: TimeStyle Inventory, Foresight Styles Assessment, and Decision Style Inventory. Table 3-1 summarises the relationship between each construct, conceptual definition, and the relevant operational instrument to measure it.

Table 3-1 Conceptualisation and operationalisation of FS and ST

Construct	Conceptual Definition	Operational Instrument
Foresight capability	"Foresight is an individual's cognitive capability to creatively envision possible, probable and desired futures, understand the complexity and ambiguity of systems and provide input for the taking of provident care in detecting and avoiding hazards while envisioning desired futures" (Van der Laan, 2010, p. 60).	1) TimeStyle Inventory: measure dominant and back up orientation to time: past, present, and future (Fortunato & Furey, 2009). 2) Foresight Style Assessment: Measure dominant and backup foresight styles: framer, adaptor, tester, and reactor (Dian, 2009; Gary, 2009b).

Strategic Thinking capability	"Strategic thinking is regarded as a synthesis of systematic analysis (rational), and creative (generative) thought processes that seek to determine the longer-term direction of the organisation" (Van der Laan, 2010, p. 75).	1) Strategic thinking Style: Measure dominant and backup decision styles: conceptual and analytical (A. Rowe & Boulgarides, 1994)

Source: Developed for this research

3.5.4.3 Dataset collection

The researcher obtained a secondary dataset representing the foresight and strategic thinking profiles of strategic leaders in Singapore for analysis to answer the third research question. It is widely accepted that researchers should investigate what is already known about a research topic and utilise data that already exist in addressing the research question (Johnston, 2014). This is commonly known as secondary data, which is defined as using datasets, which were not collected to test the hypothesis (Pederson et al., 2020; Trinh, 2018). The use of secondary data emphasises the usefulness of information collected in the past to make new contributions to knowledge and provide the scene for future research (Pederson et al., 2020). Availability of secondary data can advance the research process and save time. It can also add value to the original research and its field of knowledge. Therefore, secondary data analysis can provide a wealth of information towards advancing knowledge (Martins et al., 2018; Trzesniewski et al., 2011).

The selection of secondary data suitable for this research linked back to the theoretical knowledge pertaining to the foresight and strategic thinking capabilities, as defined constructs by Van Der Laan (2010), which was a critical foundational element of this research. The dataset employed in this research was collected as part of post-doctoral research completed by Associate Professor Dr Luke Van Der Laan. The dataset used the same instruments that constituted the original study (Van der Laan, 2010). Strategic leaders completed the selected dataset in Singapore between 2016 and 2018. Furthermore, the dataset provided a valid and reliable operationalisation to the research conceptualisation to address the research question. Additionally, the selected database source had successfully been used before in academia.

3.5.4.4 Dataset preparation

The researcher checked the dataset for inconsistencies or missing data by applying the data cleaning and screening recommendations of Creswell (2014) and Hair et al. 2018. Missing data are expected and can be part of the research design (Hair et al., 2018). The researcher identified the patterns and relationships underlying the missing data that may affect the generalisability of the results before deciding a remedy approach. This is an essential step before statistical analysis take place to reduce the risk of sample size reduction and minimise the risk of biased results (Hair et al., 2018). The researcher adopted the following process, as recommended by Hair et al. (2018):

1. *Determine the type of missing data:* to understand the level of missingness present in the data to decide the most effective missing data strategy to be developed.

2. *Determine the extent of the missing data:* to examine the missing data patterns and determine the extent of the missing data for individual variables and even by participant.

3. *Diagnose the randomness of the missing data processes:* if the extent of the missing data is substantial, then a diagnosis of the degree of randomness in the missing data can assist in deciding the most appropriate remedy.

4. *Select the imputation method:* the process of estimating the missing value based on valid values of other variables in the sample.

(Hair et al., 2018, p. 59)

Furthermore, the researcher checked the dataset for any values that can be considered outliers or affect data normality. Outliers are *"observations with a unique combination of characteristics identifiable as distinctly different from what is normal"* (Hair et al., 2018). While extreme responses can influence the outcome EFA (Hair et al., 2018), outliers should also be considered within the context of the present study and the choice of statistical analysis. Where outliers can interfere with multivariate analysis, they should be managed accordingly (Hair et al., 2018). Normality of data is the *"degree to which the distribution of the sample data corresponds to a normal distribution"* (Hair et al., 2018). For the present study, the statistical assessment was used to assess normality. Measures of skewness and kurtosis were also evaluated to determine any possible impacts due to the distribution shape.

3.5.4.5 Dataset analysis and interpretation

Secondary data analysis applies the same basic research principles as studies using primary data and follows research methods. It follows a data collection process, analysis and interpretation that corresponds to the research question and provides a clear criterion for selecting the dataset (Creswell & Clark, 2017; Fitchett & Heafner, 2017; Johnston, 2014).

The dataset analysis utilised the statistical software analysis SPSS and the additional AMOS module (Analysis of Moment Structures) for Structural Equation Modelling (SEM) and confirmatory factor analysis (CFA). Reliability analysis and descriptive statistics were run using SPSS to establish the Cronbach's alpha and Standard Deviation (SD) of all the measures. Furthermore, the researcher examined for inconsistencies or missing elements (Creswell, 2014). The data analysis included descriptive analysis and parametric analysis methods.

The descriptive statistics (e.g., mean, standard deviation, and variance) were extracted, collated, and analysed for all variables in the study for describing and summarising the dataset (Tashakkori et al., 2020), which produced a set of descriptive statistics for each instrument used. In contrast, the parametric analysis identified the leader's profile for all parameters included in the three instruments.

3.5.4.6 Instruments validity and reliability

The study assessed the available validity and reliability data concerning the scales integrated into the survey questionnaire (i.e., TSI, FSA, DSI, and SMP). This section will briefly define the different forms of validity and reliability and describe previous research conclusions to test for and ensure a high validity and reliability in the study, which covered content validity (i.e., how a variable represent a concept based on research), face validity (i.e., determine measures used to operationalise a concept), statistical validity (i.e., confirmatory statistical analysis), and reliability (i.e., internal consistency of scores using Cronbach's alpha α). The literature suggests testing for internal consistency if the dataset is collected at intervals of more than a decade (Fitchett & Heafner, 2017), which is unnecessary since the dataset was created between 2016-2018. Table 3-2 summarises the previous studies and their results.

Table 3-2 Summary of validity and reliability of scales

Scales	Previous Research	Reference
TimeStyle Inventory	64% of variance explained. Factor loadings (α) of 0.84, 0.91 and 0.80 respectively (Fortunato & Furey 2009). Reliability and construct validity evidence presented.	(Donalds & Osei-Bryson, 2020; Fortunato & Furey, 2009, 2010, 2011, 2012; Van der Laan, 2010)
Foresight Styles Assessment	41.72% of variance explained. Factor loadings (α) of 0.89, 0.78, 0.77 and 0.66 respectively (Gary 2009). Reliability and validity evidence presented	(Gary, 2008, 2009b; Van der Laan, 2010; Van der Laan & Erwee, 2012)
Decision Styles Inventory	Significant reliability and validity evidence presented across numerous studies.	(Donalds & Osei-Bryson, 2020; Leonard et al., 1999; Martinsons & Davison, 2007; Pennino, 2002; A. Rowe & Boulgarides, 1994; A. Rowe & Mason, 1987a)
Strategy Making Processes Scale	55.1% of variance explained. Factor loadings (α) of 0.91, 0.83, 0.82 and 0.78 respectively. Cronbach's α of 0.85 Reliability and content, discriminant, and convergent validity evidence.	(White, 1998)

Source: Adapted from (Van der Laan, 2010), and further updated

Furthermore, the study assessed the integrated survey validity and reliability measures as indicated by Van der Laan (2010).

Moreover, Van der Laan (2010) conducted further tests for the reliability and validity of an integrated survey to address the gap between the conceptual and operational definitions adopted in his study. The survey questionnaire included five sections, as confirmed by Van Der Laan (2010). Section five gathers the demographic characteristics of the strategic leaders in terms of their gender, age, and education. Section five also included questions related to strategy formulation in the organisation and the level of influence the strategic leader has on strategy formulation. The former allowed for the triangulation of section four's responses. The latter allowed for the delimitation of the sample in terms of the definition of what constitutes being classified as a strategic leader. Sections one and two measure strategic leader foresight capability as determined from the related conceptual definition and integrate two established scales in terms of operationalisation, the TimeStyle Inventory (Fortunato & Furey, 2009) with sixteen questions and Foresight Styles Assessment (Dian, 2009; Gary, 2008) with twenty-six questions. Section three measures strategic leader strategic

thinking as determined from the related conceptual definition and is operationalised in terms of the Decision Styles Inventory (A. Rowe & Boulgarides, 1994) including twenty rank order questions. Section four measures the strategy-making modes of the organisations within which the strategic leaders' influence strategy is operationalised in terms of the Strategy Making Processes scale (White 1998) which includes 17 questions. Each of the scales that have been integrated into the survey questionnaire was selected due to previous studies that confirm their validity and reliability. This study focused on three scales out of the five included in the dataset: TimeStyle Inventory, Foresight Styles Assessment, and Decision Style Inventory.

Van Der Laan conducted Exploratory Factor Analysis (EFA) followed by Confirmatory Factor Analysis (CFA) to refine the initial measures of the constructs before applying Structured Equation Modelling (SEM) analysis. CFAs were conducted to evaluate three scales (TSI, FSA and SMP), while one-factor congeneric models were used to evaluate the DSI styles separately. These steps allowed for reducing the items of the scale based on less-than-ideal measurement properties. Table 3-3 summarises the findings.

Table 3-3 Summary of validity and reliability of the integrated survey

Validity and Reliability measures	TSI	FSA	DSI – one factor				SMP
			ANA	CON	DIR	BEH	
Kaiser-Meyer-Olkin (KMO)-Sampling adequacy	.773	.910	.758	.830	.713	.818	.803
Sums of squared loadings explained by reduced # factors	70.6% #3	73.8% #4	45.9% #1	54.8% #1	51.9% #1	55.2% #1	52.7% #1
Cronbach's alpha-Convergent validity	.719	.820	.702	.793	.689	.795	.774

Source: Collated from research data from (Van der Laan, 2010).

TSI sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.773, which indicate sampling adequacy. The total variance exhibited by the measure using the sums of squared loadings results was 70.6%, explained by the three factors. The scale yielded a Cronbach's alpha of 0.719.

FSA sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.910, which indicate sampling adequacy. The total variance exhibited by the measure using the sums of squared loadings results was 73.8%, explained by the four factors. The scale yielded a Cronbach's alpha of 0.820.

One-factor congeneric model of Analytical (ANA) DSI sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.758, with the items explaining 45.9% of the variance. In addition, the scale yielded a Cronbach's alpha of 0.702.

One-factor congeneric model of (CON) Conceptual DSI sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.830, with the items explaining 54.8% of the variance. The scale yielded a Cronbach's alpha of 0.793.

One-factor congeneric model of Directive (DIR) DSI sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.713, with the items explaining 51.9% of the variance. The scale yielded a Cronbach's alpha of 0.689.

One-factor congeneric model of Behavioural (BEH) DSI sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.818, with the items explaining 55.2% of the variance. The scale yielded a Cronbach's alpha of 0.795.

One-factor congeneric model of SMP sample (n=298) reported Kaiser-Meyer-Olkin (KMO) statistics of 0.803, with the items explaining 52.7% of the variance. The scale yielded a Cronbach's alpha of 0.774.

Van der Laan (2010) achieved a high model fit statistic of a Structural Equation Model (SEM) and concomitant high-reliability scores (Confirmatory Factor Analyses) of the relevant instrumentation used operationalised the concepts and refined the survey to retain the most valid and reliable indicators, which provides a rigorous quantitative framework that assists this study.

3.5.4.7 Summary of Phase Three

This section focused on the quantitative data strand as part of the converged parallel method selected for this study. The data represented the foresight and strategic capabilities of leaders in Singapore measured by three instruments: TSI, FSA, and DSI.

As part of the Foresight Capability construct (Van der Laan, 2010), Orientation to Time represents the leader's thinking perspective, as the ability to engage in mental time travel. Therefore, the TimeStyle Inventory (TSI) (Fortunato & Furey, 2010) was deemed a suitable measure of an individual's orientation to time that influences the dominant foresight style of strategic leaders. In a more extensive study, Van Der Laan (2010) confirmed nine items of the original TSI eighteen items (Fortunato & Furey, 2010), as employed in this study. Also, as part of the Foresight Capability construct (Van der Laan, 2010), Foresight styles reflect how individuals cognitively respond to

change and their envisioned prospects (Dian, 2009). Therefore, the foresight Styles Assessment (Gary, 2008, 2009b; Van der Laan, 2010) deemed a suitable measure of an individual's foresight. Individuals' foresight capability is measured by the extent of agreement with statements in a Likert scale about their dominant orientation to future thinking and lower but significant orientation to the past (Fortunato & Furey, 2010; Furey & Fortunato, 2014), and their propensities to adopt dominant framer and backup adapter foresight styles (Dian, 2009; Gary, 2008, 2009a).

For the Strategic Thinking Capability construct (Van der Laan, 2010). Decision Style Inventory (A. Rowe & Boulgarides, 1994) was used to operationalise strategic thinking styles, which is regarded as a synthesis of systematic analysis (rational) and creative (generative) thought processes that seek to determine the longer-term direction of the organisation and reflected in analytical and conceptual styles, respectively, as confirmed by van der Laan (2010).

The Strategy making processes (SMP) was operationalised in terms of strategic leaders' mode of strategy-making (Van der Laan, 2010). Of interest to this study was the relationship between strategic leaders' foresight capability and decision-making styles and the organisation's strategy-making process to understand the impact of work engagement on strategy-making processes.

Leadership Delivery style was operationalised in the Decision Style Inventory (A. Rowe & Boulgarides, 1994). The research regards Leadership Delivery styles as thought processes, on a continuum, from a Directive (commanding) to a Behavioural / Participatory (engaging), as part of DSI. This is the first time for DSI styles to be used in measuring Leadership Delivery Style.

The research confirmed the validity and reliability of all instruments based on previous research. The researcher elected to acquire a secondary dataset for analysis and interpretation to identify leaders' foresight and strategic thinking capabilities in Singapore as part of this study.

3.5.5 Phase Four – The Delphi Study (QUAL)

3.5.5.1 Introduction

The Delphi method is designed for practical research to solve real-world problems when expert opinions are required that could be used to inform practice. The use of expert knowledge via the Delphi technique to provide input into scenario planning is widely accepted and to deployed consistently to enhance the objectivity of scenario planning (Bokrantz et al., 2017; Culot et al., 2020; R. Jiang et al., 2017; Nowack et al., 2011). The Delphi method is a technique for prediction studies, using QUAL methods (Tashakkori et al., 2020), and flexible enough to be utilized with both quantitative and qualitative data in mixed methods research (Brady, 2015; McPherson et al., 2018; Tapio et al., 2011). This Delphi study merged the PESTEEL drivers of change and the FS and ST leader's profile using the converged parallel method to identify the possible futures of work engagement in Singapore by 2030. The Delphi study is designed to answer the fourth question (RQ4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?), and the fifth question (RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?).

3.5.5.2 Delphi background

Delphi is a name of a temple in ancient Greek, where Greeks and ancient nations came to the goddess of Delphi temple to predict the future (History, 2021). The Delphi method was first used by the US RAND Corporation (Research And Development Corporation) in the 1950s (T. Gordon & Helmer, 1964). Subsequently, and due to its flexibility, it became a widely accepted and research method, particularly in futures orientated research (Gnatzy et al., 2011). At the time, the RAND researchers explored the use of expert panels to address forecasting issues with the premise that, when reaching consensus, it will often be more likely to be correct about the inquiry in their field over others who do not possess the knowledge (T. J. Gordon, 1994).

The Delphi method has been used in various contexts, where expert knowledge is needed to inform the inquiry. Forecasters and academics use the Delphi technique in qualitative explorations into complex issues that benefit from experts' opinions. Researchers and scholars will want to solicit feedback from very different groups of

people, each with a unique lens of expertise on a topic of research. The method has been used in management, strategy planning and organisational development as a catalyst for improving working relationships and improve group outcomes. In addition, the Delphi method has also been widely utilized to inform the development of practice theories and models in a variety of fields and practices (Brady et al., 2015; Hasson et al., 2000; Skulmoski et al., 2007). The question arises: how can the researcher expect to discover useful findings without direct observation of the study object (i.e., research inquiry)? The answer resides in the philosophical foundations of Delphi.

3.5.5.3 The epistemological properties of Delphi data

In their seminal paper, Mitroff and Turoff 1975) asserted that models for ensuring validity derive from the history of western philosophy. They proposed four systems of inquiry, based on the thinking of the western philosophers: J. Locke, G.W. Leibniz, I. Kant, G.W.F. Hegel, and EA Sing (Mirtroff & Turoff, 1975). Tapio et al. (2011) crystalized the inquiring systems as follows:

- Lockean: From data inductively to consensus.
- Leibnizian: From theoretical frameworks deductively to elaborated fact nets.
- Kantian: From theory and data abductively to alternative representations.
- Hegelian: From the conflict between a plan and counterplan to a synthesis.
- Singerian: From broad goal setting teleologically to means of progress.

The five systems of inquiry can be differentiated based on the priority assigned to its components (Mirtroff & Turoff, 1975). The conceptual framework of this study act as a series of filters that transform the "input data" to the state of "output information" to inform decision making. The study considers theory (i.e., strategic leadership and work engagement theory) and the different sources of data (i.e., leaders' profile, PESTEEL, Delphi) central to address the research inquiry. Hence the need to select the most appropriate philosophical system. The Kantian inquiry incorporates both aspects of theory and data sources in the Delphi study: *"the explicit purpose of a Kantian Delphi is to elicit alternatives so that a comprehensive overview of the issue can take place"* (Mirtroff & Turoff, 1975). The *Kantian Delphi* combines the data and theory in an abductive way. Any type of information, quantitative or qualitative data or theory, may raise an essential aspect of the study (Tapio et al., 2011). The *Kantian*

Delphi epitomize characterizes that fits into the pragmatic and mixed-method approach taken by the researcher.

To understand the appropriateness of the Delphi method in the research design, it is necessary to define the Delphi concept, the process, and the selection of participants, and note its robustness for the research as well as its shortcomings

3.5.5.4 Delphi definition and conceptualization

The Delphi method has two key concepts: "expert" and "consensus." For the reason of the research, Delphi is defined as: *"a method for structuring a group communication process so that the process is effective in allowing a group of individuals, as a whole, to deal with a complex problem"* (Linstone & Turoff, 1975). "expert" is someone having special knowledge or expertise relevant to the research questions. Furthermore, the consensus in Delphi studies has been in the range of 51% congruence of views to as much as 100% (Loughlin & Moore, 1979).

The Delphi technique is grounded in the human science paradigm (McPherson et al., 2018), it allows the subjective experiences of human beings to discover and construct reality, and there are multiple views of reality (Creswell & Poth, 2018; McKenna, 1994; McPherson et al., 2018). Subjective views are captured, with the individual biases, in narratives from round one of the Delphi, where statistical analysis can provide an objective summary of the data, which can be updated based on further input in round two and three. The process assumes equal weights for all participants (McPherson et al., 2018; C. Vogel et al., 2019).

3.5.5.5 Delphi process

A Delphi study is an iterative process and consensus-building tool that strives to gather opinions from subject matter experts while uniting new insight and gaining consensus among participants (Geist, 2010). As a research technique, the Delphi method has been employed in a significant number of published academic and practitioner works and addresses numerous research topics in varied fields of interest.

The multi-step process of completing the Delphi study is outlined in Figure 3-8. It started with inviting a panel of experts to participate in the study. The researcher provided the panel with background information concerning the study and the different steps they should complete.

Figure 3-8 Research Delphi process
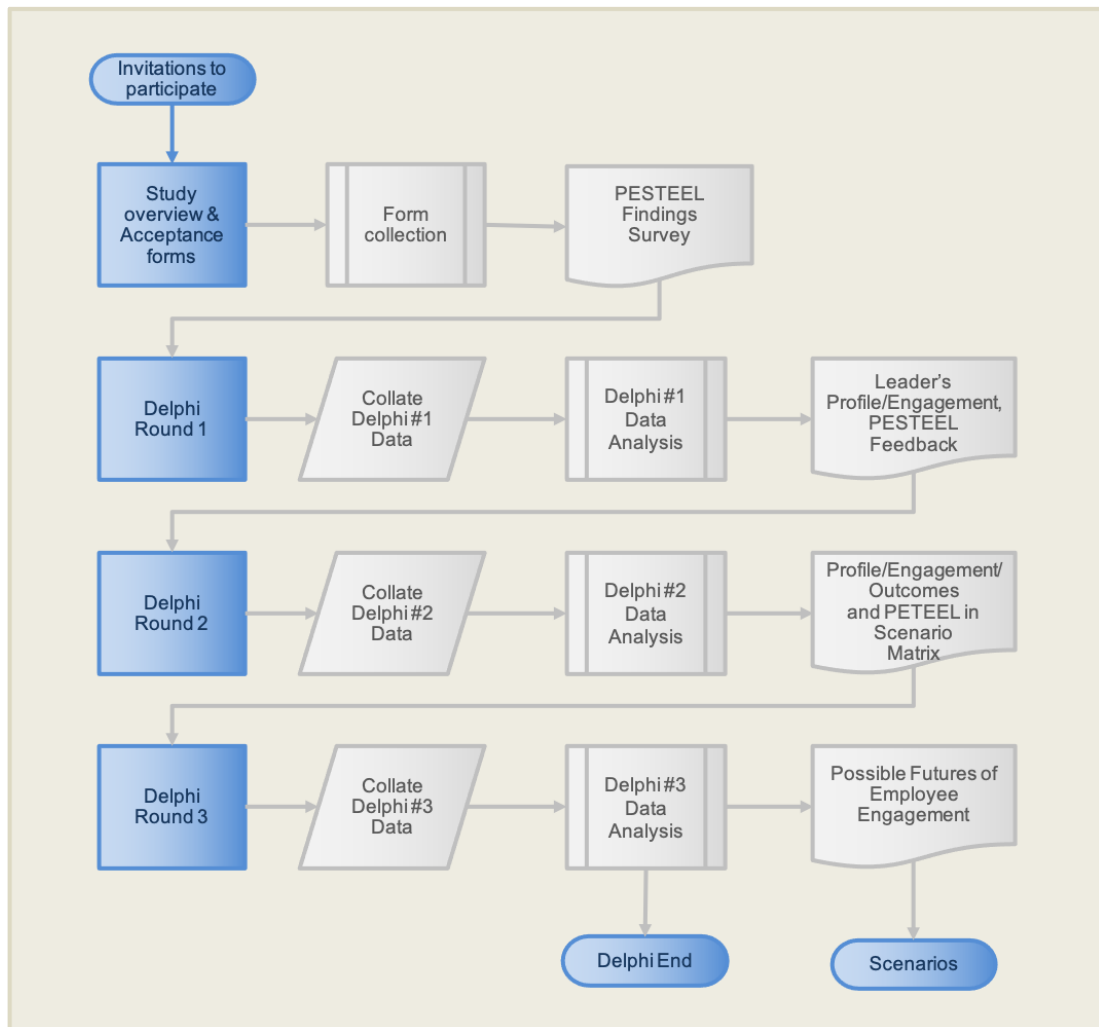
Source: Developed for this research

In pursuing the pragmatic paradigm and mixed methods approach, this study integrates a modified Delphi workflow to support the futures study underpinning the current research. The approach was deemed appropriate to address the overarching question around the possible futures of work engagement in Singapore by 2030. Furthermore, it was chosen as a suitable means of gathering expert opinions through the three rounds of the Delphi process. The Method employs a strategy of inviting a panel of designated experts and collecting through three rounds of iteration to develop consensus.

3.5.5.6 Expert recruitment

The purpose of the Delphi method is to facilitate a formal discussion among selected experts – referred to as 'panellists' - from fields around a specific topic. The proven and practical utility of the Delphi method is in informing research and practice and its capacity to provide a valuable tool to investigate the research enquiry stipulated

(Bolger et al., 2017). The study makes use of individuals who have knowledge and experience of the topic being investigated. The participants must have interest and direct involvement in the topic being examined to reflect current knowledge (Hasson et al., 2000). Participants are identified based on a predetermined criterion. A warm approach to participants with proper introduction yields better outcomes, commitment to participate, and maintain involvement until the process is completed (McPherson et al., 2018). Previous research shows several participants in Delphi studies between 10-25 panellists as a reasonable intake for a Delphi inquiry (Geist, 2010; McPherson et al., 2018; Navarrete-Dechent et al., 2020; Pauw et al., 2021). The method has distinguished characteristics that define its fit for the study purpose: anonymity, iteration, and controlled feedback.

Anonymity

The Delphi technique ensures anonymity among participants. The method relies on panel members answering questions privately to avoid social pressures, allowing participants to consider their ideas and answers without any external influence. In addition, the process enables individuals to change their mind and views as they see fit (Bolger et al., 2017; Geist, 2010; G. Rowe et al., 1991; G. Rowe & Wright, 2011).

Iteration

The Delphi process is an iterative one, where participants refine their views over several rounds based on participants feedback. Thus, several iterations may occur until a consensus of responding is achieved (Bolger et al., 2017; Geist, 2010; G. Rowe et al., 1991; G. Rowe & Wright, 2011).

Controlled Feedback

Individual inputs are collated, aggregated and feedback to the panellists, between iterations, for further consideration. Feedback is presented in an easy-to-read format for panellists to review and critique (Bolger et al., 2017; Geist, 2010; G. Rowe et al., 1991; G. Rowe & Wright, 2011).

3.5.5.7 The expert panel

In line with well-established practices in Delphi studies, the researcher recruited 12-18 participants for this study from professionals who operate in Singapore and meet the following criteria:

- Senior leaders in academia (Dean level), public service (Ministerial level), public corporation (CEO and board level), and Multinational Companies (CEO level).

- Qualified academics and professionals (i.e., Masters and Doctorate levels) with heterogeneous industry backgrounds.

- Strategic leadership level or with direct involvement in setting strategy.

- Direct responsibility of human resources function as part of their management portfolio or direct involvement in work engagement practices.

- Understanding of the research topic at a conceptual level.

Initial research for candidates from within the researcher network succeeded in identifying 24 potential participants who met the selection criteria and were interested in receiving further information. Subsequently, the researcher sent an e-mail invitation (See Appendix B) to explain the purpose and the process that participants will experience during the Delphi study. The invitation also included a participant information sheet (Appendix C) and a consent form (Appendix D). Seventeen invitees joined and completed the form and were appointed as panellists for this study.

Table 3-4 shows the expert panel credentials against the criteria set for the study. In addition, it demonstrates their academic qualifications, industry, management level, and involvement with the human resources management within their organisations and work engagement practices.

Table 3-4 Expert panel credentials

Expert Panel	Academic qualifications (Masters/Doctorate)	Industry	Management level	Human resources Experience	Work engagement Experience
1	Masters	Management Consulting	Managing Director	Yes	Yes
2	Doctorate	Management Consulting	Regional Director	Yes	Yes
3	Doctorate	Financial	CEO	No	Yes
4	Doctorate	Education	CEO	Yes	Yes
5	Doctorate	Management Consulting	Vice president	Yes	Yes
6	Masters	Publishing	CEO	No	Yes

7	Doctorate	Healthcare	CEO	Yes	Yes
8	Doctorate	Higher Education	Dean	Yes	Yes
9	Doctorate	Higher Education	Dean	Yes	Yes
10	Doctorate	Higher Education	Vice-Chancellor	Yes	Yes
11	Masters	Technology	Board Director	Yes	Yes
12	Masters	Pharma	CEO	Yes	Yes
13	Masters	Government	Ministerial level	Yes	Yes
14	Doctorate	Government	Ministerial level	Yes	Yes
15	Doctorate	Technology	Strategic leader	Yes	Yes
16	Masters	Professional Services	Strategic leader	Yes	Yes
17	Doctorate	Government	Strategic leader	Yes	Yes

Source: Developed for this research

3.5.5.8 Quantitative analysis and interpretation

Panellist's feedback consists of quantitative and qualitative data. Based on the numerical ratings and the detected themes in responses, ideas and opinions are listed along with the descriptive statistics of the ratings to identify convergence of the different views and consensus ratings (Geist, 2010; Hasson et al., 2000; Hasson & Keeney, 2011; Mohr & Shelton, 2017). This study defines consensus as > 70%, which has been considered appropriate in previous Delphi studies (Barrios et al., 2021; Diamond et al., 2014; Slade et al., 2014). Items that reached consensus were reported with no further questions in the next round. These items were deemed relevant and included in the development of the scenarios. It is important to note that quantitative analysis reduced the original number of drivers of change from round one to round two, based on the panellists' views concerning items suggested by the study that are not impacting work engagement. The analysis also revealed which items will have a positive impact or negative impact on engagement.

3.5.5.9 Qualitative analysis and interpretation

Like the QUAN data, the QUAL data collection and analysis can happen concurrently in each round, using contents analysis techniques (Creswell & Poth, 2018). The content analysis employs inductive reasoning to explore the data from

panellists and conclude what general patterns may exist in the future (Tashakkori et al., 2020). In addition, the content analysis process search for similarity and contrast in the dataset to identify commonalities and differences (Alhojailan, 2012; Spradley, 1979). The primary aim of this research is to gain a better understanding of the possible engagement futures in Singapore 2030 through the experiences of the expert panel who have directly experienced the research topic, hence the need to understand their viewpoints within the context of their experiences and worldview (Castleberry & Nolen, 2018; Shorey et al., 2020).

Following each Delphi round, the researcher compiled the QUAL data from each Delphi round. All comments were de-identified and extracted, read, coded in sentences or paragraphs to organize in categories, and labelled with a theme. The codes were predetermined based on the engagement theory to reflect the antecedents and the psychological conditions of engagement (Kahn, 1990). Similarly, themes were selected to reflect the collective codes under the three engagement dimensions of rigour, dedication, and absorption (Schaufeli et al., 2002). The coding process generates categories or themes as significant findings which displayed the participants' perspectives supported by their quotations(Castleberry & Nolen, 2018; Creswell, 2014).

It is important to note that qualitative analysis added new drivers of change in round one and two, based on the panellists' views concerning items suggested by the study that impact work engagement. In round two and three, it aided to refine the engagement antecedents and outcomes. In round three, the analysis provided the researcher with essential perspectives to shape future scenarios. The content analysis process revealed valuable insights that supported the study to extract accurate interpretations and conclusions.

The interpretation of data commences with data collection and evolves during and after the data analysis process (Castleberry & Nolen, 2018). The study aimed to uncover the possible futures of work engagement in Singapore by 2030. Derived from the Delphi findings and the information gleaned from the engagement literature and the strategic leadership theory, the research aimed to confirm the drivers for change in Singapore that underwrite the possible futures of work engagement. It also aimed to foresee any new drivers that were not covered earlier in the study. The interpretation

may also call for action agendas concerning the theoretical underpinning and the literature about the study (Creswell, 2014).

3.5.5.10 *Delphi rounds*

The framework for the Delphi study used in this research involved a group of experts and a structured process (Figure 3-8) that comprised three rounds of data collection. Each included a set of questions aimed to identify the possible futures of work engagement in Singapore. The reference year for the assessment was 2030, consistent with the forecasting horizon in similar studies (Culot et al., 2020). Figure 3-9 illustrates the sequence of the Delphi rounds and the interactions between the research and the expert panel, inputs and outputs of each round, and the endpoint leading to the final stage of scenario generation.

Figure 3-9 Delphi Study framework
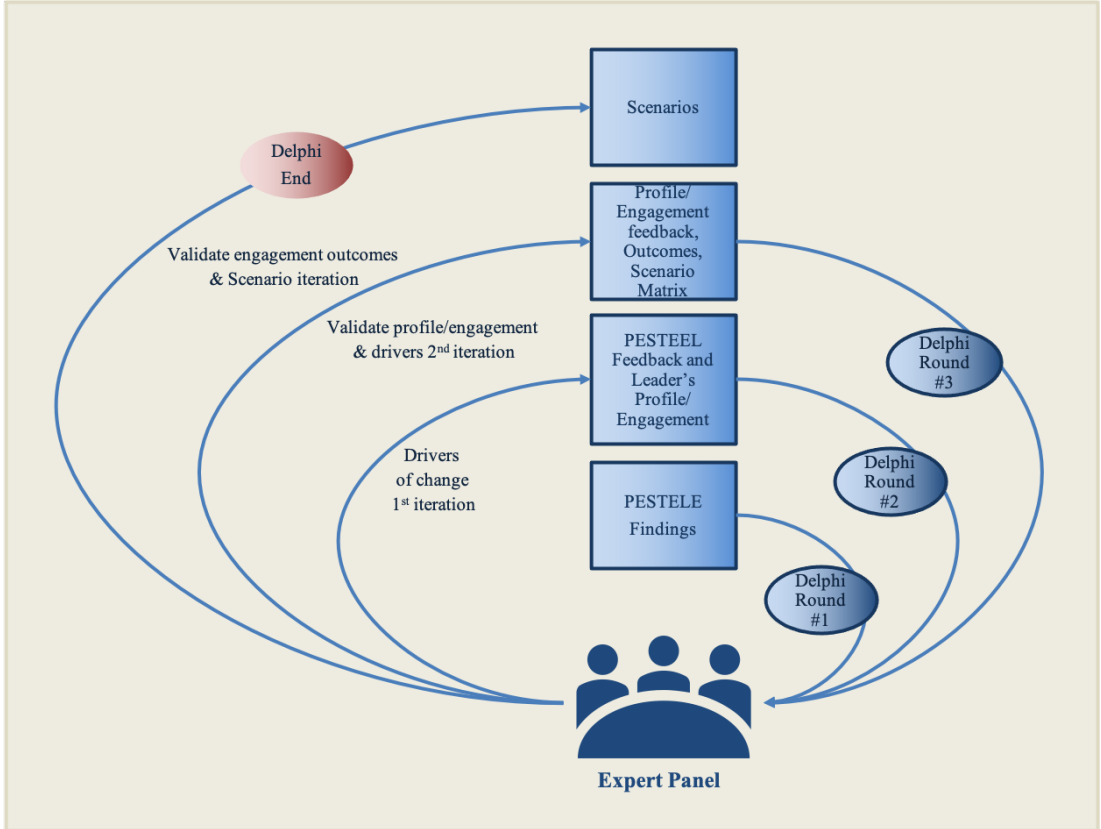
Source: developed for this research

The design of the Delphi questionnaire provided information essential to the research in an easy-to-use questionnaire and simple instructions. The questionnaire used the Google Forms (forms.google.com) software. It provides a modern survey platform and ease of use. The study provided clear instructions and background information relevant to each round and a professional presentation layout, considering

the participants' profiles and the good practices for developing surveys (Leedy & Ormrod, 2005). The first round started in August 2020 and the Delphi study ended by early December 2020.

Delphi round one

The first round collected the views of all participants concerning the drivers of change derived from the PESTEEL analysis in Chapter 4 and their impact on work engagement, either positively or negatively. The panel experts responded to each survey item using a five-point balanced bipolar, Likert scale response (Likert, 1932). First, the panel experts were asked to evaluate the impact on the engagement of each suggested driver by selecting a score from strongly negative, negative, neutral, positive, and strongly positive. The study also provided 'I don't know' as an additional choice if they don't have the experience to provide an expert opinion. Next, the experts were asked to evaluate the drivers' impact on engagement based on extant information in 2020 and their future views for 2030. Next, the panel was asked to rank the key drivers in each dimension in priority order (1-5) regarding the degree of influence on the engagement. Also, the panel had to answer two qualitative questions. First, to suggest any drivers the study may have missed. Second, to add any comments that can support the analysis. Once the responses returned online, all comments were de-identified and were extracted, read, and grouped under the PESTEEL dimensions and categorized into key drivers and other drivers separately.

The researcher began aggregating and analysing the data in a tabular format for each element. Next, the researcher collected frequency statistics to measure the consensus among the panel experts. The study defines consensus as ratings of 70% or above of the total number of responses for either positive impact (i.e., by adding strongly positive and positive rating responses) or negative impact (i.e., by adding strongly negative and negative rating responses).

A qualitative content analysis was carried out on the categorized comments. The researcher performed the inductive process of the content analysis. Some of the comments reflected the individual line of business and their personal biases. The emerging themes exemplified additional drivers of change. Furthermore, the researcher filtered comments relevant to the PESTEEL dimension on hand and moved comments that belong to other dimensions where they belong and did not include extraneous information. In round one, the qualitative analysis focused on unearthing

additional key drivers that may impact engagement and question those that did not gain consensus as part of the round two questionnaire. For each PESTEEL dimension, the study summarised the qualitative analysis findings under four sets: key drivers >70% consensus, key drivers added by panel experts, key drivers for further iteration, and other drivers for additional clarification in round two

For each PESTEEL dimension, the researcher conducted a quantitative and qualitative analysis of the findings under four groups: key drivers >70% consensus, key drivers added by panel experts, key drivers for further iteration, and other drivers' clarification in round two.

Delphi round one resulted in:

1. validating and scaling PESTEEL drivers (trends, megatrends, wild cards).

2. identifying new drivers of change based on feedback from the Delphi panel.

3. identifying drivers of change not reaching consensus among panellists.

4. using investigator triangulation, which included the use of several experts to validates drivers of change.

5. using methodological triangulation, which promotes several data collection methods (i.e., PESTEEL and Delphi).

Delphi round two

In the second round, the researcher introduced the leaders' profile sample and a leader-engagement proposition describing the engagement dimensions (i.e., dedication, vigour, and absorption) and the individual and organisational outcomes that may relate to the specific cognitive capabilities of foresight and strategic thinking of leaders in Singapore, as demonstrated by the profile. Also, the researcher provided the results of round one and highlighted the PESTEEL drivers that reached consensus and did not gain consensus. The panellists were asked to review and feedback on the leaders' profile, the leader-engagement model and PESTEEL drivers' feedback. At the end of round two, the researcher consolidated the responses and conducted a quantitative and qualitative analysis of the findings. Subsequently, the researcher expanded the leader-engagement proposition to cover all TSI, FSA, and DSI measures regarding how they may relate to engagement dimensions and outcomes to provide a

comprehensive relational table of all variables. Finally, the researcher implemented the *Scenario Development Pro*cess as detailed in Section 3.6.

Delphi round two resulted in:

1. validating the final list of drivers of change produced by PESTEEL analysis and Delphi panellists.

2. validating the foresight and strategic thinking profile of leaders in Singapore.

3. validating the work engagement dimensions, individual outcomes and organisational outcomes in relation to leaders' profile.

4. using investigator triangulation, which included the use of several experts to validate research variables.

5. using methodological triangulation, which promotes several data collection methods in a convergent parallel design (i.e., theoretical links, PESTEEL, empirical results, and Delphi).

Delphi round three

In the third round, the study requested feedback on the findings of round two. In addition, the researcher introduced a comprehensive leader-engagement relationship table describing the association between the leaders' profile, engagement dimensions, individual outcomes, and organisational outcomes. Finally, in the same round, the study introduced the possible future engagement scenarios, using the convergent parallel method to merge the drivers of change (i.e., qualitative strand) and the leader's profile (i.e., quantitative strand) to create four distinguished scenarios and of the possible future engagement in Singapore by 2030   for their feedback, to answer the overarching research question.

Delphi round three resulted in:

1. validating the association between the leaders' profile, engagement dimensions, individual outcomes, and organisational outcomes.

2. validating the possible futures engagement scenarios.

3. using investigator triangulation, which included the use of several experts to validate 1 and 2.

4. using methodological triangulation, which promotes several data collection methods in a convergent parallel design (i.e., theoretical links, PESTEEL, empirical results, scenario development process, and Delphi).

3.5.5.11   *Establishing rigour in Delphi studies*

The Delphi method is incremental and converges different data sources toward meaning making. It does not hold any prejudiced preferences and methodically incorporates inputs from the participants' reality to arrive at conclusions. Thus, the Delphi method is grounded in the human science paradigm. However, critiques of the method often challenge the scientific validation of the results and the reliability of the measurements (Sackman, 1975). The criticism is due to the ongoing epistemological disagreement and method variations in applying the method (Afshari, 2019).

Multiple methods or triangulation attempts to secure an in-depth understanding of the research issue (Denzin, 2012). While objective reality can never be captured, combining multiple methods, empirical data, drivers of change, and expert perspectives as strategy adds rigour, breadth, richness, and depth to the inquiry (Flick, 2018).

Conversely, Delphi is significant in research where no explicit evidence is available, and the research is fundamentally exploratory (Thangaratinam & Redman, 2005). The method trusts in the knowledge and experience of subject matter experts. It is a systematic way of determining consensus that is beneficial for answering research questions that are not amenable to experimental methods. It is sensitive to detecting expert disagreement as a source of developing new insights. The validity of the Delphi method is based on the "wisdom of experts," with extant research showing that groups can make sound judgments under certain conditions (Jorm, 2015). Although propositions from the data are valid through the Delphi rounds (see section 3.5.5.8), it is essential to define the procedure for validating the findings that will be undertaken in this study.

Conventionally in quantitative methods, the assessment of reliability (i.e., consistency of measurement and results within the study) and validity (i.e., generalisability and the causal relationship) establish rigour in research results (Creswell, 2014). Conversely, in qualitative research, rigour is measured by applying elements of trustworthiness, authenticity, and credibility (Creswell, 2010, 2014;

Creswell & Miller, 2000; Creswell & Poth, 2018; Tashakkori et al., 2020). Therefore, this research must adopt predominantly qualitative measures of rigour in the Delphi study yet contain quantitative validity and reliability elements in its quantitative measures.

Reliability

The researcher acknowledges that reliability measures are problematic in qualitative studies and that there is no evidence of the reliability of the Delphi method (Hasson et al., 2000; Keeney et al., 2011). Nevertheless, the Delphi approach may enhance reliability due to its anonymity, iteration, and expert features (Afshari, 2019).

Face validity

The Delphi experts represent a group opinion when consensus is reached, which is considered a more valid view than a single opinion. Experts' opinion providing a confirmative judgement, and the following Delphi rounds provide refinement and further validation of the findings. Numerous authors claim the content and face validity of the Delphi method (Camargo et al., 2018; Hasson & Keeney, 2011; Hong et al., 2019; Huang et al., 2008).

Construct validity

The Delphi method is assumed to enhance construct validity. The experts' confirmation that leader capabilities have predictive value in relation to work engagement adds to the construct validity of the study. Furthermore, the expert views serve as an indicator that the method measures what it claims to measure (Hasson & Keeney, 2011; Skaarup et al., 2017). In order to achieve full construct validity, advanced multivariate data analysis is required.

Trustworthiness

Reliability and validity definitions are more suitable for quantitative research; for that reason, numerous authors suggest trustworthiness as a more appropriate measure for the defensibility of Delphi studies. Trustworthiness as criteria for QUAL validity and reliability can address some of the QUAN validity and reliability issues (Creswell, 2014; Creswell & Miller, 2000; Creswell & Poth, 2018; Tashakkori et al., 2020; Zimmermann et al., 2012). Trustworthiness in qualitative research is defined as credibility, dependability, confirmability, and transferability (Guba & Lincoln, 1989; Lincoln & Guba, 1985). Trustworthiness is the researcher's responsibility in adhering

to research procedures to deliver rigour and eliminate confounding variables (Zimmermann et al., 2012).

Credibility

Credibility contributes to internal validity in qualitative research (i.e., how results represent the truth); it enhances the probability of the findings by being credible (Lincoln & Guba, 1985). For example, Delphi can achieve this by ongoing iteration and feedback given to panellists as member checks and audit trail (T. C. E. Engels & Kennedy, 2007).

Dependability

Dependability refers to the stability of the collected data and whether the findings could be repeated. It requires that the inquiry process is adequately documented, and a range and representative sample of experts is included (Cornick, 2006; T. C. E. Engels & Kennedy, 2007). The study's dependability is strengthened using a quantitative measure and diverse and expertise as demonstrated by the panel experts.

Confirmability

Confirmability relates to data neutrality, and it can be traced back to original sources. Confirmability rests on consistent and systematic data collection (Cornick, 2006; T. C. E. Engels & Kennedy, 2007; Hasson & Keeney, 2011).

Transferability

Transferability relates to how the Delphi findings can be applied more broadly were another panel of experts recruited to the panel. Although this Delphi study was conducted in a specific context, place, and time, it is argued that other experts representing the population of the interest would have the same conclusions similar to those of the Delphi study. Thus, transferability can be recognized based on applicability (Cornick, 2006; T. C. E. Engels & Kennedy, 2007; Hasson & Keeney, 2011).

3.5.5.12 *Advantages and Disadvantages of the Delphi Method*

The Delphi method offers several advantages, which makes it an important research methodology for futures studies. It is a cost-effective tool to bring together experts in research and gather their collective wisdom. The method provides anonymity which eliminates social pressure and groupthink. The controlled feedback

process between iterations allows panellists to reconsider their responses and refine their opinions thoughtfully. The iterations process provides objectivity, and the descriptive analysis delivers quantifiable scores of consensuses (Bañuls & Turoff, 2011; Geist, 2010; Mohr & Shelton, 2017).

The Delphi method also poses some disadvantages (Shariff, 2015). For example, attrition rates of participants can be high and increase with the number of rounds. In addition, there are no clear guidelines in the literature concerning the definition of expert or panel size. Furthermore, no definitive optimal level of consensus or the effect of attrition rates on outcomes between iterations is described. Therefore, this study adopted a 70% score as an indicator for consensus.

3.5.5.13 *Summary of Phase Four*

The research framework for the Delphi study provides further insight into the purpose of the study, the structure, the participants, the process, the number of rounds and the consistency of the procedures applied for information gathering in preparation for the Delphi. It also presents the background information provided before each round, the data collection and sorting, and the data analysis and interpretation.

3.6 SCENARIO DEVELOPMENT PROCESS

3.6.1 Introduction

Scenario developing is a predictive approach. The aim is to foresee alternative futures in different configurations of drivers of change, and each configuration is internally consistent (P. Schwartz, 2012). The conceptual and theoretical foundation of the study is based on the strategic leadership cognitive capabilities as valid proxies for how the future may evolve. Particularly foresight and strategic thinking capability profiles (Section 5-2) and leadership delivery style profiles of leaders in Singapore, as they relate to work engagement. This futures study implemented a scenario development process that incorporated four research activities:

1. A literature review to identify the theoretical links between strategic leadership and work engagement. Also, to determine the antecedents and outcomes of engagement as a data source for the scenario process.

2. A PESTEEL study (Chapter 4) to determine the environmental drivers of change that may impact work engagement.

3. A survey of leader's cognitive capabilities of foresight and strategic thinking in Singapore (Section 5-2).

4. A Delphi study (Chapter5) to validate the previous activities' findings and develop the skeleton scenarios of the possible futures of work engagement in Singapore by 2030.

The study suggests that by combining the predictive value of both Strategic Leadership theory (i.e., cognitive capabilities as proxies) and Engagement Theory (i.e., antecedents and outcomes), and the expert views, the resultant scenarios will have greater depth, breadth, and empirical support. This section provides a summary of all the data points necessary for scenario planning.

3.6.2 Use of PESTEEL and Delphi in scenario development

This futures study implemented a scenario development process. The study defined a scenario as *"a systematic description of events that would lead to a future outcome"* (Tapio et al., 2011). The scenario process involves gathering information, both narrowly and broadly. The process informs the study by providing facts, information, and stakeholder (expert) opinion about the focal issue. The acquired knowledge enhances the researcher's ability to pose more significant questions (P. Schwartz, 2012). The study takes a global perspective in addressing the research question. The research incorporated an environmental scanning tool (i.e., PESTEEL), leaders' profile, and a Delphi method. The study integrated the different strands of enquiry and triangulated the data to achieve rigour. The study combined the PESTEEL analysis, Delphi study and the scenario planning process to explore the possible futures of work engagement in Singapore by 2030.

Environmental scanning is an effective method to provide the raw material for building the forward view needed for scenarios (Conway, 2006; Slaughter, 1997; Voros, 2003). First, PESTEEL analysis identifies the driving forces necessary to build scenarios (P. Schwartz, 2012). Second, it identifies risks associated with events in any scenario (WEF, 2020). Finally, it provides contextual practice for the scenario development phase (Sarpong et al., 2013). Environmental scanning serves as an input into the Delphi study (Fassbender et al., 2021; Mawardi et al., 2013).

The Delphi method is a foresight research method providing information in future studies (Afshari, 2019). It permits the researcher to investigate new areas in

depth and breadth, and it is one of the most used techniques in foresight and future studies (Conway, 2006; Slaughter, 1997; Voros, 2003). The methodology enables the formulation and description of scenarios (Culot et al., 2020). In addition, it enhances the objectivity of scenario planning (Nowack et al., 2011).

The study takes a global perspective in addressing the research question. The PESTEEL study (see Chapter 4) and the Delphi method adopted a predictive scenario approach (Börjeson et al., 2006) to identify the possible futures of work engagement in Singapore by 2030. The various developments considered the leader's foresight and strategic thinking capabilities in response to environmental factors as a trigger for engagement antecedents and associated outcomes. This research methodology and tools were selected because of the interdisciplinarity and complexity of the research issue, which made a case for qualified academics and professionals to provide an informed opinion on current trends, and enabled the integration between the PESTEEL analysis, the Delphi method, and the Scenario development process.

In the following section, the researcher details the scenario planning process. The scenarios were created by the convergence of the strategic leadership cognitive capabilities of foresight and strategic thinking, leadership delivery, and work engagement. Scenario planning is a forward-looking tool seeking to understand alternative futures. Still, it is enacted in time and space, characterised by stress, challenge, and outlook for change.

3.6.3 Scenario Planning

The scenario building involves gathering information, both narrowly and broadly. The process informs the study by providing factual and conjectural information concerning the research question. Scenarios provide mental models to understand complex systems and situations, to articulate a set of possible outcomes in the future (Ringland, 2010). A scenario method is an approach to harness uncertainty in the scenario planning process (Wack, 1985a, 1985b). It involves intuition, creativity, and a participatory approach that evaluates the environmental forces of change and their possible outcomes (Chermack et al., 2010). It is a futures studies method (Pinto & Medina, 2020). It is also a tool for strategic thinking (Schoemaker, 1995). Scenarios illustrate the scope of possibility for decision-makers to drive change (Bañuls & Turoff, 2011) while still (Bodwell & Chermack, 2010). Scenarios provide contributions to the scholarly discourse (Bokrantz et al., 2017).

There are numerous variations in how to conduct a scenario planning study; however, all have certain elements in common: defining the scope, exploring the environment, describing the goal and logic for the possible futures, and developing the scenarios (Ilbury & Sunter, 2011; Ogilvy & Schwartz, 2004; P. Schwartz, 2012; Wack, 1985a, 1985b; I. Wilson & Ralston, 2006). The researcher adopted a scenario building process that is most appropriate for this study to answer the research question (Chermack et al., 2001; Ogilvy & Schwartz, 2004; Pinto & Medina, 2020; Schoemaker, 2020; Schoemaker & Heijden, 1992; P. Schwartz, 2011, 2012). The following steps illustrate the method applied in this study to incorporate the PESTEEL analysis and Delphi method as contributing to a scenario generation and how it is situated within the research:

1) Identifying the focal research problem:

   The focal research problem was concerned with the possible futures of work engagement in Singapore by 2030. The low levels of work engagement, low productivity, and the need for innovation and creativity in the city-state mandated the need for strategic leaders to enhance work engagement, as requisite for addressing the problem at the macro (national) and micro (public, not for profit and private entities) to improve organisational outcomes.

2) Key variables that affect the identified problem:

   The study considered the key variables of foresight and strategic thinking capabilities of strategic leaders in Singapore as indicators of future work engagement, in addition to drivers of change (PESTEEL analysis).

3) Environmental drivers:

   The researcher completed an environmental scan using the PESTEEL and Delphi methods to identify the drivers of change that influence the key variables in step two and the study focal problem in step one. Some of these drivers are predetermined trends and megatrends that will have the same implications on all scenarios. Other events described as wild cards are considered most uncertain but can have a high impact on engagement when they occur. The latter is the most influential building blocks in scenario development.

4) Rank by Impact and Uncertainty:

Next comes the ranking of variables and driver based on two criteria: first, the degree of impact on engagement; second, the degree of uncertainty surrounding them, to identify the few most important and most uncertain. Predetermined drivers can be eliminated at this juncture since they will have the same impact on all scenarios.

5) Determine the interrelationships among the uncertainties.

Based on the identified uncertainties in step 4, these presumed uncertainties should be examined further to address the interrelationships among the uncertainties (Schoemaker, 1995). Table 3-5 illustrates interrelationships.

Table 3-5 Identify the interrelationship among uncertainties

U	U1	U2	U3	U4	U5	U6
U1	x	-	-	-	+	-
U2	x	x	+	+	?	-
U3	x	x	x	+	-	-
U4	x	x	x	x	-	-
U5	x	x	x	x	x	-
U6	x	x	x	x	x	x

Source: Adapted from (Schoemaker, 1995)

The interrelationships among the uncertainties (Example in Table 3-5) are managed by asking whether a "yes" answer to, say, U2 affects the chance of a "yes" answer for U3or another uncertainty. If the chance of a "yes" goes up, the correlation between U2 and U3 is positive (+); if the chance goes down, the correlation is negative (-), and otherwise, it is zero (0) or in-determinate (?). The all (+) or all (-) are internally consistent and can be applied in forming a scenario.

6) Selecting key variables continuums:

Configure the scenario matrix by selecting the key variables continuums that represent key variables and the environmental forces as the main axes of the scenario matrix, which will guide the development of the scenario logics. The key variables continuums related to this study are discussed in section 3.6.4.

7) Selecting scenario logic:

The results of this ranking assisted the researcher set the axes, as demonstrated in Section 3.6.5, along which the selected scenarios differed as they were identified on the scenario matrix. The location in the matrix characterised the logic, goal, and outcomes of each scenario.

8) Developing the skeleton scenarios:

Based on the characteristics derived from previous steps of the Delphi method, the researcher assessed the interrelatedness and mutual implications of the relevant variables and drivers that scenarios should be designed to reveal. The researcher presented the skeleton scenarios to the Delphi panel in round three for validation and to test their plausibility.

9) Developing scenario narrative:

The panellists' review of the proposed scenarios provided the researcher with valuable feedback to complete the scenarios' write-up. At this stage, the study returns to the focal research problem to articulate how work engagement will look in each scenario. The study determined individual and organisational outcomes as necessary indicators to monitor what the future holds for a given scenario. That future is likely to affect the strategies and decisions in the organisation.

3.6.4 Key variables continuums

Images of the future can be described as outlining the final outcomes in a continuum of change (Bell & Mau, 1971). This study investigated the possible futures of work engagement based on the four key continuums that outlined the future outcomes:

1. Strategic leadership continuum represented by measures of foresight and strategic thinking capabilities of strategic leadership in Singapore.

2. Work engagement continuum represented by the work engagement dimensions of vigour, dedication, and absorption, in Singapore, as validated by the Delphi panel.

3. Drivers of change as validated by the Delphi panels, considering their impact on the different scenarios from Unfavourable impact to Favourable.

4. Leadership Delivery continuum represented by measures of DSI (Directive and Behavioural) of strategic leadership in Singapore.

3.6.4.1 Strategic Leadership continuum

The study core assumption around foresight and strategic thinking capabilities represents a continuum on the scenario matrix, which extend from "less balanced" to "more balanced" (Figure 3-10).

Figure 3-10 Strategic Leadership Continuum
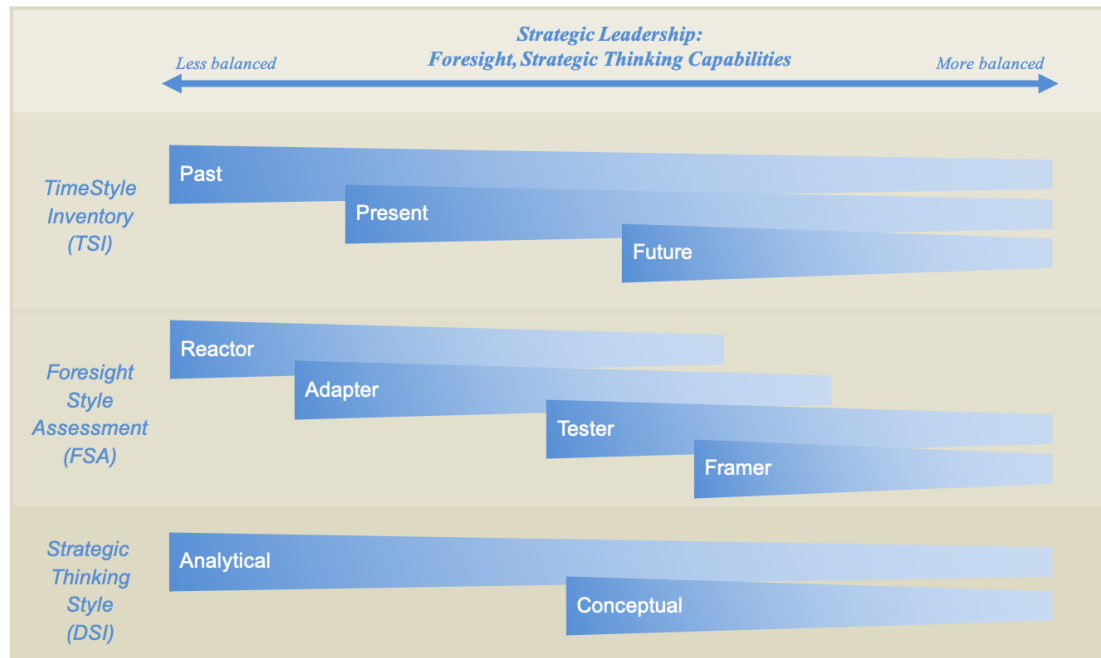
Source: Developed for this research

It contains three measures of two constructs: (a) foresight cognitive construct (Van der Laan, 2010) of TimeStyle Inventory (Fortunato & Furey, 2009), and Foresight Style Assessment (Gary, 2008, 2009b), and (b) Strategic thinking cognitive construct based on Decision Style Inventory (Figure 3-10).

The continuum describes the "less balanced" TSI dominant "Past" as risk reductive and more oriented towards previous experiences, while the "more balanced" TSI as a balanced score of past learning, present needs, and future aspirations. The continuum describes the "less balanced" FSA dominant "Reactor" as preserving own position and resisting change, while the "more balanced" FSA as balanced by Tester and Framer, meaning they define the future vision and adopt new trends, focusing on innovation and addressing long-term issues. Finally, the continuum describes the "less balanced" DSI dominant "Analytical" as abstract thinking and data analysis to optimize resources, while the "more balanced" DSI as balanced Conceptual and

Analytical, focusing on the future and tolerating ambiguity while solving problems and apply system thinking and data analysis to reach decisions.

3.6.4.2 *Work Engagement continuum*

Work engagement is characterized by vigour, dedication, and absorption (Schaufeli et al., 2002). Vigour is a physical response; it indicates that people exert the energy and time to achieve what they have been asked to do. Dedication is about involvement in one's work and experiencing a sense of purpose, meaning and significance. Finally, absorption is characterized by being fully concentrated and deeply engrossed in one's work, whereby time passes unnoticed. A low level of engagement may discern low or no vigour, but as employees get more involved other dimensions of dedication" and absorption become explicit, and work engagement increases (Figure 3-11).

Figure 3-11 Work Engagement continuum
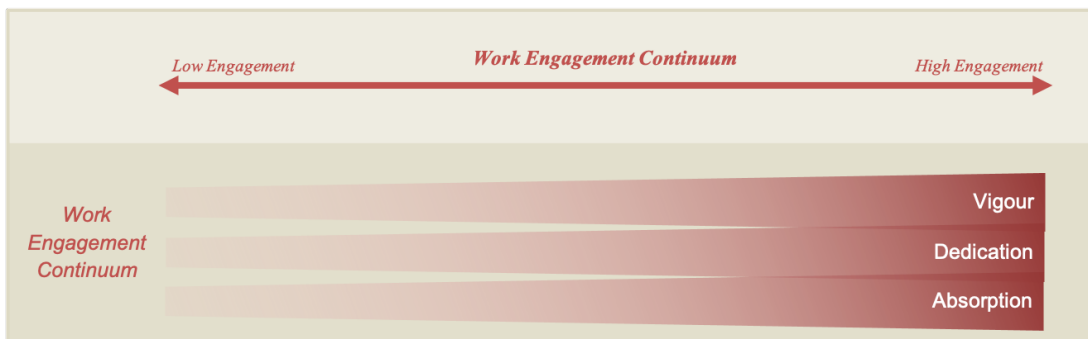
Source: Developed for this research

3.6.4.3 *Drivers of Change Continuum*

The study identified the drivers of change in PESTEEL analysis (Chapter 4), categorised as trends and megatrends. The Delphi panel validated the impact of the selected drivers. The impact of the various drivers on work engagement is presented as a continuum (Figure 3-12). Drivers that negatively impact engagement are considered "Unfavourable", and the ones that have a positive impact become favourable.

Figure 3-12 Drivers of change continuum

Source: Developed for this research

3.6.4.4 Leadership Delivery continuum

The study identified two essential measures in the DSI scale that were not utilized elsewhere: "Directive" and "Behavioural." The researcher applied the two measures as indicators of the leadership delivery style. "directive" style is a top-down approach where the strategy and decision-making are taking place at the leadership level with minimum or no engagement from the workforce. On the other hand, the "behavioural" style is a participatory approach that invites bottom-up ideas and initiatives and focuses on increasing work engagement (Figure 3-13).

Figure 3-13 Leadership Delivery Continuum

Source: Developed for this research

The researcher argues that a behavioural style will enable work engagement and lead to better strategies and innovation. In the meantime, a clear direction provided by leadership is essential for people to align with the business imperatives.

3.6.5 Summary of Scenario Development Process

This study adopted a modified scenario development process to incorporate the different sources of data. Figure 3-14 illustrates the key variables and how the study applied them to create the scenario matrix.

On the vertical axis, "Drivers of Change" represents "Uncertainties" on the vertical axis of the matrix and reflect a continuum from "Unfavourable" to "Favourable" drivers of change in terms of their impact. The top horizontal axis represents the key variable continua of foresight and strategic leadership capability from "Less balanced" style to "More balanced" style. The middle horizontal axis represents the key variable continua of leadership delivery from "Directive" to "Behavioural" style. Finally, the bottom horizontal axis represents work engagement continua from low engagement to high engagement, which is the outcome of each scenario and not a scenario variable.

Figure 3-14 Study scenario development matrix
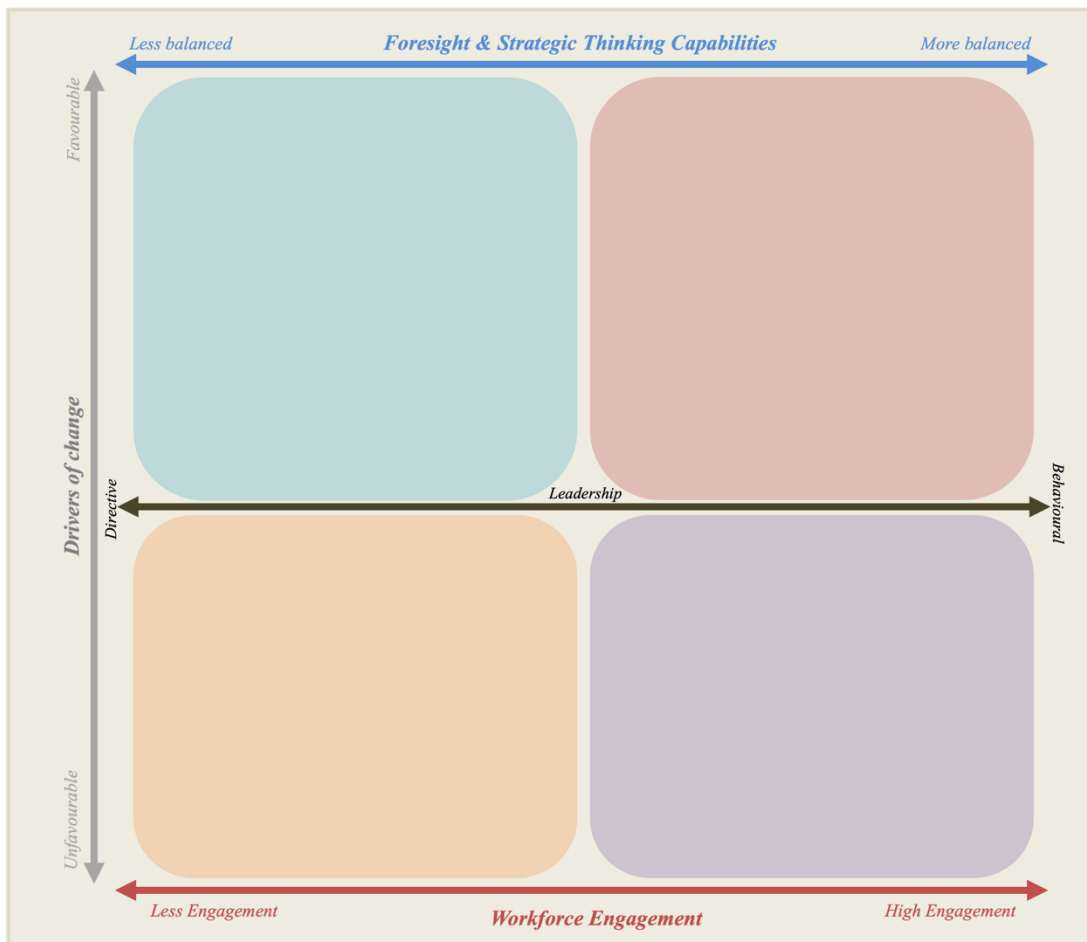
Source: Developed for this research

The output information from the Delphi method, in the form of uncertainties, defined the logic of each scenario. The engagement propositions associated with the different profiles, as confirmed by the Delphi panel, shaped the outcomes of each scenario.

3.7 LIMITATIONS

The researcher endeavoured to ensure that the current study incorporated methodological rigour with practical utility in different phases of the research. Considering the pragmatic worldview taken by the researcher, the research problem was considered central to the investigation and methods applied in the study. The research was based on exploratory and mixed-method design and comprised of four phases. The methods used were literature review, PESTEEL analysis, Delphi method and Scenario Development Process. The primary purpose of the research was to investigate the possible futures of work engagement in Singapore, by 2030, based on the strategic leadership theory and work engagement theory.

As already discussed, there were statistical limitations relevant to the methodology applied in the research. While the empirical data representing the leaders' profile satisfied the validity and reliability requirements, the same could not be achieved for the qualitative data. Instead, widely accepted validity measures for QUAL analysis were applied.

Critics note limitations of the Delphi method, like a potentially poor choice of panellists, poorly designed surveys, the limited value of feedback and consensus and instability of responses, which is not unique, as all research methodologies are at risk for the same factors (Geist, 2010). However, the study addressed the criticisms of Delphi studies by recruiting very senior academics and leaders, from government institutions, universities, not for profit organisations and private multinational corporations. In addition, participants met a well-defined criterion to ensure the relevance of their experience to the research inquiry. This also presented the researcher with the challenge of ensuring that the Delphi survey and feedback maintained the interest of the high calibre participants.

The future, and studies of it, are by their very nature unknowable. This study, therefore, has the limitations that its findings in the form of scenarios as a product of the Delphi method are limited by the extent to which the findings can be tested empirically. However, the study's purpose was not to predict the future. Instead, it expanded the scope of possibilities to inform decision making. That said, elements of the research have high levels of validity and reliability (Leader profiles and PESTEEL), which serve to increase the rigour of the study scenario development outcomes.

3.8 ETHICAL CONSIDERATION

The choice of the research design must meet the ethical standards of the researcher, the institution (USQ) and the stakeholders (Participants). Furthermore, considering and anticipating ethical issues that may arise throughout the research journey has to become a standard practice for the researcher, as a professional practitioner (Creswell & Clark, 2017; Creswell & Poth, 2018).

Tashakkori et al. (2020) asserted key ethical issues relevant to this research. Issues related to sampling include informed consent to participate in the Delphi study. Identify issues involved in data collection and participants' rights of anonymity and

confidentiality and establish necessary safeguards to protect the identity and well-being of all participants. Mixed methods researcher must provide detailed information about the research context and procedures used in the study and identify where the QUAN and QUAL strands integration occur (Creswell & Clark, 2017; Creswell & Poth, 2018; Tashakkori et al., 2020).

In compliance with the ethical guidelines of the University, the researcher accounted for all the ethical considerations necessary for compliance before and during this research. As the study involved human subjects, ethical principles require the Delphi method to undergo appropriate review by an institutional review board (Creswell & Poth, 2018).

The Human Research Ethics Committee (HREC) reviewed the ethical guidelines developed by the University of Southern Queensland. It is mandatory for any research to be approved in terms of ethics before being conducted. This research has gone through the identical steps above and applied for Human Ethics Research Approval which received a positive response and was granted approval on August 30, 2019. This approval is valid until the expiry date of August 30, 2022 (See Appendix A). The HREC also required the submission of Ethics Progress Reports at regular intervals. The researcher adhered to the standards as set out in the regulations and policies and ensured that the rights and interests of the research participants were not put in jeopardy. Upon the completion of the research, a report was sent to the participants.

As a professional executive coach, the researcher is also expected to adhere to the guidelines of the Australian Standards of Coaching in Organisation (HB 332-2011) which provide guidance for coaching industry bodies and professional associations. In addition, the researcher is a member of multiple global professional associations and adheres to their code of ethics: Association of Coaching (AOC, 2020), International Coaching Federation (ICF, 2020), European Mentoring and Coaching Council (EMCC, 2020), International Society of Coaching Psychology (ISCP, 2020), Institute of Coaching – Harvard (IOC, 2020). The requirement to identify and comply with ethical principles is a fundamental component of professional practice. In the researcher line of business, key ethical considerations revolve around confidentiality of client information, awareness, and disclosure of any conflict of interest, integrity in practice to uphold professional standards and avoid false claims, operating within own area of competency and ability, and maintaining professional development. The

current research falls under the requirement of professional development to enhance the competency of the researcher within his profession.

3.9   CONCLUSION

Chapter 3 provided an overview of the research methodological approach that included the research paradigm, strategy of inquiry, research design, and methods selected for data collection and analysis. The research was underpinned by a theoretical framework and conceptual framework that informed the research. The research stated the limitations of the methods used, especially in relation to the Delphi method and the scenario development process. That said, elements of the research have high levels of validity and reliability (Leader profiles and PESTEEL), which serve to increase the rigour of the study scenario development outcomes, aiming to expand the scope of possibilities to inform decision making. Finally, the ethical considerations of the study were identified.

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Chapter 4: Environmental Scan

4.1 INTRODUCTION

The previous chapter provided an overview of the research methodology adopted to answer the research questions. The methodology covered the research design, selected instruments, data collection techniques, analysis, and interpretation of the research results. The research design (Figure 4-1) illustrates the different phases of the study. Chapter two covered phase one and answered the first research question (RQ.1: Is strategic leadership associated with work engagement?). Chapter four reports on phase two of the study and investigates the drivers of change that may impact the future of work engagement in Singapore by 2030. It addresses the second research question (RQ.2: What are the drivers of change that impact the futures of work engagement in Singapore?).

Figure 4-1 Research Design – Phase Two
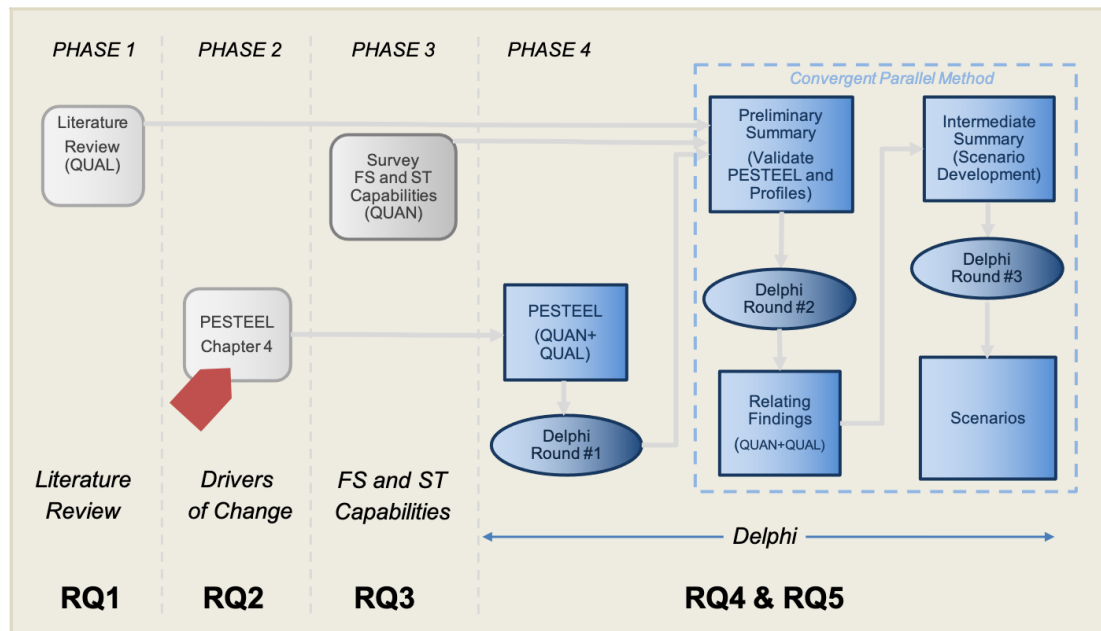
Source: Developed for this research

The study draws upon environment scanning using the PESTEEL analysis (Section 3.5.3). The analysis identified the environmental drivers of change that may influence the futures of work engagement in Singapore by 2030.

Figure 4-2 outlines the structure of chapter four. Section 4.2 covers an overview of Singapore. Section 4.3 discusses the driving forces affecting work engagement.

From section 4.4 to section 4.10, the study examines the PESTEEL dimensions. Finally, section 4.11 provides a conclusion of the environmental scan.

Figure 4-2 Chapter 4 - Contents

Source: Developed for this research

4.2   THE REPUBLIC OF SINGAPORE

The Republic of Singapore is the smallest state in Southeast Asia (Figure 4-3). The city-state occupies 722.5 km^2 and has a population of 5.69 million (m) people. Singapore citizens represent 3.5m. The remainder of the people are permanent residents or work permit holders. The ethnic fabric of Singapore consists of Chinese 77%, Malays 14%, and Indian 8% (Singapore, 2019; SingStat, 2021).

Figure 4-3 Map of Southeast Asia and Singapore
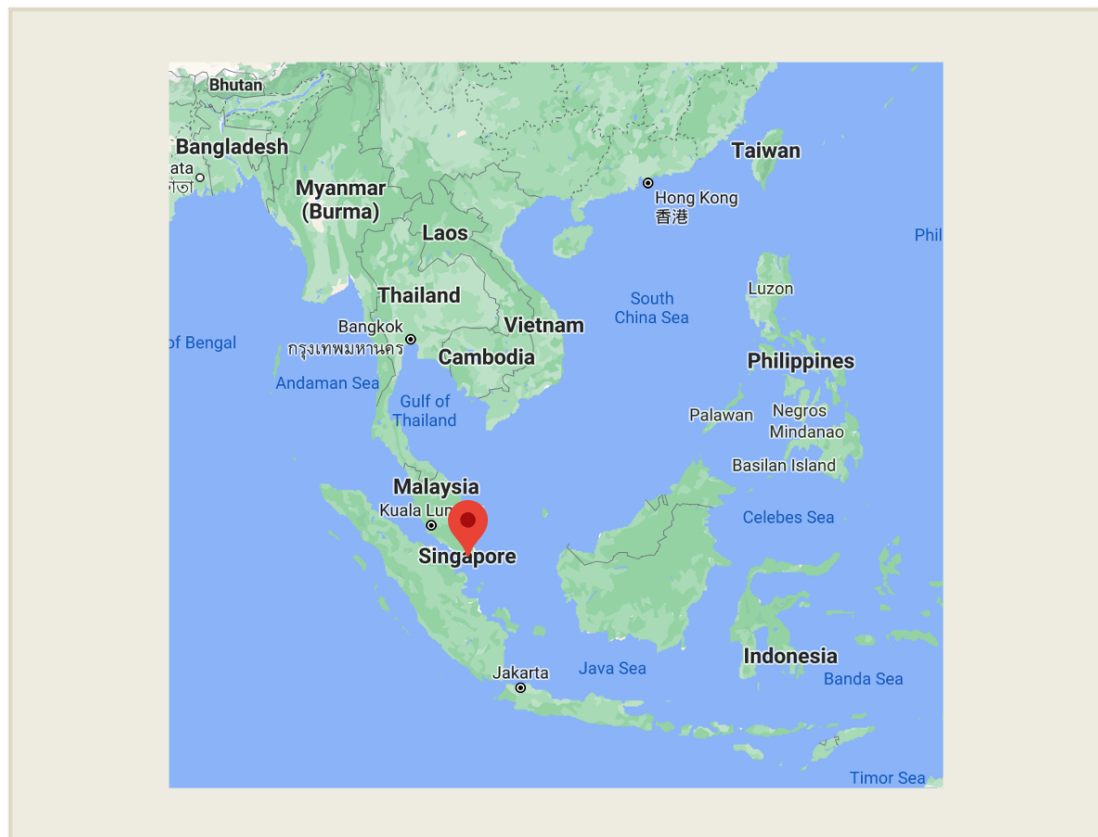
Source: (Google-Maps, 2021)

Since its independence in 1965, Singapore became a trading post and developed into a global financial centre. Its strategic location combined with a primarily corruption-free government, a skilled workforce, pro-foreign investment led to a prosperous free-market economy that attracts international investment funds on a large scale. The city-state has few natural resources, a strategic location, deep-water ports, and fisheries. Its survival has always depended on its ability to provide services to other countries and major powers. Singapore depends on trade and its multi-ethnic fabric (Britannica, 2021; NationsOnline, 2021).

4.3   DRIVING FORCES AFFECTING ENGAGEMENT

The study employs the futures methods and steps covered in section 3.6 to explore work engagement scenarios in Singapore by 2030. Scanning is a crucial input into scenario planning (R. Sharma & Yang, 2015). The scanning process involves studying the various driving forces that can impact work engagement in Singapore by 2030. The study utilises the PESTEEL framework as an environmental scanning method. A search of the literature reveals that PESTEEL is not commonly used to understand the macro environment concerning work engagement and organisational

outcomes, and this could have a negative effect on leadership effectiveness (Joubert & Roodt, 2011). The PESTEEL analysis includes framing the scope around the focal issue of work engagement in Singapore (Section 2.8.3) and scanning the environment to explore drivers of change that impact work engagement. The study considered the pandemic (COVID 19) effects and acknowledged the complexity and uncertainty of what will emerge as a post-COVID norm (Sinha, 2021). Each dimensional analysis of the PESTEEL was contextualised by the notion of work engagement and organisational outcomes.

4.4   POLITICAL DIMENSION

4.4.1 Introduction

The political dimension refers to the government's stability and the attitudes and ideologies behind the political movements that may affect organisations and the workforce. The political dimension includes government policies, sources of revenue, social services, or trading agreements. The political drivers and legal drivers may reflect two sides of the same coin; for this research, the study considers the driver as political when it refers to government attitudes and approaches and legal when it refers to law and regulations (Ikebujo, 2020; Issa et al., 2010; N. Rastogi & Trivedi, 2016; Wambua & Omondi, 2016).

This section provides the political background of Singapore and addresses the political drivers of change. The PESTEEL analysis results discuss the key political factors and drivers related to shaping the future of work engagement in Singapore.

4.4.2 Singapore political context

After departing Federation Malaysia, the country gained independence in 1965 (Britannica, 2021; Commonwealth, 2015). Its constitution came into force on June 2, 1959. Singapore is a republic and a parliamentary democracy, with an elective, non-executive presidency. The city-state has a head of state, a Prime Minister and a cabinet, and a unicameral Parliament. The Singapore government's statutory boards are empowered to regulate operational functions by legal statutes passed as parliament acts. Statutory boards are Singapore's answer to regulation and policies; they are chartered to set the regulations and deregulations by focusing on broader society-driven and nation-oriented goals (F. Chang & Das, 2020). Statutory boards are developed and utilised by the government to achieve its economic objectives (Woo,

2014). The city-state adopted a neoliberalism model that allowed the market's primacy while rolling back on the welfare state and demanding individuals take personal responsibility and self-reliance within the government's safety nets (Liow, 2012; Rozario & Pizzo, 2021).

Singapore is one of the five founding members of ASEAN (Association of Southeast Asian Nations). ASEAN was established on August 8, 1967, and today it includes ten nations of Southeast Asia. The purpose of ASEAN is to accelerate economic growth and development in the region, promote regional peace and stability, and cooperate with existing international and regional organisations (ASEAN.org, 2021). Singapore is also a member of the United Nations (UN.org, 2020), the Commonwealth (TheCommonwealth.org, 2021) and has been invited regularly in G20 processes in most years since 2010 (G20.org, 2020).

The ruling People's Action Party (PAP) of former Prime Minister Lee Kuan Yew has dominated the country since 1959 and remained in power since independence. The Workers' Party (WP) and the four-party Singapore Democratic Alliance (SDA) represent the opposition in the parliament with few seats (CNA, 2020). Racial minority interests are inadequately represented in the Parliament of Singapore (Tam, 2019). Government groupthink, a culture of fear, and lack of political transparency are critiques shared against PAP (George, 2017). Woo (2020) argues that coercive political power and legitimation capacity are the sources for the Singapore government's ability to maintain relative social stability (Woo, 2020a).

The PAP can be described as authoritarian, enforcing strict obedience to authority at the expense of personal freedom. One commonly cited reason for the lack of opposition in Singapore is the use of defamation lawsuits. Subject to sedition, libel and contempt laws, the PAP can bankrupt political opponents and disqualify them from running for office (Human-Rights-Watch, 2020). In the absence of coherent opposition, legislations have been passed to provide the PAP with coercive powers against dissenters (Abdullah, 2020). Participation in Singapore's political life requires candidates to meet stringent requirements (Wong et al., 2021).

The balance between the coercive power to drive compliance and obedience and legitimation capacity to gain trust is of interest to the researcher. The former negatively influences trust, and the latter positively affects trust (Håvold & Håvold, 2019). Furthermore, trust is associated with employee motivation and engagement

(Dabrowski & Marshall, 2018; Haynie et al., 2016; Maximo et al., 2019; Renfei et al., 2020).

4.4.3 Political factors

The research classifies the political drivers under four political factors: revenue sources, social services, internal affairs, and foreign affairs.

Revenue Sources

In 2019, the Singapore government reported operating revenue of $74.9 billion. Corporate income tax (22.4%) and personal income tax (16.3%) represent the highest government revenue sources. Other tax categories cover goods and services, stamp duty, assets and capital gain, and general levies represent 53.9% of the state revenue. Customs, excise, and other duties on trade and imports represent 4.4% of revenue. Revenues of statutory boards were 2.4% (MOF, 2020).

Singapore, as a small and open economy, relies heavily on international trade and regional integration. Import and export controls are maintained mainly for health, safety, security, and environmental reasons. Most goods enter duty-free under the applied MFN tariff (most favoured nation). Import restrictions are limited to six tariff lines (alcohol beverages, tobacco products, and some petroleum products), subject to excise duties (Gov.Sg, 2021). Singapore's trade policy exemplifies a degree of uncertainty due to its tariffs' unbound nature, which means goods can be tariffed at a rate lower than the MNF rate. The government also provides tax incentive schemes that can also create uncertainty and tension with other countries (X. Chen & Shao, 2017). Taxes and tariffs are of interest to the researcher concerning remuneration, distributive, and procedural justice (Juchnowicz et al., 2020) as antecedents to engagement (Saks, 2019).

Social Services

The government provides services that fit into the social protection model that emphasises individual and family self-reliance and community support. The ideology behind the model adopts a conservative approach toward social welfare. Social assistance is not an entitlement. Instead, short-term support in a discretionary fashion for the unemployed, the ill, disabled, and poor aged is offered. The government prefers to provide education and housing grants and wage subsidies for those who need it most. The ideology enforces the need for unemployed people to advance their skills to

get re-employed. This approach also lowers total government expenditure (22% of GDP) to a level much less than the OECD average for developed countries (30-55%) (Choon, 2010).

Health insurance in Singapore is provided in the form of government subsidies and is limited in its coverage. The government covers a portion of the long-term care costs for the disabled and senior citizens. Public housing is a vital feature of the social protection mode in Singapore. Employers and employees contribute to a central fund directed to support people to purchase their place of living through the housing and development board (HDB) (Lu et al., 2017).

Social services are of interest to the researcher as remuneration and recognition are predictors of engagement. Health, education, housing subsidies are associated with work engagement (Kaur & Randhawa, 2020). Social services that can ease the financial burdens constitute an appealing ingredient to engage millennial employees (Cattermole, 2018). Social services present organisations with the opportunity to fulfil their corporate social responsibility (CSR) and improved work engagement (Cammett et al., 2014; Ferreira & Oliveira, 2014; Gill, 2015).

Internal Affairs

The government stability in Singapore is based on the majority supporting the PAP as a tried and tested choice to lead Singapore and recognise its right to rule based on its ability to deliver economic outcomes and improved living standards. The authoritarian regime commands autonomous legitimacy not enjoyed by other similar governments worldwide (Morgenbesser, 2016). The PAP policy of retiring parliament members each election and replacing them with new minimised threats to form political coalitions may promote alternative agendas to the PAP's agenda (Morgenbesser, 2016; Ortmann, 2011; D. Slater, 2012). However, autonomous legitimacy has translated into a relatively high level of trust in government.

Trust in government is essential to drive compliance and behaviours that can deliver government policies (e.g., tax). In Singapore, the 2020 trust index remains relatively high at 62% against a global average of 54% (OECD, 2020). Conversely, increased fears are notable concerning the future, job security, inequity, inequality, handling crisis, ethics, and the truth around corruption cases (Edelman, 2020).

Singapore was ranked third amongst 180 countries according to Transparency International's Corruption Perceptions Index (CPI) from 1995 to 2020 (Transparency, 2020). The country has a zero-tolerance policy for corruption and punishment of offenders regardless of their government ranks. As a result, the number of government scandals is relatively low compared to the number of scandals in the private sector (Quah, 2020). The corruption control framework is based on laws, adjudication, public administration, and enforcement at all levels and serves as a foundation for effective bureaucracy (CPIB, 2020). Work engagement is positively associated with trust, transparency, and democracy (Farrell, 2016; Hua Jiang & Luo, 2018; Schaufeli, 2018).

The World Bank worldwide governance indicators (WGI) rated bureaucracy in Singapore relatively high. In 2019, Singapore scored above 95% on all bureaucracy and governance indicators except the "voice and accountability" indicator, which scored 40% (World Bank, 2020c). Bureaucrats in Singapore are highly educated, but individuals behave collectively in the bureaucracy culture. Senior executives tend to recruit and promote those who are like them and filter out those who challenge the status quo. A less diverse workforce in the middle and senior ranks resulted in a greater risk for deeper bureaucracy (Bhaskaran, 2018). Hindering bureaucracy is negatively associated with job satisfaction and engagement (Aghaz & Tarighian, 2016; Hamel & Zanini, 2018; Ibrahim & Lamuda, 2021).

In 2019, Singapore was rated as the second safest city globally, after Tokyo (Economist, 2020b). The city-state ranked first in the 2020 Gallup Global Law and Order report (Gallup, 2020). In 2019, the crime rate in Singapore increased by 16.3%. Online scams. Organised crimes gangs, and cyber-related activities attributed to the increase (OSAC, 2020; van der Laan & Yap, 2016). On the health security front, Singapore was ranked 24/195 with an index score of 58/100 on the Global Health Security Index (GHSI, 2020). The index indicates how Singapore prevent, detect, and respond to health risks at the national level (i.e., pandemic or bioterrorism). During the COVID 19 pandemic, fatalities in Singapore remained low. At the same time, high infection rates detected in dormitories where foreign workers reside in densely populated and have poorly managed facilities (Woo, 2020b), which raises the issue around awareness of workers' rights (Yea & Chok, 2018).

In 2011, The PAP signalled a change in Singapore towards democracy, which was hardly noticed (Abdullah, 2020). Civil liberties are still limited, and current laws

restrict freedom of speech and human rights (Amnesty, 2020). Members of the opposition are interrogated. Demonstrations are allowed only in one park, and permission from authorities is required. The law doesn't distinguish between participants and observers. Academics and activists punched for expressing their views (Abdullah, 2020; OSAC, 2020). In 2020, Singapore had an overall score of 6/10 and ranked as 74 among the world nations on the democracy index (Economist, 2020a). Singapore was ranked as 158 globally on the World Press Freedom index and scored 55/100 (RSF, 2020). Democracy is positively related to democracy (Schaufeli, 2018).

The latest political development in Hong Kong had a ripple effect on immigration patterns within the region. More people from Hong Kong consider migrating to Singapore due to the deepening political crisis (ABC, 2020; SCMP, 2019). Furthermore, Hong Kong firms are reconsidering their presence in the Special Administrative Region (SAR). As a result, there is a noticeable increase in firms leaving Hong Kong and looking to Singapore as a preferred destination (AMCHAM, 2020; corporate services, 2020). Singapore is braced to win from this immigration pattern, enhancing its position as Asia's financial centre (Business insider, 2020).

The Singapore government preserved an official emphasis on the fixed ethnic ratios where the Chinese represent 75% of the settled population to maintain social stability (Frost, 2020). Chinese, Malay, and Indian communities are the main ethnic groups in Singapore. Race in Singapore is not an imaginary portray. It is evident and an aspect of individuality that delivers deliberate outcomes for individuals and communities (Rocha & Yeoh, 2019). The government put in place policies to avoid the formation of ethnic enclaves, which proved hard to achieve, as some neighbourhoods continue to show ethnic communities coming together (Leong et al., 2019). Ethnic tension is visible between the Chinese dominated society and the Malays and Indians in the form of everyday racism, where the cultural differences create social tensions resulting in racial abuse, discrimination, and stereotyping (Augustin et al., 2020; P. K. H. Chew, 2018; P. K. H. Chew et al., 2019; Velayutham, 2017).

Participatory democracy and freedom of expression are precursors for psychological safety and a condition for engagement (Kahn, 1990; Patmore, 2020).

Foreign Affairs

Singapore foreign policy has a global reach (e.g., non-aligned relation with USA, EU, China), a regional focus (e.g., ASEAN), and it offers support for international organisations (e.g., UN). Singapore keeps a close relationship with all the major powers, especially China and the USA, where the city-state enjoys trading ties and security agreements. Despite the global impact of the trade war between China and the USA, Singapore's government refrained from making comments that demonstrate a bias between the major powers or reflect on the Chinese assertiveness on the global stage (CFR, 2020). Singapore demands the USA to maintain its commitment and presence in the region to preserve the current relations and investments and pursue regional stability (Atlantic Council, 2020; World Economic Forum, 2020).

On the regional front, Singapore benefited greatly from being part of ASEAN. The modern global city is situated and protected by ASEAN as an ecosystem crafted to accelerate economic growth and social progress while maintaining stability in the region (ASEAN, 2007; T. Koh et al., 2017). The openness to trade, innovation, advanced security, and corruption-free system position Singapore as the ASEAN door (Hawksford, 2020). Despite Singapore's economic and political status as part of ASEAN, the public voting indicated that Singaporeans are less supportive of the single market ideology than their neighbours in other ASEAN countries (T. Koh, 2019).

Singapore has also maintained good political and economic connections with other key countries in the Asia Pacific (e.g., Australia, Japan, and New Zealand), the Middle East (e.g., the United Arab Emirates) and Europe (CFR, 2020; MFA, 2020a, 2020b). However, western countries' rights-based foreign policy seems to play a lesser role in trade and business agreements concerning Singapore (McKenzie & Meissner, 2020).

4.4.4 Political drivers of change

The desktop research identified the political drivers under the four political factors as discussed in the previous section. For this study, political drivers are those forces/trends related to government activities and duties. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of work engagement in Singapore by 2030. There is evidence in the literature that some of those drivers are associated with engagement.

Table 4-1 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

Table 4-1 Political factors and drivers of change

Political factor	Political drivers	Category	Certainty	Impact
Revenue sources	Tax policy	Megatrend	4+	4+
	Regulation / deregulation	Trend	4+	1+
	Trade control	Trend	4+	2+
	Import restrictions	Trend	2+	3+
Social Services	Social welfare	Megatrend	4+	4+
	Healthcare services	Trend	2+	3+
	Unemployment compensation	Trend	1+	2+
	Housing assistance	Trend	3+	3+
	Childcare assistance	Trend	3+	3+
Internal affairs	Loss of trust in national politics	Wildcard	2+	4+
	Ethnic tension	Wildcard	1+	4+
	Democratisation	Trend	2+	3+
	Government stability/instability	Wildcard	1+	3+
	Bureaucracy	Trend	1+	3+
	Corruption level	Trend	4+	3+
	Freedom of speech	Megatrend	1+	3+
	Awareness of workers' rights	Trend	1+	1+
	Hong Kong immigration	Megatrend	3+	1+
	Political coalition and shift in government	Wildcard	0+	3+
	Major government scandal	Wildcard	0+	3+
	Rise of illegitimate organised crime	Megatrend	3+	1+
Foreign affairs	Changing global politics	Megatrend	2+	4+
	Regional relations	Megatrend	4+	1+
	China relations	Megatrend	3+	2+
	USA relations	Trend	3+	3+
	EU relations	Trend	3+	2+
	Australia relations	Trend	4+	2+
	US / China trade war	Megatrend	3+	3+
	Risk of bioterrorism	Wildcard	1+	3+

Source: Developed for this research

4.4.5 Summary of political drivers

The research covered the drivers of change under the four key political factors: revenue sources, social services, internal affairs, and foreign affairs. The drivers were categorised into three categories: trend, megatrend, and wild card. Each driver was assessed in terms of certainty and impact on engagement. Figure 4-4 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-4 Political drivers – certainty and impact
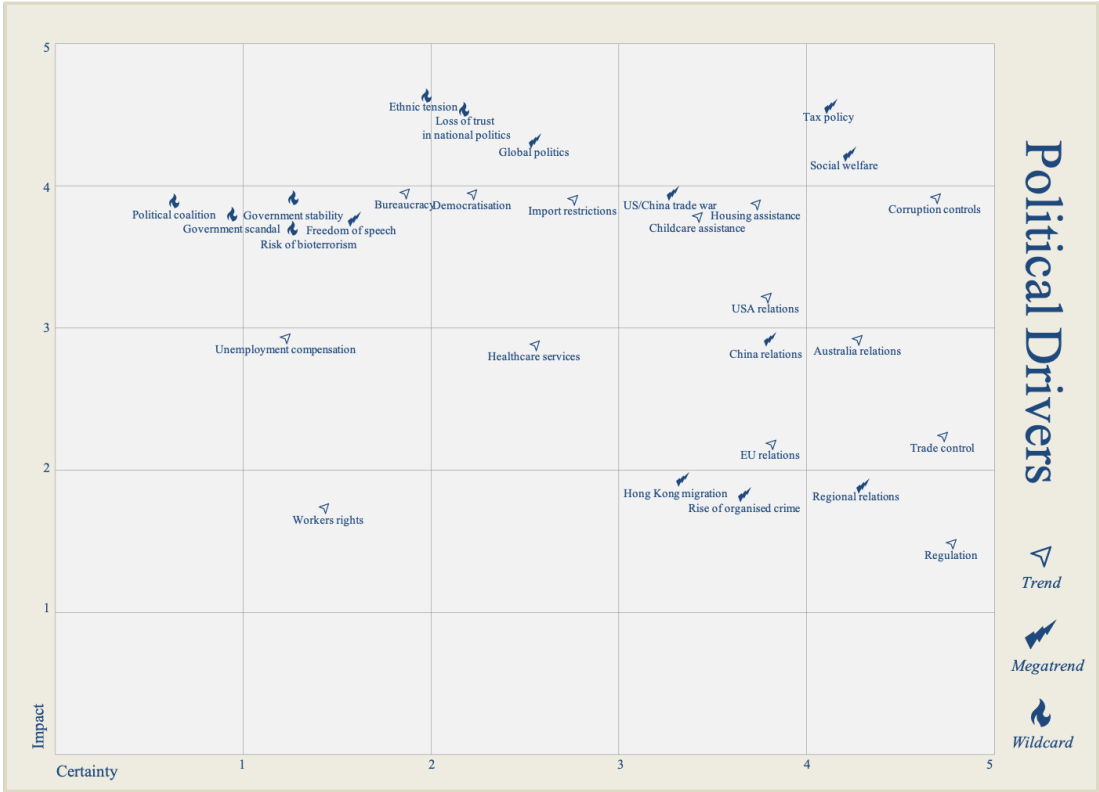
Source: developed for this research

The top five political drivers, in terms of impact, are defined as the key political drivers that may impact engagement:

1. Tax policy
2. Social welfare
3. Loss of trust in national politics
4. Change in global politics
5. Ethnic tension

4.5   ECONOMIC DIMENSION

4.5.1 Introduction

The economic dimension pertains to the determinants of the economy's performance in inflation, interest rates, GDP, unemployment, and exchange rates. Thus, economic factors can directly impact business performance and employment conditions. Such factors can be local, regional, or international (N. Rastogi & Trivedi, 2016). In addition, the macroeconomy state is associated with work engagement (Cahill et al., 2015).

In this section, the research will address the economic drivers of change in Singapore by illustrating the economic context in Singapore and discusses the key economic factors and drivers related to shaping the future of work engagement.

4.5.2 Singapore Economic context

The economy of Singapore is regarded as free, innovative, competitive, dynamic, and business-friendly. The economy scored 89.4 on the economic freedom index, making it the world's freest economy in the 2020 index, and it has been ranked in such high regard over the years. Singapore has one of the world's highest per capita incomes and consistent GDP growth rates (Heritage, 2020), and it is ranked second among world nations on the ease of doing business index (World Bank, 2020a). In 2019, the city-state was crowned as the most open and most competitive economy globally with 85/100 points (Charlton, 2020). Singapore is one of few countries with AAA credit rating from the big three credit rating agencies, Standard & Poor, Moody, and Fitch group (Economics, 2020).

While most of the main economic indexes point towards a highly developed market, there are concerns about the domestic economy. The city-state has a high secrecy score of 65 and held around one-eights of the global offshore wealth (Tax Justice, 2020). Singapore faces the risk of ageing and slowing population growth, and declining productivity growth (Bhaskaran, 2018). Singapore has few natural resources, and agricultural land areas are minimal (NationsOnline, 2021). The economy relies heavily on its status as a financial centre that offers a level of secrecy and tax breaks to attract money worldwide. In recent years, financial institutions based in Singapore have been implicated in multiple investigations, and the government had to act in response (Tax Justice, 2020).

4.5.3 Economic factors

The research classifies the economic drivers under four economic factors: economic indicators, production finance, consumption, and globalisation.

Economic indicators

The city-state represents 0.31% of the world economy, and its Gross Domestic Product (GDP) was worth 372.06 billion US dollars in 2019 (Figure 4-5). The GDP per capita in Singapore is equivalent to 466% of the world's average. It reached 58829.6 US dollars in 2019 (Trading Economics, 2021). Work engagement is positively related to GDP per Capita and positively associated with the level of productivity (Schaufeli, 2018; Zondo, 2020).

Figure 4-5 Singapore GDP over 25 years in USD billions

National income of Singapore as Gross Domestic Product (GDP) over 10 years in USD Billions
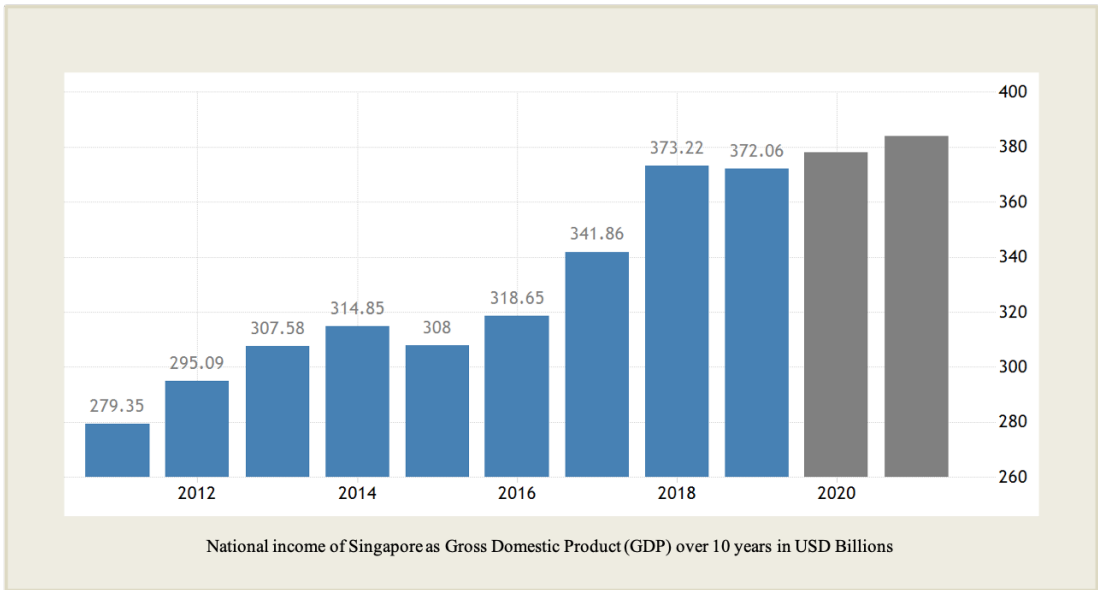
Source: (Trading Economics, 2021)

In 2020, the Singapore economy shrunk by 5.8% due to COVID-19. Furthermore, Singapore GDP annual growth rate has been on a decline since 2010 (Trading Economics, 2021). The challenge, however, is finding where the growth will come from in the future. There is often a tendency to associate high-level national income with increased productivity; this is not the case in Singapore (Bhaskaran, 2018; Trading Economics, 2021).

In 2020, Singapore's unemployment rate reached 3.5% from 2.3% in 2019, with the citizen unemployment rate increasing to 4.2% from 3.3% in the same period (Figure 4-6). The pandemic had a significant impact on the labour market in 2020. Nevertheless, the number of unemployed increased from 88.8 thousand in 2010 to

110.8 thousand in 2019. The average weekly hours decreased from 46.2 in 2010 to 44.7 in 2019 (Trading Economics, 2021).

Figure 4-6 Singapore unemployment rate over 10years
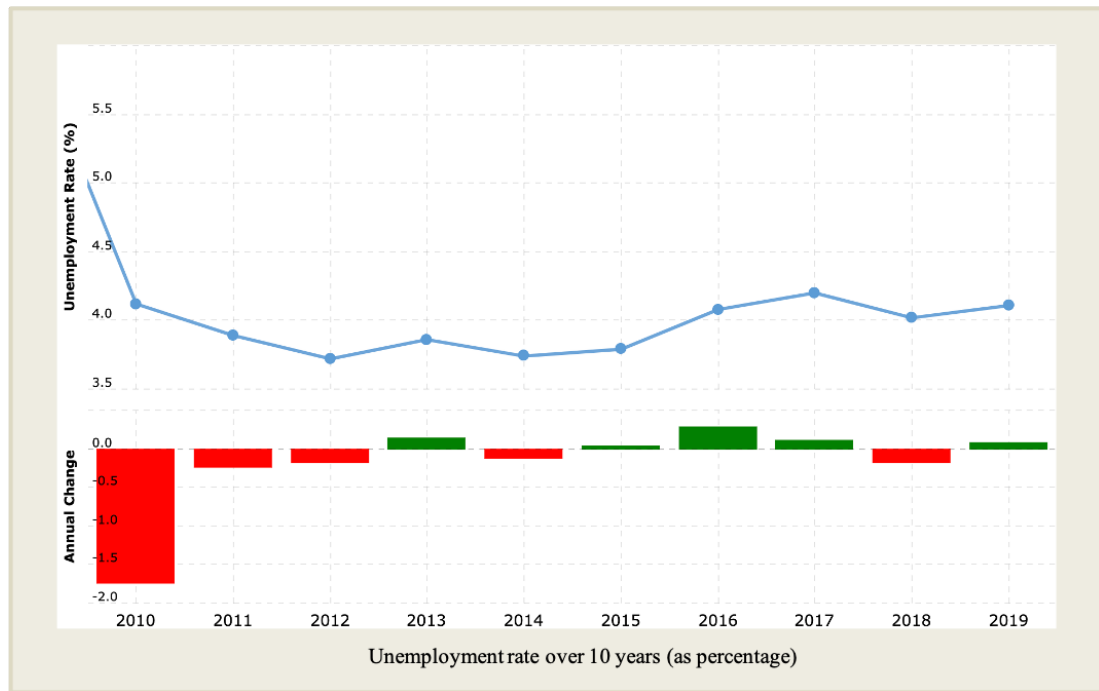
Source: (Trading Economics, 2021)

The demographic transformation from a young population of high fertility and high mortality in the 1970s to an aging population of low fertility and low mortality resulted in a rapidly aging population, critical shortages of human resources, and declining productivity. Figure 4-7 **shows productivity growth has fallen off sharply in recent years.** (Bhaskaran, 2018; NPTD, 2013).

Figure 4-7 Singapore's labour productivity growth
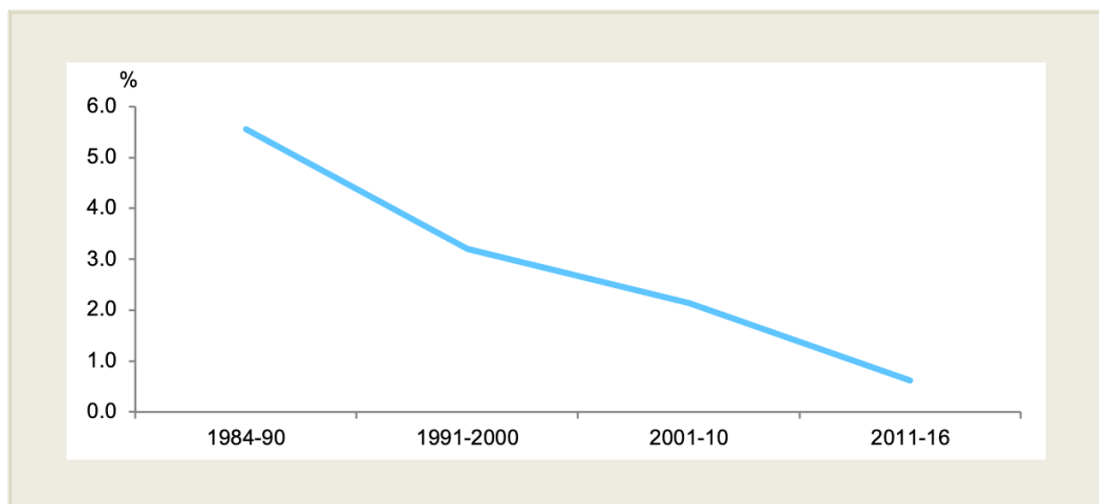
Source: (Bhaskaran, 2018)

Consumer prices in Singapore comprise housing and food (47% of total weight), transport (16%), education (7%), health (6%) and others account for the remaining 30% of the total weight. Inflation has been below 1% since 2015 (Figure 4-8).

Figure 4-8 Inflation rate over 25 years

Inflation rate over 10 years (as percentage)
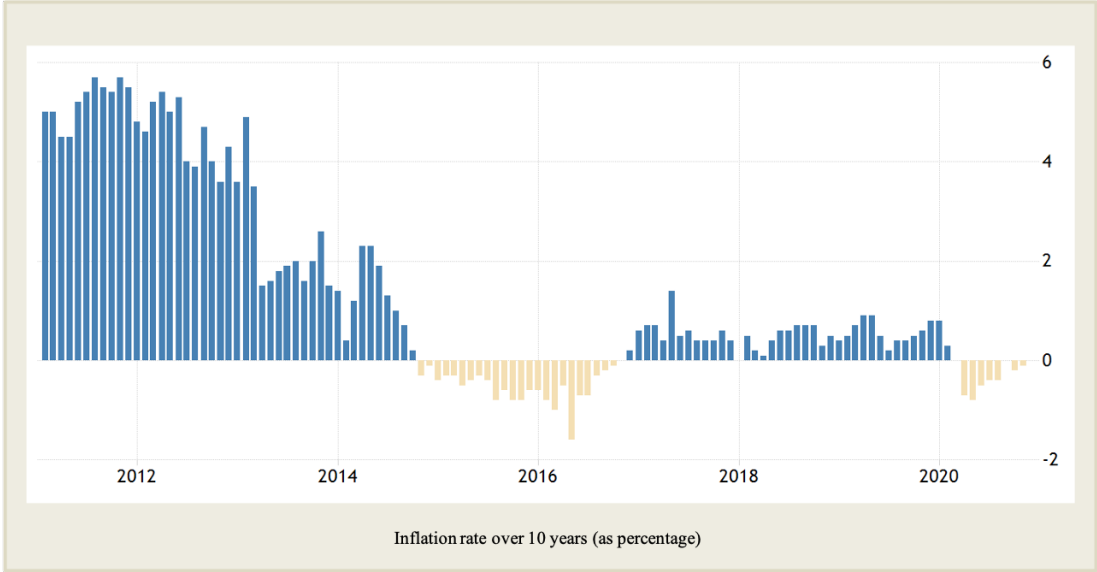
Source: (Trading Economics, 2021)

The Monitory Authority of Singapore (MAS) manages the Singapore dollar (SGD) exchange rate against a trade-weighted basket that includes the currencies of Singapore's significant partners and competitors. Before that, MAS used to apply interest rates to manage exchange rates, which increased interest rates after 2015 (figure 4-9), after the falling of oil prices, which resulted in lower inflation due to MAS's forced monetary policies.

Figure 4-9 Singapore Interest rates in over 10 years

Interest rate over 10 years (as percentage)
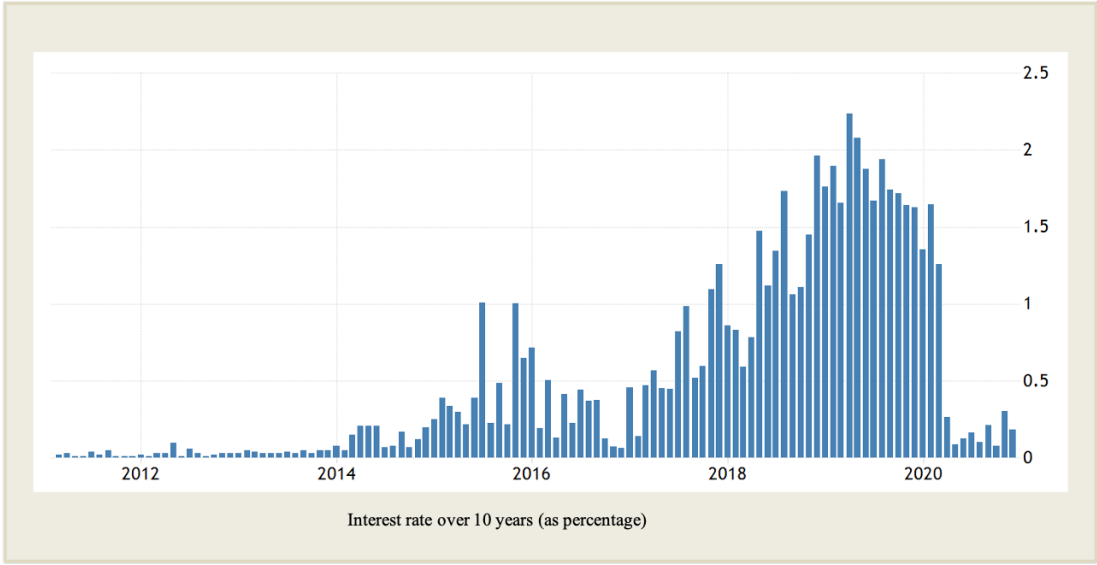
Source: (Trading Economics, 2021)

On the fiscal policy side, the Singapore corporate income tax of 17% and the personal income tax of 22% are essential income sources for Singapore's government. Compared to other developed economies, the relatively lower tax rates are a compelling reason for both citizens and foreign employees to work in Singapore. Overall, macroeconomic indicators are statistically significant determinants of job satisfaction and work engagement (Cahill et al., 2015; Jaupi & Llaci, 2014).

Production finance

Singapore's economic growth led to a high-income economy fuelled by private consumption expenditure, local and external demand, and substantial foreign direct investment (FDI). Singapore's leading sectors like pharmaceutical, petroleum refining, logistics, and transport, have the potential to attract other countries to invest. In 2020, Singapore scored 86.2% on the World Bank index of "Ease of Doing Business". The city-state is ranked second among world nations, including a "Getting Credit" score of 75% (World Bank, 2021). Private sector credit in Singapore rose from SGD 520 billion in 2015 to SGD 622 billion in 2020 (Trading Economics, 2021). In 2020 /2021, the Singapore budget allocated SGD 400 million to ease companies' business cost, SGD 1.75 billion in cash grants to provide necessary rental waivers, SGD8.3 billion funding for business transformation strategy and other significant grants to stimulate innovation and skills development (MOF, 2021). The FDI inflows led to higher economic growth and widened the country's income disparity (Ridzuan et al., 2017).

Consumption

Consumer spending in Singapore was SGD 182.7 billion in 2019, a 3.18% increase from 2018 (gov.sg, 2020l). Consumer spending reflects the household income, or the disposable income directed at the cost of living and other economic drivers like labour cost and material cost. The average monthly household income per household member (Figure 4-10) was approximately four thousand Singaporean dollars in 2020 (gov.sg, 2020l). Despite a GDP per capita that exceeds most developed economies, Singapore has an income classification per household member in the lower-middle-income category (World Bank, 2020b), which represents inequity of income distribution. This has an impact on engagement concerning distributive justice, meaningfulness, and recognition (Saks, 2019).

Figure 4-10 Average monthly household income
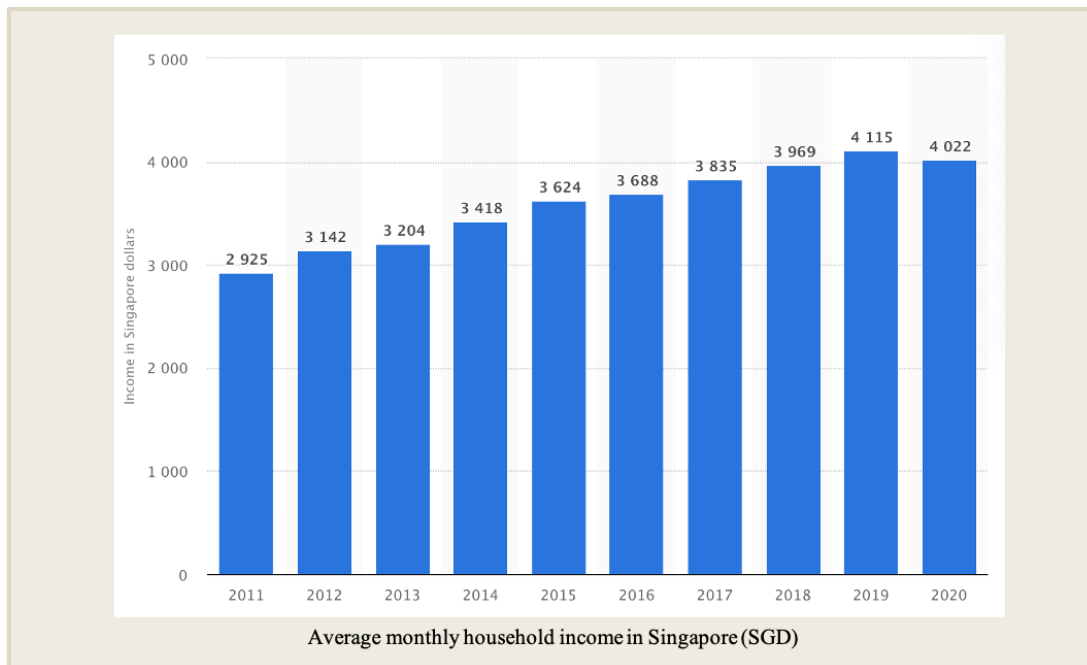
Source: (Statista, 2020b)

Throughout history, inequity concerning the distribution of gains of economic growth has been a concern in Singapore. However, the centralised political one-party system did not permit the labour force and its representatives to play a constructive role in the policy decision-making process (Coban, 2021). Neither did the open economy forces of globalisation and the skill-based technological change (E. Robinson, 2018).

4.5.3.4 Globalisation

The world is becoming interconnected by trade and culture change. Globalisation is the process that connects nations, economies, cultures, technologies and erodes national boundaries—resulting in open markets and the elimination of levies and trade barriers (Gygli et al., 2019). In 2020, Singapore was ranked 18 among world nations on the KOF globalisation index with a score of 83.49/100 (KOF, 2021). Globalisation allowed the city-state to overcome its lack of natural resources, labour, and market size. Trade openness through trade agreements and strong trade flows facilitated a high level of business above 200% of GDP (E. Robinson, 2018). Furthermore, globalisation can be a moderating factor affecting work engagement and organisational outcomes (Ehambaranathan et al., 2015).

Technological advancements is evident in the global financial systems and their interconnectedness. Singapore financial systems and E-government are the backbone

of the economy, international trade, and services that runs the city-state. Cyber risk poses a growing threat to financial stability, corporations, and government agencies in Singapore (Goh et al., 2020; Luk, 2019; van der Laan & Yap, 2016). As a global hub, Singapore is taking a prominent position in changing the global economy through digitisation. The government promotes the FinTech (Financial technology) sector's fast development, overseen by MAS, to ensure a good balance between financial innovation and stability that protect consumers (Fan, 2018).

Global Trade is the main engine that runs the Singapore economy. Singapore trade balance (i.e., exports minus imports) for 2019 was $103.75B, a 2.21% decline from 2018 (Figure 4-11), which represent 27.9% of GDP (macrotrends, 2020). The city-state relies on intermediate goods to process to add high value in Singapore before exporting. Imports include machinery, petroleum, and chemical products. Besides trade, tourism and travel flourished with globalisation. Singapore is a destination for business, holidays, and transit port for maritime and aviation. The new experience economy that the city-island can offer its citizens and visitors creates a significant economic value for Singapore (S. Chang, 2018; Yeoman & McMahon-Beattie, 2019).

Figure 4-11 Singapore Balance of trade
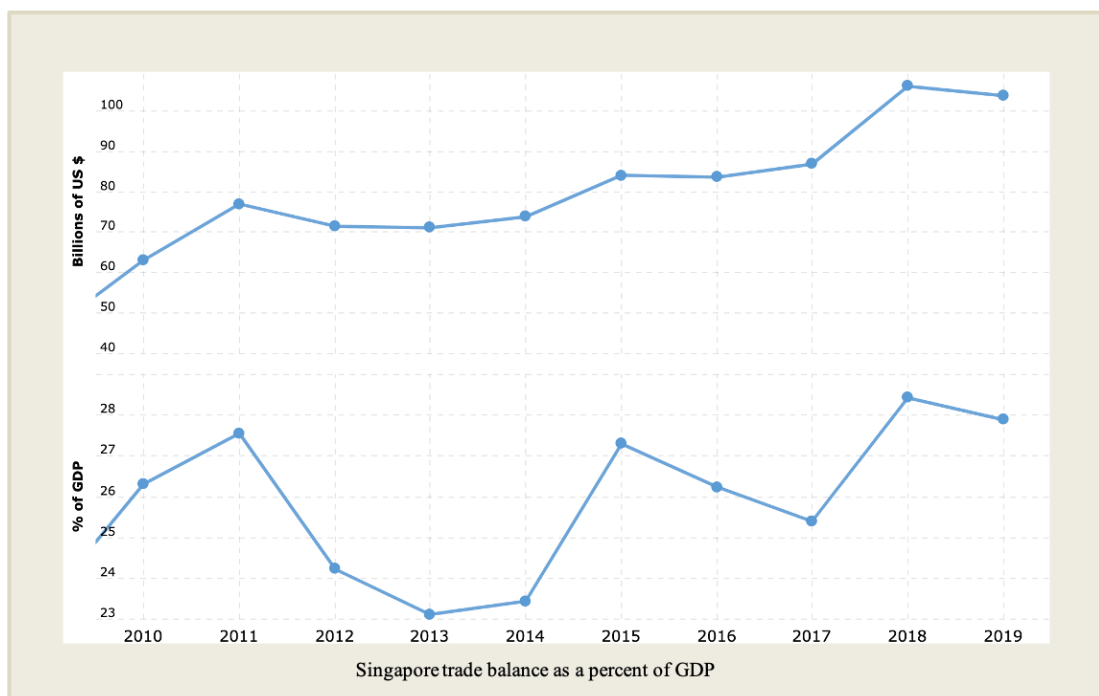
Source: (macrotrends, 2020)

Singapore is a WTO member, GATT, and has implemented 23 free-trade agreements (FTAs) with 34 trading partners. As a small economy, Singapore is

pursuing the common market approach under ASEAN on the path to a broader multilateral FTA (X. Chen & Shao, 2017; gov.sg, 2021a).

In 2020, Singapore had an official reserve of U$ 363.3 billion (gov.sg, 2021e). The currency diversification in the international monetary system has been dominated by two currencies, the US dollar, and Euro. Recently, the Chinese renminbi has gained global influence, which is now significant (Tovar & Nor, 2018). Singapore pegged its currency against a fixed and undisclosed trade-weighted basket of currencies that reflects its diversified trade links to protect its currency against any speculative attacks (gov.sg, 2021b).

In a globalised world, engagement becomes a global matter. Leadership must recognise the different needs and challenges in dealing with different cultures (Toro et al., 2020). Besides the widely defined drivers for engagement, global teams' engagement identified new drivers for engagement, like cultural intelligence, communication, technology, and trust (Toro et al., 2020).

4.5.4 Economic drivers of change

For the purpose of this study, economic drivers are understood as those forces/trends that relate to or are based on the production, distribution, and consumption of goods and services forming the system and conditions of economic life in a country, region, and globally. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of engagement in Singapore by 2030.

The Desktop research identified the economic drivers under the four economic factors as discussed in the previous section. There is evidence in the literature that some of those drivers are associated with engagement. Table 4-2 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

Table 4-2 Economic factors and drivers in Singapore

Economic factor	Economic drivers	Category	Certainty	Impact
Economic indicators	National income at risk	Wildcard	2+	4+
	Low employment rate	Trend	1+	3+
	Economic growth upper limit	Megatrend	2+	3+
	High inflation rate	Trend	2+	2+
	High-interest rate	Trend	2+	2+
	Forced monetary policies	Trend	2+	2+
	Forced fiscal policies	Trend	2+	2+
	Low productivity	Megatrend	3+	3+
Production finance	Credit availability for business	Trend	4+	2+
	Increased government grants	Trend	4+	2+
	Increased government subsidies	Trend	4+	2+
	Increased rental waivers	Trend	4+	2+
	Cashflow injections by the government	Trend	4+	2+
Consumption	Higher labour costs	Trend	2+	2+
	Higher material costs	Trend	2+	2+
	High disposable income	Trend	3+	2+
	Higher cost of living	Trend	2+	3+
	Inequity between poor and rich	Megatrend	3+	4+
	Less favourable exchange rates	Trend	1+	0+
Globalisation	Risk of cyberattack endangering the system	Wildcard	2+	4+
	Risk of pandemic endangering the economy	Megatrend	4+	4+
	Changing global economy through digitisation	Megatrend	3+	4+
	Increased trade agreements	Megatrend	3+	0+
	Stronger trade flows and patterns	Megatrend	3+	0+
	Continuation of climate change	Megatrend	3+	1+
	The experience economy as good become	Megatrend	2+	1+
	US$ loses its status of world reserve currency	Megatrend	3+	0+

Source: Developed for this research

4.5.5 Summary of economic drivers

The research covered the drivers of change under the four key economic factors: economic indicators, production finance, consumption, globalisation. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-12 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-12 Economic drivers – certainty and impact
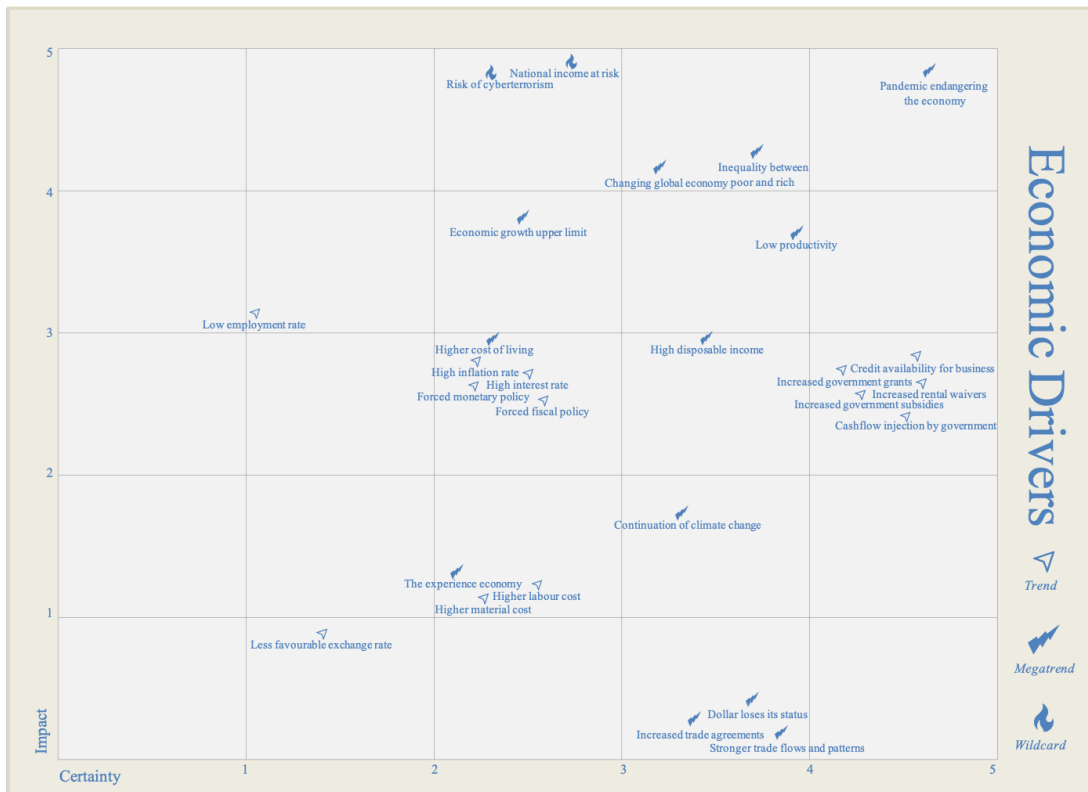
Source: developed for this research

The top five economic drivers, in terms of impact, are defined as the key economic drivers that may impact engagement:

1. Pandemic endangering the economy
2. National income at risk
3. Risk of cyberterrorism
4. Inequality between rich and poor
5. Changing global economy

4.6   SOCIAL DIMENSION

4.6.1 Introduction

The social dimension pertains to sociological factors that affect society and the business environment and may affect organisations and the workforce. It includes cultural norms, population demographics, health awareness, career altitude, equality, lifestyle, and income levels (N. Rastogi & Trivedi, 2016). In this section, the research will address the social drivers of change in Singapore by discussing the social context in Singapore and addressing the key social factors and drivers related to shaping the future of work engagement.

4.6.2 Singapore social context

The society in Singapore represents a racially diverse country. In 2019, Singapore consisted of ethnic Chinese (74.3%), Malays (13.4%), Indians (9%), and others, including Eurasians (3.2%) (Singstat, 2020), with diverse religions (i.e., Buddhism, Christianity, Islam, Hinduism, and Taoism), and languages (i.e., English, Mandarin, Malay, and Tamil). Racial and religious co-existence is considered a high priority and a crucial part of city-state identity. With a Chinese's majority, Confucianism influenced the power distance settings in the society. It manifests itself in relationships between government and people, parents, and siblings, older and younger, through which expectations from each party forms the obligations on the other party (e.g., the government provides services and people demonstrate obedience). In business, managers hold power and control. Employees adhere to instructions. The collectivistic nature of society overcomes individuality to maintain harmony (Hofstede, 2020). Conversely, ostracism plays out as employees whose heritage is markedly different from the dominant Chinese group's heritage, given the socio-cultural and linguistic setting, may lead to polarising practices and promote processes of hierarchisation (Köllen & Kopf, 2021). When employees experience ostracism at the workplace, it results in their basic needs of belonging not being met, leading to counterproductive behaviours (e.g., absenteeism) and emotional exhaustion (Gamian-Wilk & Madeja-Bien, 2018; Hongyan Jiang et al., 2020). Workplace ostracism negatively affects work engagement (Anasori et al., 2021; Haldorai et al., 2020; X. Xu et al., 2020).

As Singapore continues to develop economically, expressions of autonomy, money orientation, competition, education, and a sense of individual rights reinforce a core Confucian ethics of self-cultivation. As a result, accepting reciprocal responsibilities with others and the desire to support the wider society can materialise. In other words, if the individuals can look after themselves, they can look after others (Viengkham et al., 2018).

4.6.3 Social factors

The research classifies the social drivers under four social factors: demographics characteristics, society trends, distribution of wealth, and social risks.

Demographics characteristics

In 2020, Singapore total population recorded 5.68 million, with a change of -0.3% from 2019 (Figure 4-13), and citizens were 3.52 million, a change of 0.6% from 2019, and permanent residents of 0.52 million.

Figure 4-13 Singapore population 2000-2030
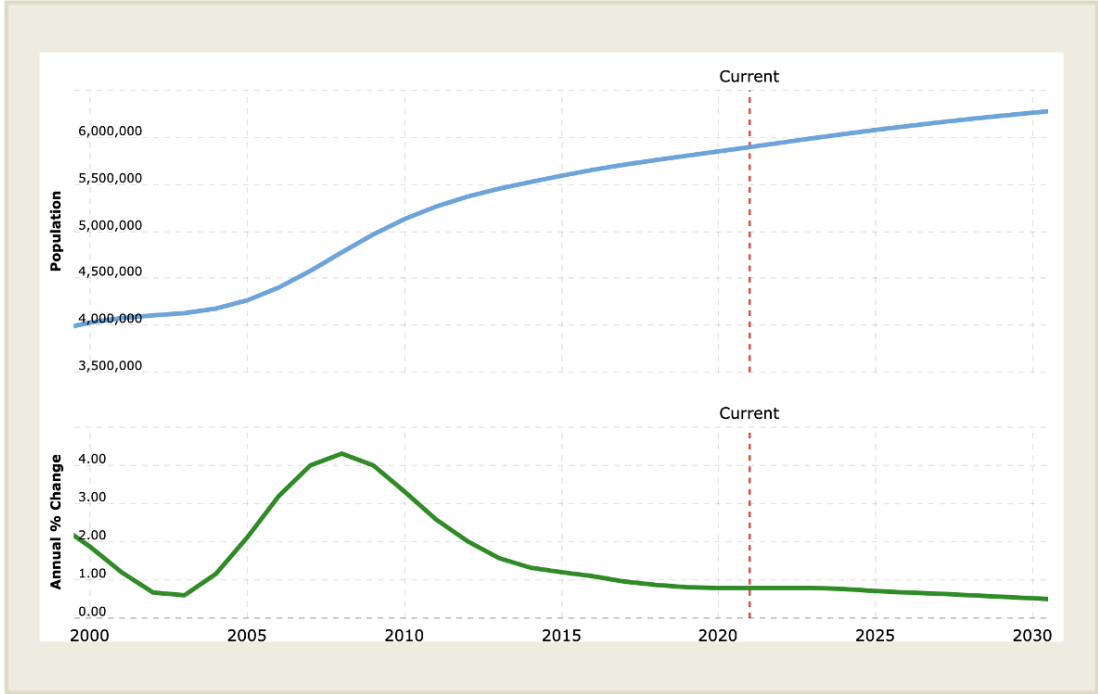
Source: (Macrotrends, 2021d)

The population projections for 2030 is 6.2 million, and a negative population growth rate is projected from 2040 to 2100 (Macrotrends, 2021d). The annual growth rate change has been declining since 2008. In 2020, the fertility rate in Singapore was 1.2, and it has been below the replacement rate of 2.1 for more than three decades (Macrotrends, 2021b). The life expectancy was 83.66 years, a 0.16% increase from 2019 (Macrotrends, 2021c). The mortality rate was 4.7 per thousand (Macrotrends, 2021a).

In 2013, the government issued the population white paper to set out future policies' key considerations. The paper emphasised the aging population challenge as a vital issue for the development of Singapore. The report confirmed that from 2025 onwards, the citizen population would shrink, and the median age will rise to 45 in 2025 (NPTD, 2013). Figure 4-14 illustrates the age pyramid of the Singapore resident population between 2008 and 2018. In 2020, 17.9% of the population aged 65 and

above; is projected to reach 27.5% by 2030 (900,000 citizens) and 32.6% by 2050. A working-age citizen will support the aged citizens; the current ratio between the two groups was 5.9 in 2013; this ratio will drop to 2.1 in 2030 (SingStat, 2021; Thang, 2011).

The population demographics depict an increasing challenge to grow the workforce through the citizen population alone. In 2012, two citizens entered the workforce for every citizen exiting. In 2030, it is projected that 0.7 citizens will enter the workforce for everyone exiting (NPTD, 2013). The projections are for the median age to reach 50 by 2035 and overall workforce participation rates for females to fall to 52%, and for males to fall to 65% by 2030 (Thang, 2011). The productivity growth has not offset the slowdown in workforce growth.

Figure 4-14 Age pyramid of Singapore resident population 2008-2018
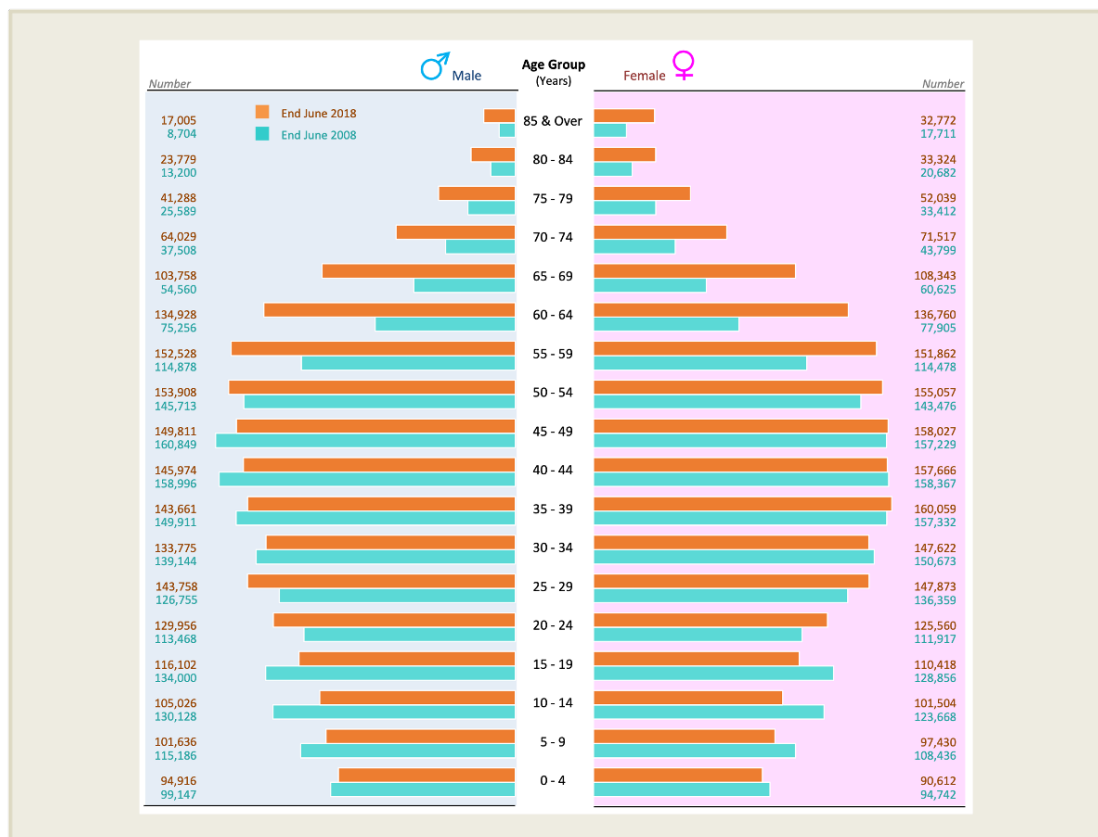
Source: (Singstat, 2020)

Singapore faces some challenges ahead. As the population ages, the workforce stagnates, and productivity reduces. Population ageing has implications for societies and economies (Harper, 2014). As age diversity in the workforce grows, the perception of the work environment, job engagement, and outcomes are influenced by the

difference in values and the perceived age discrimination among different age groups (Jelenko, 2020).

The aged population and inadequate human resources steered the government to rely on foreign workers to mitigate against fluctuations in demand. The managed inflow of foreign workers, as required, offers a solution to address growth opportunities and means to keep wage increases within range to maintain the competitiveness of the city-state (H. Yang et al., 2017). Immigration is a reasonable solution that can produce a relatively young age structure and human resource to the workforce (Harper, 2014). Equally, it resulted in expanding the casual workforce in Singapore. The casualisation of the workforce and the gig economy portray growing patterns concerning employment in Singapore. Organisations engage with workers in many ways, such as short-term contracts, casual work, recruitment agencies, or online platforms (A. Lee, 2018; A. Yip & Coe, 2018). Such developments impact job security, economic engagement, and work engagement (Straughan & Tadai, 2018).

Society trends

In the light of population ageing, broad and integrated approaches to the workforce enable and promote longer working lives and lifelong learning. Reskilling, and training considered adequate to address the deficit in resources (Harper, 2014). The rise of automation and its impact on the workforce added to the pressure of reskilling employees and transitioning to the knowledge economy. One-quarter of Singaporean employment is at a high risk of automation (Fuei, 2017). Workforce Singapore (a government agency) promotes the hiring and reskilling of mature employees through various incentives and support programs (gov.sg, 2020g; Thang, 2011). Furthermore, the substantial contribution of independent organisations and community support has played a significant role in mitigating the aging population challenge (Harper, 2014).

Singapore's high-stress society impacts the fertility rate and the slow population growth; a combination of stress and fatigue resulted in underachieving for childbearing ideals in the city-state. Support for work-life balance and more holistic views about life can contribute towards the solution (P. L. Tan, 2021). Singapore's health conditions compare favourably with other developed nations. The healthcare institutions actively promote healthy living and preventative health programs (gov.sg, 2021d). The healthcare spending for 2018 was U$2,824 per capita, a 7.81% increase

from 2017, ranked as 24th among the world developed nations (Macrotrends, 2020). Safety is a recognised feature of society in Singapore; the city-state topped the Safe Cities Index in 2019 (OSAC, 2020). Occupational health and safety (OHS) at work is a necessary antecedent for work engagement. Due to the ageing workforce, there is a need for a comprehensive approach to managing OHS to ensure a safe workplace (Takala et al., 2013). Although Singapore is ranked among the most developed nations in the world regarding its OSH standards (Ilostat, 2020), the advancement in technology and changes in employment relationships demand adaptive responses to the new realities concerning workplace safety (G. Chia et al., 2019). Singaporeans are attuned to education and higher education. However, the priority is on paper qualification, reflecting negatively on their appetite for vocational education and skills acquisitions, which can block a conduit toward creating a multi-skilled and capable workforce to further economic growth (C. Tan, 2016).

Distribution of wealth

Social protection in Singapore doesn't extend to the welfare state (i.e., cash handouts to the unemployed in general) (Choon, 2010). Furthermore, the ageing population challenges will lead to the demographic deficit and shortage of resources that shrink economic growth and limit the government's ability to finance public welfare programs (Harper, 2014). In 2018, Singapore ranked 149 of 157 countries on the inequality Oxfam index, measuring the rich and poor gap. The ranking highlights harmful tax practices, low-level spending on public social, education, health, and social protection (CNA, 2018; Oxfam, 2020). Inequality account for income disparity and social polarisation (Coban, 2021). In the year 2000, the average income of the top 20% to the lowest 20% of the Singapore population was 20.9 (Tai, 2006). In the year 2020, the same ratio was 12.5 (CNA, 2021). In addition, the restricted trade unions movement contribute to earning disparity in Singapore (Coban, 2021). As a result, Singapore has become one of the most inequitable nations in income distribution (L. Z. Rahim, 2015).

Singapore is a networked society. Individuals and social groups respond to emerging message flows that shape their lifestyle and interests within a global network (Perevozchikova et al., 2020). The media seem to promote globalised models of consumer behaviour. The consumer-driven approach to lifestyle issues, like increased interest in imported goods, inclination to quality products and services, savings and

investing, and higher interest in ecological products, can be seen as working hand in hand with government strategies focussed on living standards and encouraging economic activities (Lewis, 2011; Lewis et al., 2012). Improvement in adopting a healthy and protective lifestyle is associated with healthy ageing and may positively enhance engagement (Y. F. Zhou et al., 2021). While lifestyle factors can serve as resources for work engagement (Airila et al., 2012; Nishi et al., 2016), it can also expose the inequality and income disparity in the society.

Social risks

The city-state faces social risks that can impact its progress and work engagement. The ageing population and change in age composition are altering the structure of families and the life progression. In addition, changes in fertility and mortality rates increase the interval between generations. As a result, the social contract between the working generation and the aged one is changing, and with it, traditional ties and ideals are shifting. Such a shift may affect values, ethics and moral standards and impact engagement (Harper, 2014).

The 1991 white paper "Shared Values" stated "nation before community and society above self" is aimed at achieving consensus, solidarity, and racial and religious harmony (gov.sg, 1991). The state attempts to foster social solidarity towards a coherent national identity. The widening social inequality and discontent among the middle class who do not enjoy equal distribution of wealth or welfare support when needed advances differentiated classes and the risk of social conflict (Chiong & Gopinathan, 2020). Furthermore, the Singapore constitution states neutrality and equal treatment of all religions. In the meantime, the government may not prioritise religious rights, which can cause conflicts (Neo, 2016). Conversely, the research revealed that there was a difference in the definition of national identity between individuals born before the independence and those born after (Phua et al., 2020), which demonstrate a shift in values affected by the socio-political discourses prompted by the government (Lim & Leong, 2016).

Singapore has technology advancements embedded in its fabric. For example, Singapore's advanced communication networks and digital technologies collect enormous data about how people use government services and public infrastructure. While such data can provide up-to-date information supporting government decisions, it does expose individual identities and violates personal privacy, which may impact

work engagement (Kloeckl et al., 2012). Furthermore, automation technologies naturally lead to the devolution of the work practices and lead to workforce displacement. Therefore, the focus on lifelong learning of new skills is key to positively fulfilling the human needs and rights to work, through which work engagement can be realised (Higgs, 2020).

On the social-health front, Singapore's response to the COVID-19 pandemic has successfully maintained low fatalities. Nevertheless, infections exceeded 58,7000, mostly among foreign workers, which created a dual-track society. Infections were very low among citizens and permanent residents due to better tracing and infection risk assessment and very high among foreign workers (L. G. Chan & Kuan, 2020; Woo, 2020b).

Mental illness is a major social issue (Mythily Subramaniam et al., 2012). The nationwide 2016 mental health study revealed the increase in Singapore's mental health issues and the need to create awareness to facilitate the early treatment of mental disorders (M Subramaniam et al., 2020). The impact of COVID-19 on mental presents more challenges to society (Cheung & Leung, 2020). Employee mental health is significantly related to work engagement (Barreiro & Treglown, 2020; P. K. Sharma & Kumra, 2020). Mental health issues also have significant consequences on lost productivity in Singapore (Chong et al., 2013).

4.6.4 Social drivers of change

For the purposes of this study, social drivers are understood as those forces/trends that relate to or are based on human society, the interaction of the individual and the group, or the welfare of human beings as members of society that tend to form cooperative and interdependent relationships with others while living in organised communities especially for the purposes of cooperation and mutual benefit. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of engagement in Singapore by 2030.

The Desktop research identified the social drivers under the four social factors (Table4-3) as discussed in the previous section. There is evidence in the literature that some of those drivers are associated with engagement.

Table 4-3 Social factors and drivers in Singapore

Social factor	Social drivers	Category	Certainty	Impact
Demographics characteristics	Ageing population and generational conflicts	Megatrend	4+	4+
	Casualisation of the workforce	Megatrend	3+	4+
	Slow population growth rate	Trend	3+	1+
	Increased immigration rates	Trend	2+	2+
	Increased life expectancy rate	Trend	3+	0+
	Unbalanced gender demographics	Trend	3+	0+
Society trends	Increased health consciousness	Trend	3+	1+
	Upskilling of older generation	Megatrend	2+	3+
	Rise of automation and the need for the human to learn new skills	Megatrend	3+	4+
	Increased emphasis on education	Trend	3+	3+
	Increased interest in higher education	Megatrend	3+	3+
	Higher emphasis on safety	Trend	4+	3+
	A more holistic approach to life, work, and leisure	Megatrend	1+	4+
	Increased self-organisation and self-sufficiency and less dependency on institutions	Megatrend	4+	0+
	Increased digital information leading to enriched reality	Megatrend	4+	3+
Distribution of wealth	Aspiration towards Lifestyle	Megatrend	3+	2+
	Positive attitudes toward imported goods and services	Trend	2+	1+
	Higher inclinational towards quality product and better service	Trend	4+	1+
	Higher interests in savings and investing	Trend	4+	3+
	Higher inclination towards ecological products	Trend	3+	1+
	Reduction in the welfare state	Megatrend	2+	4+
	Increased sense of inequality and social classes	Trend	3+	2+
Social risks	Increased identity theft and privacy violation	Trend	1+	1+
	Reduced social obedience	Wildcard	1+	3+
	Increased attention to religion and beliefs	Megatrend	4+	0+
	Reduced family size and structure	Trend	3+	0+
	Reduced Long term social loyalty	Trend	2+	2+
	Traditions shifting towards reduced standards	Trend	2+	1+
	Increased fears of epidemic/pandemic	Megatrend	4+	3+
	Increased social conflict	Trend	1+	3+
	Impact due to Hong Kong evacuation-	Wild card	1+	3+
	Increase in mental health issues	Megatrend	3+	3+

Source: Developed for this research

Table 4-3 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

4.6.5 Summary of social drivers

The research covered the drivers of change under the four key social factors: demographics, society trends, distribution of wealth, and social risks. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-15 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-15 Social drivers – certainty and impact
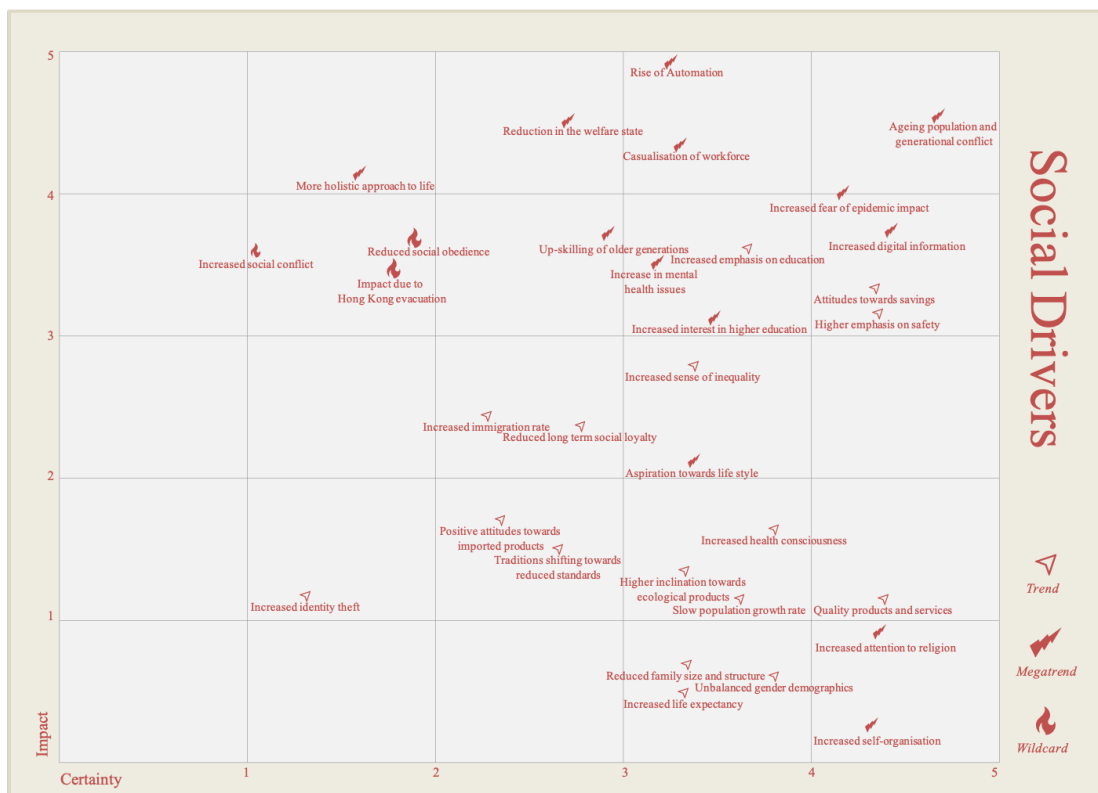
Source: developed for this research

The top five social drivers, in terms of impact, are defined as the key social drivers that may impact engagement:

1. Ageing population and generational conflicts

2. Casualisation of the workforce

3. A more holistic approach to life, work, leisure, career, and retirement

4. Reduction in the welfare state

5. Rise of automation and the need for the human to learn new skills

4.7 TECHNOLOGICAL DIMENSION

4.7.1 Introduction

The technological dimension pertains to innovation in technology and science that may affect organisations and work engagement. It includes digital automation, research and development of new technologies, advances in science, access to data, analytics, and the implications on individuals (Issa et al., 2010; N. Rastogi & Trivedi, 2016).

This section addresses the technology drivers for change in Singapore. It discusses the technological context of the city-state and the key technology factors and drivers as they relate to shaping the future of work engagement.

4.7.2 Singapore technological context

In 2014, the Singapore government launched its Smart Nation initiatives. The initiatives aimed to create a city powered by digital innovation and technology that responds to citizens' needs. The initiatives include various projects. A national e-payments for everyone safe and simple. National digital identity and future-ready government services that provide personalised services and information across different government agencies. An intelligent public transport system that leverages technology to provide a world-class transportation system. The use of technology to monitor regional epidemic diseases, help seniors and those with disabilities, and improve healthcare system productivity (gov.sg, 2021f). In 2020, the city-state was ranked as the smartest city globally on the Smart City Index (IMD, 2021). In 2019 and 2020, internet user penetration in Singapore was 82.41% of the total population (Statista, 2021).

4.7.3 Technological factors

The research categorises the technological drivers under four technological factors: technology incentives, new technologies, adoption rates, and safeguards.

Technology incentives

Singapore's government positioned the city-state as a hub of research and development (R & R&D) in the sciences and technology in Asia. In 2018, R&D

expenditure in technology and engineering reached SGD 5.77 billion, SGD 1.69 billion in biomedical sciences, and SGD 1.02 billion in natural sciences (Statista, 2020a). The government attracts and facilitates foreign investment, technology, and talent through its national innovation framework to cooperate with multinational companies (MNCs). The government focuses on privatisation rather than nationalisation, by offering tax deduction scheme, generous tax incentives, and IP protection regulations, for large and small companies (Nawaz & Koç, 2019; Wonglimpiyarat, 2018). Technology and product innovation directed to labour productivity may enhance work engagement (Baumann & Kritikos, 2016). Furthermore, there are strong links between Singapore's economic development and the telecommunication infrastructure, through which it can integrate into the world economy (Gómez-Barroso & Marbán-Flores, 2020). Technology is an enabler of work engagement (Jha et al., 2019).

New technologies

The evolution of industry 4.0 is shaping the technological landscape, and its contribution is far-reaching in Singapore; Integration of manufacturing processes and product connectivity (Dalenogare et al., 2018); Internet of things (IoT); big data and industry analytics (C. Zhang & Chen, 2020); digital transformation and automation (Wollschlaeger et al., 2017); blockchain technology (Bodkhe et al., 2020); detection and diagnosis of future epidemics and pandemics and other pandemics related problems (Javaid et al., 2020).

Industry 4.0 led Singapore on the path of competitiveness (Bal & Erkan, 2019). The government focuses on technologies that support the development of the smart city for citizens and businesses. New technologies based on sensors connected to the high-speed telecommunication network can provide information and insights regarding travel patterns. They can optimise maintenance cycles to minimise inconvenience for residents and citizens (gov.sg, 2020p, 2020r).

By 2030, elderly citizens in Singapore will reach 900,000. The government focus on the use of technology to achieve better health outcomes and well-being. Assistive technology and robotics introduce a real difference to the elderly and those with disabilities. Automated drones, automated guided vehicles, robotics technology, telehealth, implanted chips in human, and augmented reality for medical practitioners are examples of technologies being tested and implemented in the city-state (gov.sg, 2020q; S. Y. Tan & Taeihagh, 2020; van der Laan & Yap, 2016).

Adoption rate

The relationship between humans and the adoption of innovation is crucial for the success of new technologies. Individual attitude and perceived behavioural control are critical elements towards innovation's survival (Koul & Eydgahi, 2017; Lai, 2017). Issues to do with costs and access to technologies create digital social inequality and contribute to its adoption rate (Low et al., 2021). Furthermore, the possession of appropriate resources to enable safe and secure technology use that warrant safety and privacy is considered an essential factor in adopting technology (Tsatsou, 2011). Carr (2014) argued that technology can enhance human capabilities and promote democracy (Carr, 2014) Yet, the Singapore experience raised criticism around how the intelligent technological interventions may prompt citizens to disengage as a liberating experience that allows them to live freely (Ho, 2016).

Safeguards

While there are clear benefits associated with deploying new technologies in all aspects of life, scholars have increasingly highlighted the potential for risks and ethical dilemmas. In the context of Singapore, the adoption of digital technologies and automation brings technological risks. The risk of automated guided transportation concerning its operational safety. The privacy of citizens may be compromised as data and usage patterns are recorded to facilitate decision making. Security of data, rights to access exemplify potential breaches and possible mishandling of information. Moreover, as automation replaces humans in the workplace, resistance to adoption may result from disruption of employment and disengagement (S. Y. Tan & Taeihagh, 2020).

4.7.4 Technological drivers for change

For this study, technological drivers are those forces/trends that relate to or based on applying scientific knowledge for practical purposes, especially in the industry, including advances in computer technology, engineering applications, machinery and equipment developed from scientific applications knowledge invention. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of engagement in Singapore by 2030.

The Desktop research identified the technological drivers under the four technological factors as discussed in the previous section. There is evidence in the

literature that some of those drivers are associated with engagement. Table 4-4 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

Table 4-4 Technological factors and drivers in Singapore

Technology factor	Driving force	Category	Certainty	Impact
Technology incentives	Increased R&D expenditure	Trend	2+	3+
	Increased technology incentives	Trend	3+	3+
	Issuing of legislation concerning technology	Trend	2+	0+
	Enhanced communication infrastructure	Megatrend	3+	4+
New technologies	Possibilities of a new generation of IT	Megatrend	2+	4+
	Develop and maintain the Smart city-state	Megatrend	4+	1+
	Rise of the Internet of things IoT	Megatrend	3+	1+
	Narrowing the gap between the chip and human	Wildcard	0+	4+
	Ability to predict human behaviours through data analysis	Megatrend	4+	0+
	Use of chips in the human body to monitor the health	Trend	1+	0+
Adoption rate	Increased rate of technological change	Megatrend	3+	2+
	Increased censorship and citizen monitoring	Megatrend	3+	4+
	Major security breaches	Wildcard	1+	4+
Safeguards	Increased use of analytics in decision making	Megatrend	2+	4+
	Increased risk of privacy and personal data security	Megatrend	1+	2+

Source: Developed for this research

4.7.5 Summary of technological drivers

The research covered the drivers for change under the four technological factors: technology incentives, new technologies, adoption rate, safeguards. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-16 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-16 Technological drivers – certainty and impact

Source: Developed for this research

The top five technology drivers, in terms of impact, are defined as the key technology drivers that may impact engagement:

1. Enhanced communication infrastructure

2. Increased use of analytics in decision making

3. Major security breaches

4. Increased censorship and citizen monitoring

5. Possibilities of new generations in IT

4.8   ENVIRONMENTAL DIMENSION

The research categorises the environmental drivers under three environmental factors, climate change, associated risks, and sustainability.

4.8.1 Introduction

The environmental dimension concerns all factors that influence the surrounding environment, affecting organisations and work engagement. It includes climate change, weather, pollution, ground contamination, water sources and coastline erosion (Issa et al., 2010; N. Rastogi & Trivedi, 2016).

In this section, the research addresses the environmental drivers for change in Singapore. It discusses the environmental context in the city-state and the key factors and drivers related to shaping the future of work engagement in Singapore.

4.8.2 Singapore environmental context

Economic growth, trade, and non-renewable energy contributed negatively to the degradation of ASEAN's ecological footprint (Nathaniel & Khan, 2020). Humanity's increasing demand for nature exceeds what planet earth can provide (D. Casey & Sieber, 2016). Singapore recognised climate change as a global challenge. As a result, the government ratified the United Nations Convention on climate change in 1997 / 2015, the Kyoto protocol 2006 / 2014, and the Paris agreement in 2016. Singapore accounts for 0.11 % of the global carbon emissions. In 2016, Singapore launched the Climate Action Plan, which details the strategies to mitigate climate change, including coastal and infrastructure protection measures, improving energy efficiency, reducing carbon emissions, developing low-carbon technologies. The government is committed to reducing emissions intensity by 36 % from 2005 levels by 2030 (gov.sg, 2021c).

For this study, the environmental drivers are those forces/trends that relate to or are concerned with climate change, or the conduct of government, business or society involved in activities related to the environment. The study analyses the environmental drivers for change that may impact work engagement in Singapore.

4.8.3 Environmental factors

The research categorises the drivers into three environmental factors, climate change, associated risks, and sustainability.

Climate change

Singapore is a hot spot of climate extremes. The frequency and interannual variability of the three significant extreme climatic variables (i.e., precipitation, temperature, and wind speed) and global warming are responsible for future regional climate extremes (L. Xu et al., 2019). The precipitation extremes in the region resulted in a significant increase in wet and extremely wet days than the daily average in Southeast Asia (Ge et al., 2019, 2021). The coastal ecosystems around Singapore face hidden degradation from climate change and pollution (Cochard, 2017). Air pollution in SEA urban cities, including Singapore, exceeds the WHO acceptable pollution levels (Dahari et al., 2021). There is a clear indication of sea-level rise in Singapore, which expected to increase in the future due to climate change (Yousefpour et al., 2019). Recent studies of the coastal line erosion in Southeast Asia confirmed that natural coastlines decreased while artificial evolution in most areas increased (Y. Zhang & Hou, 2020). Globally, the melting of the Arctic and Antarctic poles results in the oceans absorbing and heating (WGMS, 2021), which has an impact on global atmospheric pressure that may lead to critical instability worldwide (Yadav et al., 2020).

Associated risks

The city-island main risks are sea-level rise and more extreme rainfall events that can cause significant flooding (IPCC, 2013). Climate extremes have severe impacts on human health, wildlife, ecosystems, and economic benefits (P. Zhou & Liu, 2018). Increased air and water pollution levels negatively affect human health (Dahari et al., 2021; S. Engels et al., 2018). Pollution is a significant threat to health and life satisfaction (Pretto et al., 2015). The post-industrial; development of Singapore contributed to higher pollution levels with risks to health (Q. Chen & Taylor, 2020). Singapore relies on its neighbours to secure its water and food supplies. Changes in climate extremes affect freshwater availability and food security (Betts et al., 2018). It can also lead to harvest failures (E. Vogel et al., 2019). Furthermore, natural disasters have become an issue in SEA and have a far-reaching environmental impact (Novellino et al., 2018).

Sustainability

Different views on climate change based on Singapore's demographics and ecological orientation alone don't lead to pro-environmental behaviours (Yousefpour et al., 2019). Social factors like values, beliefs and social practices form the primary drivers behind climate change (Islam & Kieu, 2021). Understating these practices' dominant ideologies is crucial for mentality change to institutionalise pro-environmental values norms (Everard et al., 2016). Furthermore, tackling the lack of fresh water supply in Singapore and its remote islands is a government initiative, in progress, towards using renewable energy to supersede its traditional electricity demands (Chelliah et al., 2018; gov.sg, 2020n). However, sustainability is not only a job for the government and society. Corporations' involvement in environmental management and sustainability as part of their Corporate Social Responsibility (CSR) efforts (e.g., production and supply chain) is an imperative strategy for Singapore, considering the threat of rapid developmental urbanisation on the environment. Involving employees in sustainability initiatives is positively associated with work engagement (D. Casey & Sieber, 2016).

4.8.4 Environmental drivers for change

For this study, environmental drivers are those forces/trends related to the three significant extreme climatic variables (i.e., precipitation, temperature, and wind speed) surrounding the environment that can act upon an organism or an ecological community and ultimately determine its form and survival. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of engagement in Singapore by 2030.

The Desktop research identified the environmental drivers under the three environmental factors as discussed in the previous section. There is evidence in the literature that some of those drivers are associated with engagement. Table 4-5 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

Table 4-5 Environmental factors and drivers in Singapore

Environment factor	Driving force	Category	Certainty	Impact
Climate Chane	Increased climate extremes	Trend	3+	1+
	Widespread melting of the Arctic and Antarctic poles	Wildcard	1+	4+
	Increased air and water pollution	Megatrend	4+	1+
	The extreme rise in the sea level	Wildcard	0+	4+
	Increased coastal line erosion	Wildcard	1+	4+
Associated Risks	Increased risk on public health	Trend	3+	3+
	Increased rate of endangered species	Trend	2+	1+
	Increased environmental threats	Megatrends	3+	1+
	Reoccurring of environmental disaster (earthquake, tsunami, toxication)	Wildcard	0+	4+
Sustainability	Mentality changes to counter the effects of climate change	Megatrend	3+	4+
	Desalination of water to meet increased demand for drinking water	Megatrend	3+	4+
	Introducing enforced laws for environmental pollution	Trend	3+	0+
	Greater awareness of recycling and waste management	Trend	3+	0+
	Increased interest in renewable energy	Megatrend	3+	0+
	Application of arcology combining architecture and ecology	Megatrend	3+	0+
	Increased orientation towards corporate social responsibility CSR	Trend	2+	3+
	Increased efforts towards sustainability	Megatrend	3+	0+

Source: Developed for this research

4.8.5 Summary of environmental drivers

The research covered the drivers for change under climate change's three environmental factors: climate change, associated risks, and sustainability. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-17 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-17 Environment factors – certainty and impact
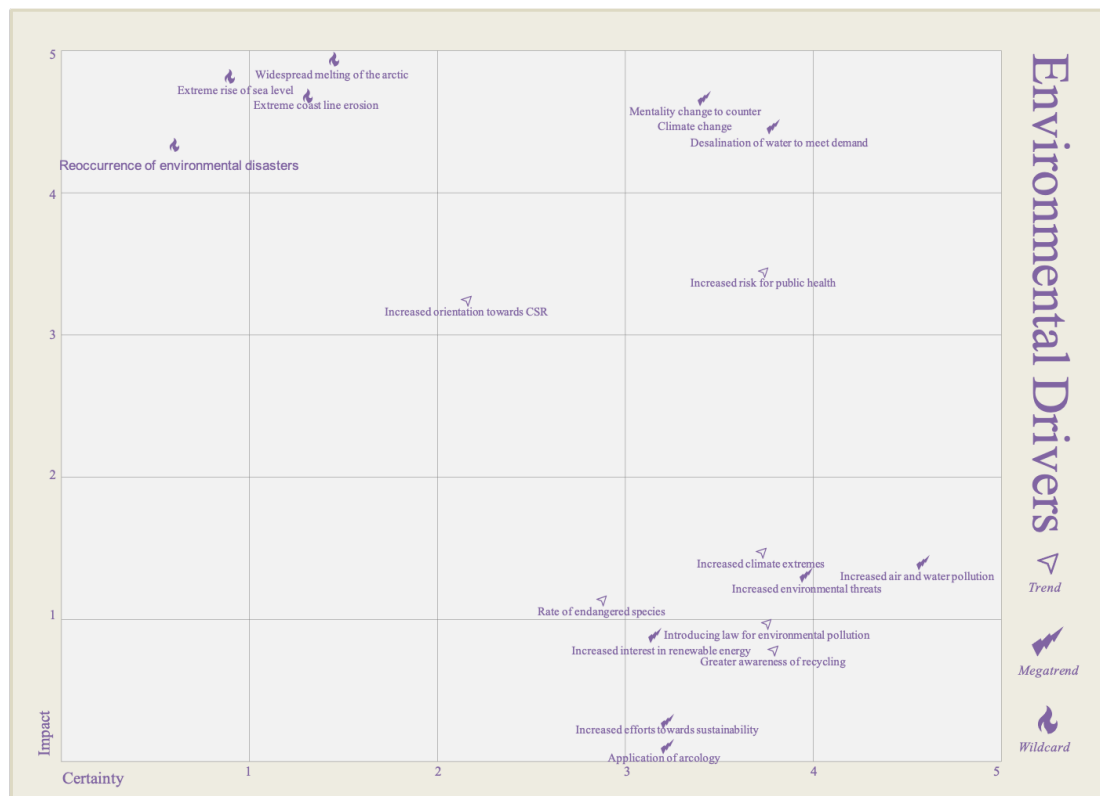
Source: developed for this research

The top five environmental drivers, in terms of impact, are defined as the key environmental drivers that may impact engagement:

1. Widespread melting of the Arctic and Antarctic
2. The extreme rise in the sea level
3. Increased coastline erosion
4. Desalination of water to meet increased demand for drinking water
5. Mentality changes to counter the effects of climate change

4.9   ETHICAL DIMENSION

4.9.1 Introduction

The ethical dimension considers the ethical concerns about business and market ethics that can affect organisations and the workforce favourably or unfavourably. It provides guidelines for organisations on how to act rightly and in a just manner to enforce their ethical stand in society (N. Rastogi & Trivedi, 2016). This section addresses the ethical context of the city-state and discusses the key factors and drivers as they relate to shaping the future of work engagement in Singapore.

4.9.2 Singapore ethical context

Singaporeans remain oriented towards authoritarian relationships in their attitudes and behaviours. Based on Confucianism's ethics of harmony and respect values, social exchange processes to negotiate business problems occur through relationships (Nie & Lämsä, 2015). Western people will have a transactional view of business problems and decide how to approach them appropriately and ethically. Singaporeans will rely on relationship and seek harmony to achieve results based on motivation and purpose (Bedford, 2011). The ethical standards contribute to work engagement (Chandani et al., 2016).

4.9.3 Ethical factors

The research classifies the drivers into three key ethical factors: human rights, business and finance, and technology and intellectual property.

Ethics of human rights

The United Nations Global Compact's ten principles constitute the ethical principles for the workplace in human rights, employment, and anti-corruption and enjoy universal consensus (United Nations, 2020). Ethical issues concerning civil liberties, freedom of association, collective bargaining, and compulsory labour are examples of ethical drivers, which have been highlighted in this research, and which are considered unresolved in Singapore (ECOI, 2020; Freedomhouse, 2020; RSF, 2020).

The employee-employer relationships in Singapore raise ethical issues related to recruitment practices and organisational behaviours. Discrimination issues include ageism, racism, religionism, social class, gender, weight and attractiveness, and

disabilities (Augustin et al., 2020; LIN, 2020; Steffens, 2021; Takenoshita, 2020; Velayutham, 2017; Yew, 2020).

The concern about abusive behaviours at the workplace, more targeted against foreign workers, call for an ethical stance and social protection by eliminating such behaviours (Yeoh et al., 2020). Company standards of ethical behaviours at work is associated with employee satisfaction and engagement (Madan, 2017). Leaders can enhance employee job satisfaction and influence organisational outcomes by engaging and rewarding ethical behaviours (H. C. Koh & Boo, 2001; Panigrahi & Al-Nashash, 2019). Ethical leadership triggers daily work engagement (Bormann, 2017).

The handling of COVID-19 in Singapore raised ethical concerns about health inequity among different classes in society. For example, migrant workers living in dormitories experienced significantly higher rates of infections than other groups in the society (M. H. Chew et al., 2020; Yi et al., 2020). Lack of adequate health measures, sub-optimal living standards, and structural injustice in allocating resources highlight some of the ethical consideration the city-state is confronting due to the perceived class and ethnic variability (Xafis et al., 2020).

Ethics of business and finance

The individual leaders' ethical values and the government regulatory practices shape business ethics in Singapore (R. B. B. A. Rahim, 2017). Sales and marketing practices are subsets of business ethics. Hence the question regarding the driving motive is politics or business (i.e., government or organisation). The level of autonomy and freedom available to the organisation and its influence on influencing consumer values and behaviours is under-researched. Employee engagement can be an important outcome of cause-related marketing (i.e., a charitable cause or a non-profit organisation) and it can help employees find meaning in their jobs (He et al., 2019).

As a business philosophy, Corporate Social Responsibility (CSR) is a related discipline (Velentzas & Broni, 2010). Operating in a socially responsible manner is positively linked to work engagement (Tsourvakas & Yfantidou, 2018). CSR constitute a nurturing soil for work engagement (Farrukh et al., 2020; Valentin et al., 2015). Involving employees in CSR initiatives is positively associated with work engagement (D. Casey & Sieber, 2016). Ethics orientation influences employee environmental sustainability engagement and has a significant positive impact on job

performance (Wahab, 2021).In Singapore, there is a direct relationship between CSR support and religiosity for egotistical reasons (i.e., face-saving); such moral beliefs are grounded in the executives' value system (Ramasamy et al., 2010).

Ethics of technology and intellectual property

Intellectual property (IP) in Singapore is viewed and protected through government incentives and policies to promote the City-state as an IP hub of Asia (gov.sg, 2020j; Yap, 2017). Still, ethical dilemmas associated with the use of cyberspace, technology, and intellectual property right are on the rise and often present challenges to leaders as they attempt to resolve appropriately (Yaokumah, 2020).

Personal data protection in Singapore takes into consideration practical business and public interests. Nevertheless, ethical issues around the sale of personal data for commercial gain, managing risks online, and respecting individual privacy demand government and organisations to finetune data protection practices to remain relevant and effective (Chik, 2013; Ong, 2019).

On another front, medical devices collect a large quantity of data, private in nature, and require valid informed consent. Current broad and blanket consent practices are challenged, and new approaches are needed (Lysaght et al., 2020; Schaefer, 2019). Advances in genetic engineering and its clinical applications (e.g., gene therapy) still hold concerns about its ethical use in human (Mulvihill et al., 2017). Human embryonic stem cell research raised moral concerns in Asia; faith leaders (i.e., Islam, Buddhist, Hindu, and Christianity) are deliberating the ethical guiding principles to find common ground among religious views and medical ethics (Sivaraman, 2019). The use of robotics in healthcare raised numerous ethical and social issues, like replacement of labour, de-humanisation of care, safety, privacy and data protection, and the patient's level of confidence and trust (Stahl & Coeckelbergh, 2016).

4.9.4 Ethical drivers for change

For this study, the ethical drivers are those forces/trends that pertain to the values of individuals and social units that affect their behaviours and decision-making processes. The Desktop research identified the ethical drivers under the three ethical factors as discussed in the previous section. There is evidence in the literature that some of those drivers are associated with engagement. Table 4-6 shows the different

drivers under each factor and defines its category based on the most recently available information.

<div align="center">Table 4-6 Ethical factors and drivers in Singapore</div>

Ethical factor	Driving force	Category	Certainty	Impact
Ethics of human resources	Ethical recruiting practices and employment standards (e.g., not using children to produce goods)	Trend	0+	2+
	Perceived class and ethnic ethical variability in recruiting	Megatrend	4+	4+
	Protecting human rights	Trend	1+	2+
	Freedom of association	Trend	1+	2+
	Acting forcefully to eradicate abusive behaviours	Trend	1+	2+
	The right to collective bargaining	Trend	0+	3+
	Elimination of all forms of forces and compulsory labour	Trend	1+	2+
	Elimination of discrimination in respect of employment and occupation	Trend	2+	2+
Ethics of business and finance	Ethical business leadership	Megatrend	2+	3+
	Enforce ethical marketing and sales practices	Trend	3+	2+
	Comply with ethical accounting practices	Megatrend	4+	2+
	Comply with commerce ethical practices	Megatrend	4+	1+
	Support a precautionary approach to environmental challenges	Megatrend	2+	2+
	Promoting social sustainability concerning human capital	Wildcard	1+	4+
	Engaging employees in driving ethical behaviours initiatives	Trend	1+	3+
	Own product safety and liability	Trend	2+	1+
	Demonstrate ethical leadership at the board and executive levels	Trend	4+	0+
	Work against corruption in all its forms, including extortion and bribery	Megatrend	3+	2+
	Ensure corporate social responsibility	Trend	2+	2+
Ethics of technology and intellectual property	Secure private data	Trend	1+	2+
	Demonstrate ethical stand on medical advances	Trend	1+	2+
	Developing ethical grounds for protecting intellectual property	Trend	4+	3+
	Encourage the advancement and diffusion of environmentally friendly technologies	Megatrend	4+	1+

<div align="center">Source: Developed for this research</div>

The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

4.9.5 Summary of Ethical drivers

The research covered the drivers for change under the three ethical factors of human resources, business and finance, and technology and intellectual property. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-18 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-18 Ethical drivers – certainty and impact
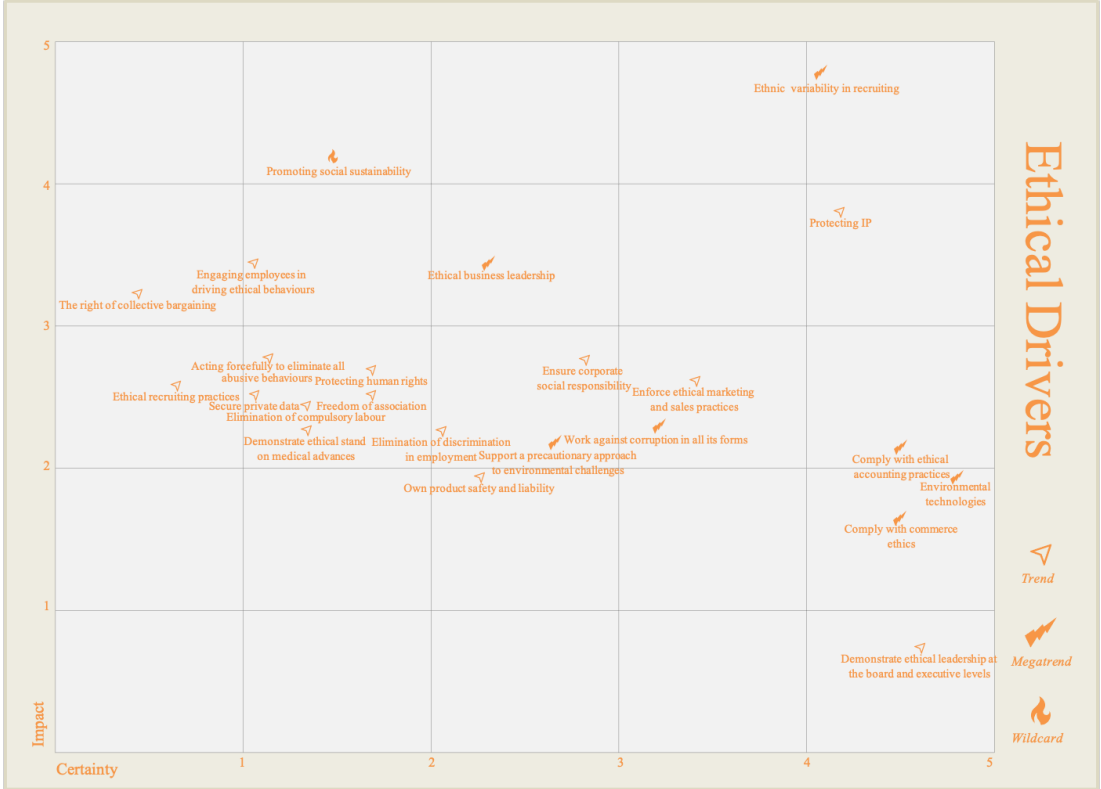
Source: Developed for this research

The top five ethical drivers, in terms of impact, are defined as the key ethical drivers that may impact engagement:

1. Perceived class and ethnic ethical variability in recruiting
2. Promoting social sustainability concerning human capital
3. Engaging employees in driving ethical behaviours initiatives
4. Ethical business leadership
5. Developing ethical grounds for protecting intellectual property

4.10 LEGAL DIMENSION

The research classifies the legal drivers under three legal factors, climate change, associated risks, and sustainability.

4.10.1 Introduction

The legal dimension considers laws that can affect society, organisations, and the workforce favourably or unfavourably. It concerns business, employment, consumers, trade, people welfare and safety standards (Issa et al., 2010; N. Rastogi & Trivedi, 2016). This section addresses the legal drivers for change in Singapore by discussing the legal context in the city-state and the key factors and drivers related to shaping the future of work engagement in Singapore.

4.10.2 Singapore legal context

The city-state has a practical and corrupt-free legal system based on the English common law system. The Republic of Singapore's constitution is the primary source for interpretation (gov.sg, 2020c). Though, Higgs (2020) confirmed that:

> "The Republic of Singapore have not ratified the International Covenant on Civil and Political Rights or the International Covenant on Economic, Social and Cultural Rights or the International Convention on the Elimination of All Forms of Racial Discrimination, Convention against Torture, has the death penalty, International Convention for the Protection of All Persons from Enforced Disappearance, the Optional Protocol to the Convention on the Rights of the Child on the sale of children, International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, the Convention against Discrimination in Education, the Rome Statute of the International Criminal Court" p.46 (Higgs, 2020; ohchr.org, 2020).

Furthermore, the internal security act (which authorises detention without trial), and the Societies Act (which regulates formation of association), and the Protection from Online Falsehoods and Manipulation Act (which restrict contents on social media) are in effect (gov.sg, 2020k, 2020s, 2020m).

For this study, the legal drivers are those laws/regulations that relate to or are concerned with government/business, or the practice of government/business involving or involved in employment, consumer/trade practices, or civil liberties. The

study analysed the legal drivers for change that may impact work engagement in Singapore.

4.10.3 Legal factors

The research categorises the legal drivers into three key legal factors, employment, business, and public welfare.

Employment

The Employment Act is Singapore's primary labour law; it covers most employment and working conditions. Significant amendments took effects in 2019 to bring rights to employees in the case of "unfair dismissal" or "constructive dismissal", that is, forced resignations (gov.sg, 2020f). Though industrial relations in Singapore are guided by the imperatives of the government development plans, which hold priority over any single party gains (i.e., employers, employees, or unions), the government agencies play a central role in certifying any collective agreements. They may refuse to approve the agreement on the ground of public interest, where decisions are final and cannot be appealed (Wan, 2010).

Flexible wages are permitted in Singapore to protect employment in recession cycles. During full employment, workers suffer due to higher cost of living and recessions due to low wages (S. B. Chew & Neo, 2013). Curless (2016) argued that unions in Singapore could provide sustainable growth solutions. They aim to deliver social and economic development that promotes multiracialism and protect civil liberties (Curless, 2016).

Furthermore, it is public knowledge that racial discrimination is evident in recruitment practices but not publicly discussed. While meritocracy is promoted as the theme under which recruitment takes place, and individuals have equal opportunities based on their merits, there is a gap between its endorsement as a measure and its practice in the multiracial society of Singapore (Teo, 2019). Velayutham (2017) argued that Singapore doesn't have a national anti-racism strategy (Velayutham, 2017).

Business

Competition laws in Singapore enacted to protect consumers and businesses from anti-competitive practices of private organisations. The laws address prohibitions related to anti-trust agreements and conventions, abuse of dominant positions in the market, and mergers and acquisitions that lessen competition (gov.sg, 2020a).

However, within ASEAN, not all countries operate under the same laws, which leave a backdoor open for businesses in Singapore (Nugraheni et al., 2016).

The Workplace Safety and Health Act provides a strong safety culture, reduces risk, encourages safety and health outcomes, and imposes higher penalties for offenders (gov.sg, 2020t). Nevertheless, there are reports that migrant workers are denied medical leave or treatments by their employers. There is also a lack of understanding of their basic physical needs for food security, sleep, and transportation, which may increase the risk at work (Dutta, 2017).

The Copyright Act protects works like novels, software, plays, music, photographs, and paintings as means to protect the intellectual property (IP) of the originator (gov.sg, 2020e). Also, the government enacted the registered design law to provide design protection for designers (Llewelyn & Reddy, 2018). There is strong evidence that Singapore's IP protection has positively contributed to the city-state's tremendous development (Tsakalerou, 2018).

On the consumer side, The Consumer Protection Act is enacted to protect consumers against unfair practices, including rights to return goods if not conforming with the contract (gov.sg, 2020d). In 2020, the government launched the first national guideline to improve e-commerce processes and enhance consumer experiences (gov.sg, 2020o). In 2012, Singapore's parliament passed the Personal Data Protection Act to provide a baseline standard for protecting personal data in Singapore. The legislation doesn't promise unrestricted protection of individual privacy, but a balance between individual rights and organisations' needs to collect data (M. Yip, 2017). Accordingly, there are concerns about the government collecting personal data for surveillance purposes or data stolen after few cyberattacks on government institutions (Sim & Lim, 2020; YongQuan, 2017).

Public welfare

Besides other dimensions that touch the ordinary Singaporean's welfare, the legal dimension enforces some of the already addressed drivers under different PESTEEL dimensions. The Income Tax Act enacted to implement income taxes to develop Singapore into a more robust community (gov.sg, 2020i). Besides the income tax, the government has been shying away from taxing wealthy individuals, severely impacting its position as a global wealth management hub with an attractive tax

system. The wealth inequality in Singapore can negatively impact work engagement (Bapuji et al., 2020).

In 2002, the government enacted the Environmental Protection and Management Act to manage environmental pollution control and protect the environment and conserve resources (gov.sg, 2020h). The vast majority in Singapore are amenable for the government to strengthen pro-environmental laws but not favour environmental taxes (Yousefpour et al., 2019).

Primary education is compulsory in Singapore under the Compulsory Education Act (gov.sg, 2020b). Nevertheless, education policies and resource allocation are subject to the notion of meritocracy, where the cognitive elite are more favoured, which add to the inequality in Singapore (C. Y. Tan & Dimmock, 2015).

4.10.4 Legal drivers for change

For this study, legal drivers are forces/trends that relate to or are based on the law which has been promulgated (or "enacted") by a legislature or other governing body or the process of making it. The study focuses on the impact of such drivers on work engagement and whether it is significant enough to shape the possible futures of engagement in Singapore by 2030 (Table 4-7).

Table 4-7 Legal factors and drivers in Singapore

Legal factor	Driving force	Category	Certainty	Impact
Employment	Anti-discrimination law	Megatrend	1+	4+
	Employment law	Megatrend	1+	4+
	Industrial relationship law	Megatrend	1+	3+
Business	Consumer protection law	Trend	2+	1+
	Privacy laws and data protection	Megatrend	2+	3+
	E-commerce	Megatrend	2+	1+
	Anti-trust law	Trend	3+	1+
	Work health and safety law	Trend	2+	3+
	Copyright, patents, and intellectual property law	Trend	4+	3+
Public welfare	Environmental law	Trend	2+	2+
	Education law	Trend	3+	2+
	Tax law	Trend	1+	3+

Source: Developed for this research

The Desktop research identified the legal drivers under the three legal factors as discussed in the previous section. There is evidence in the literature that some of those drivers are associated with engagement. Table 4-7 shows the different drivers under each factor and defines its category based on the most recently available information. The table shows the researcher projections of each driver using a five-point balanced bipolar (i.e., very low, low, moderate, high, very high) Likert scale (Likert, 1932) to estimate certainty and impact concerning work engagement.

4.10.5 Summary of legal drivers

The research covered the drivers for change under the three legal factors of employment, business, and public welfare. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-19 illustrates how the different drivers are situated in terms of certainty and impact.

Figure 4-19 Legal drivers – certainty and impact
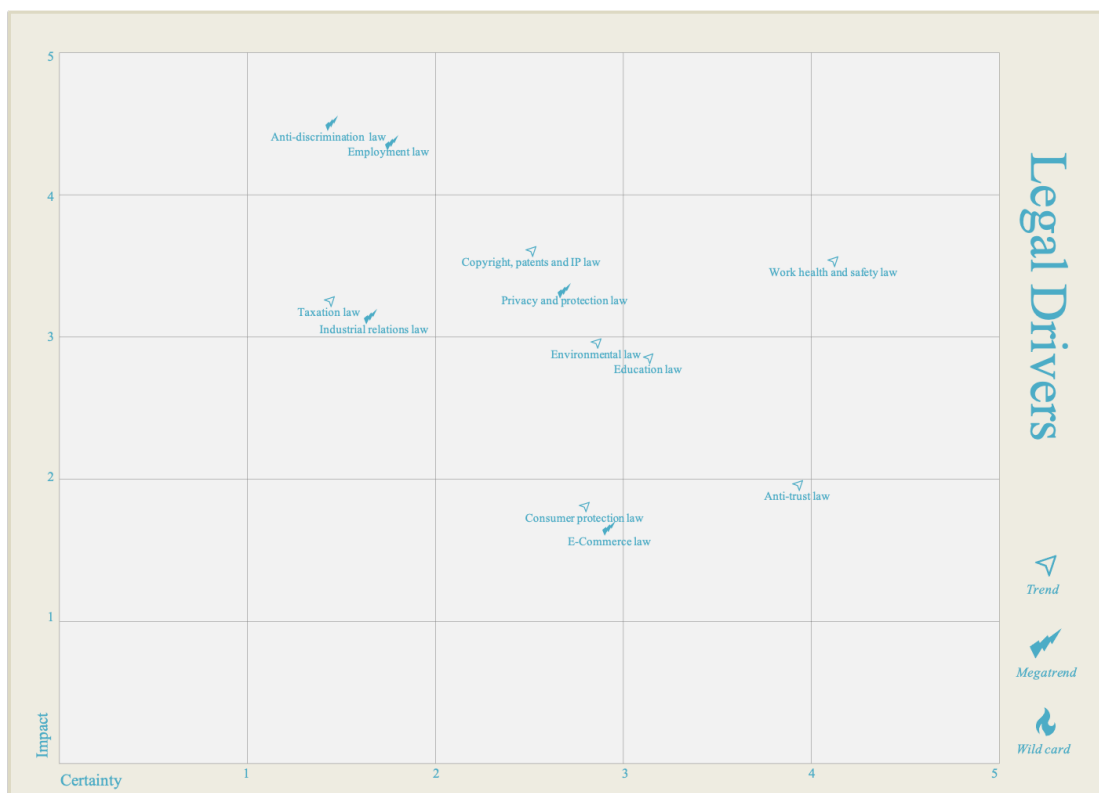
Source: Developed for this research

The top five legal drivers, in terms of impact, are defined as the key legal drivers that may impact engagement:

1. Employment law

2. Work health and safety law

3. Privacy and data protection law

4. Anti-discrimination law

5. Copyright, patents, and intellectual property law

4.11 SUMMARY AND CONCLUSION

The city-state has few resources, including human resources. As a result, the Singapore economy relies heavily on trade and its status as a financial centre that offers a level of secrecy and tax breaks to attract money worldwide. Under an authoritarian political regime that enforces authority at the expense of personal freedom, the country enjoyed tremendous economic growth and national income. The challenge is to find where the growth will come from in the future. There is often a tendency to associate high-level national income with increased productivity and sustainable economic growth; this is not the case in Singapore. The city-state has been struggling with declining and even negative productivity, which threatens the desired sustainable economic growth.

The government immigration policies underpinned by the influx of foreign workers have contributed to widening income disparities. Resulting in lower wages, higher cost of living, declining productivity, deteriorating living standards. Furthermore, inequity and inequality seem to mount significant health, education, and economic consequences of structural injustice, undermine social cohesion, and exacerbate other divisions between ethnic communities, social classes, and foreign and local workers.

In addition, Singapore faces the risk of ageing and slowing population growth. As the population ages, the workforce stagnates, and productivity reduces. Population ageing has implications for societies and economies. As age diversity in the workforce grows, the perception of the work environment, job engagement, and outcomes are influenced by the difference in values and the perceived age discrimination among different age groups. The challenge remains for organisations to continue to engage the older workforce while attracting and engaging the younger generations.

The PESTEEL analysis identified the future challenges that Singapore is facing. The study identified the drivers of change and their impact on work engagement and whether it is significant enough to shape the possible futures of work engagement in

Singapore by 2030. The drivers were categorised into three categories (i.e., trend, megatrend, and wild card). Each driver was assessed in terms of certainty and impact on engagement. Figure 4-20 illustrates how the different drivers are classified by the researcher in terms of certainty and impact.

Figure 4-20 PESTEEL drivers for change in Singapore
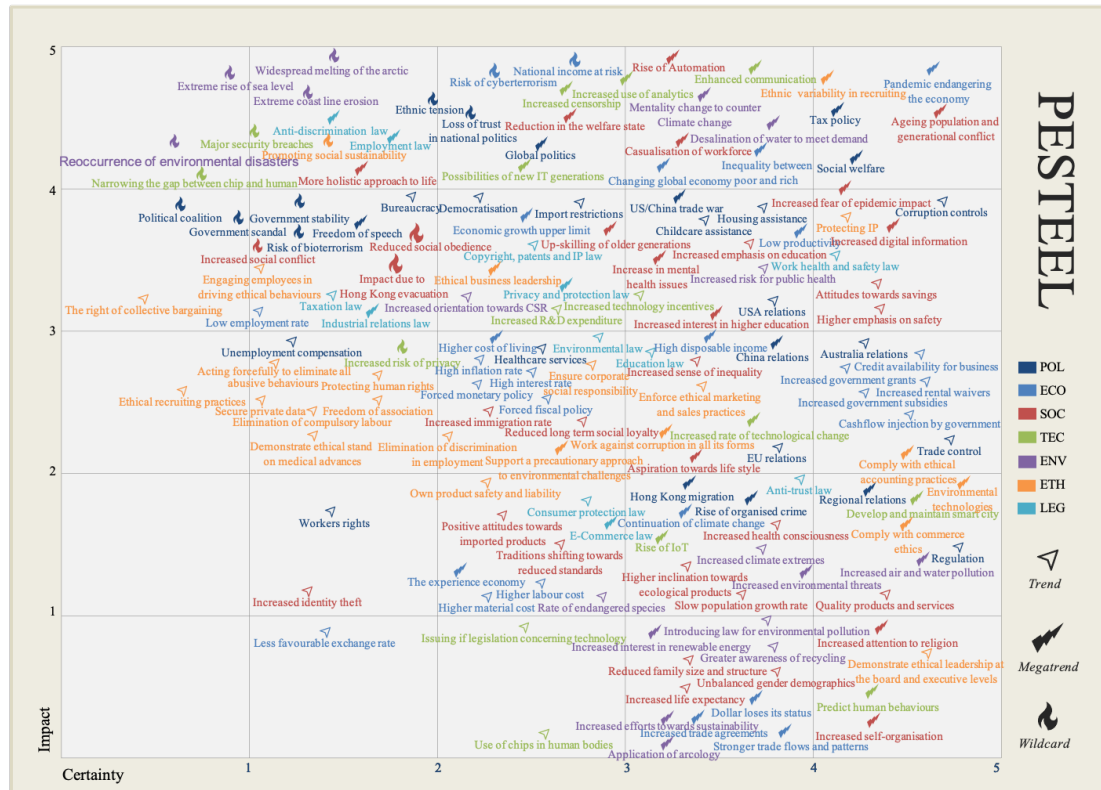
Source: Developed for this research

The PESTEEL analysis provided the researcher with a unique ability to understand the drivers for change that may impact work engagement in Singapore. While the various dimensions (i.e., political, economic, social, technological, environmental, legal, and ethical) differ significantly, they are inherently interconnected and can have ripple effects (Everard et al., 2016).

These findings served as inputs to the Delphi study before being considered in developing scenarios to validate and triangulate the PESTEEL analysis findings. The PESTEEL analysis produced two sets of drivers under each dimension. The "key drivers" as identified by high impact on engagement, and the remaining drivers listed under "other drivers" for each dimension. The former represents key drivers that the researcher proposed as shaping forces for engagement futures. The latter represent other drivers of lesser impact.

Figure 4-21 shows the five key drivers under each dimension, which were identified by the PESTEEL analysis as having the highest impact on the future of engagement in Singapore.

Figure 4-21 PESTEEL – Drivers of change
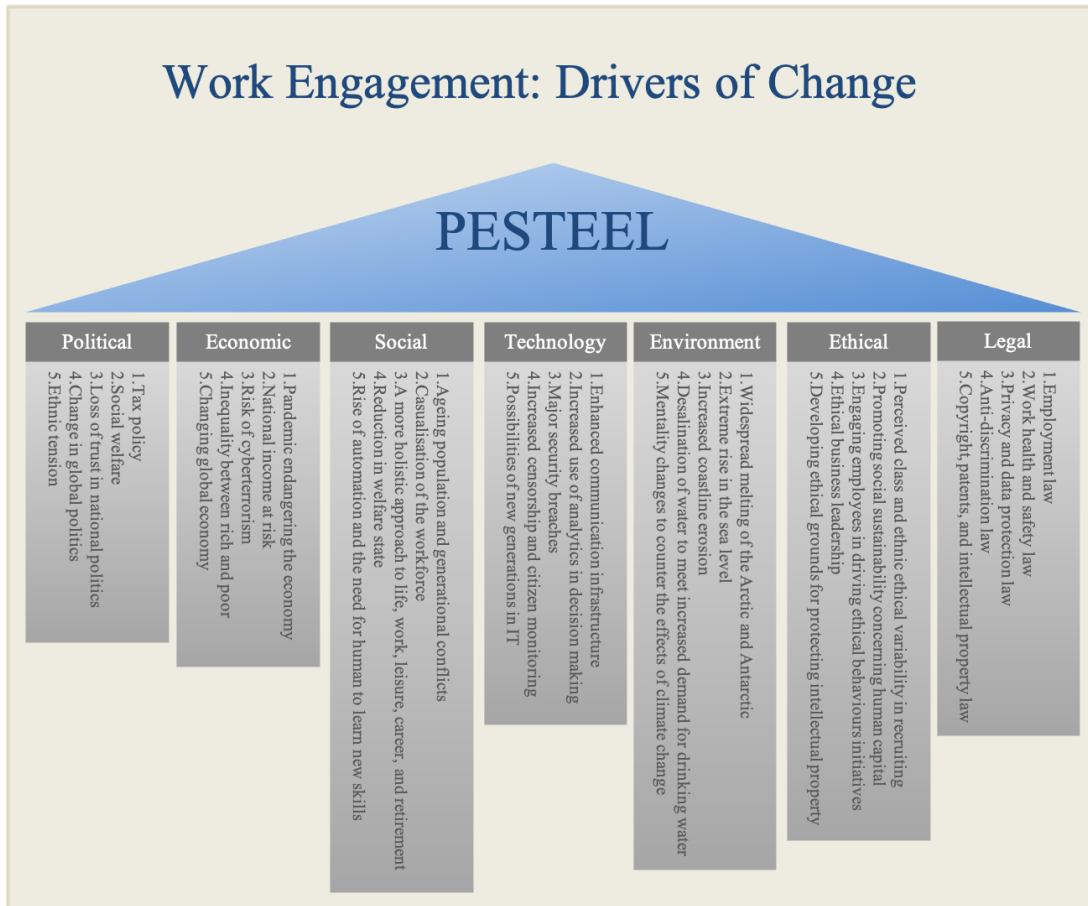
Source: Developed for this research

The next chapter presents phase three and phase four of the research covering the survey results of the leader's profile and the Delphi study results including the extent to which the expert panel validate the PESTELL analysis findings.

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Chapter 5: Results and Discussion

5.1 INTRODUCTION

Chapter 4 provided a detailed environmental scanning analysis using the PESTEEL analysis, which included an overview of the various drivers of change assessed for impact on work engagement in Singapore. This chapter presents the quantitative and qualitative results and analysis. The research design aggregates data from various measures to inform the overarching research question. The study draws on four data sources.

The first source, the literature review (Chapter 2), established theoretical links between strategic leadership theory, work engagement theory, and organisational outcomes. The literature review provided the answer to the first research question (RQ1: is strategic leadership associated with work engagement?). The second source, an environmental scan study (PESTEEL), identified the drivers of change related to work engagement in Singapore (Chapter 4). The PESTEEL analysis provided qualitative and quantitative data to answer the second research question (RQ2: What are the drivers of change that impact the futures of engagement in Singapore?). The third source, survey data of leaders' profiles, provided quantitative measures to assess the foresight capability and strategic thinking capability profiles of strategic leaders in Singapore and responds to the third research question (RQ3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?). The fourth source used a Delphi study to collect qualitative and quantitative data to validate and triangulate both the quantitative and qualitative research findings from the previous phases of the study. Finally, the study responded to the fourth research question (RQ4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?) and the fifth research question (RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?). This chapter reports on the results from the second, third and fourth data sources that inform RQ2, RQ3, RQ4, and RQ5.

This chapter presents the study's results, data, and discussion to address the overarching research question. Section 5.2 covers phase three, the foresight and strategic thinking capability profiles of leaders in Singapore. Section 5.3 contains the Delphi study and its three rounds. Finally, section 5.4 concludes the chapter with a summary of the outcomes. Figure 5.1 outlines the structure of the chapter.

Figure 5-1 Chapter 5 - Contents
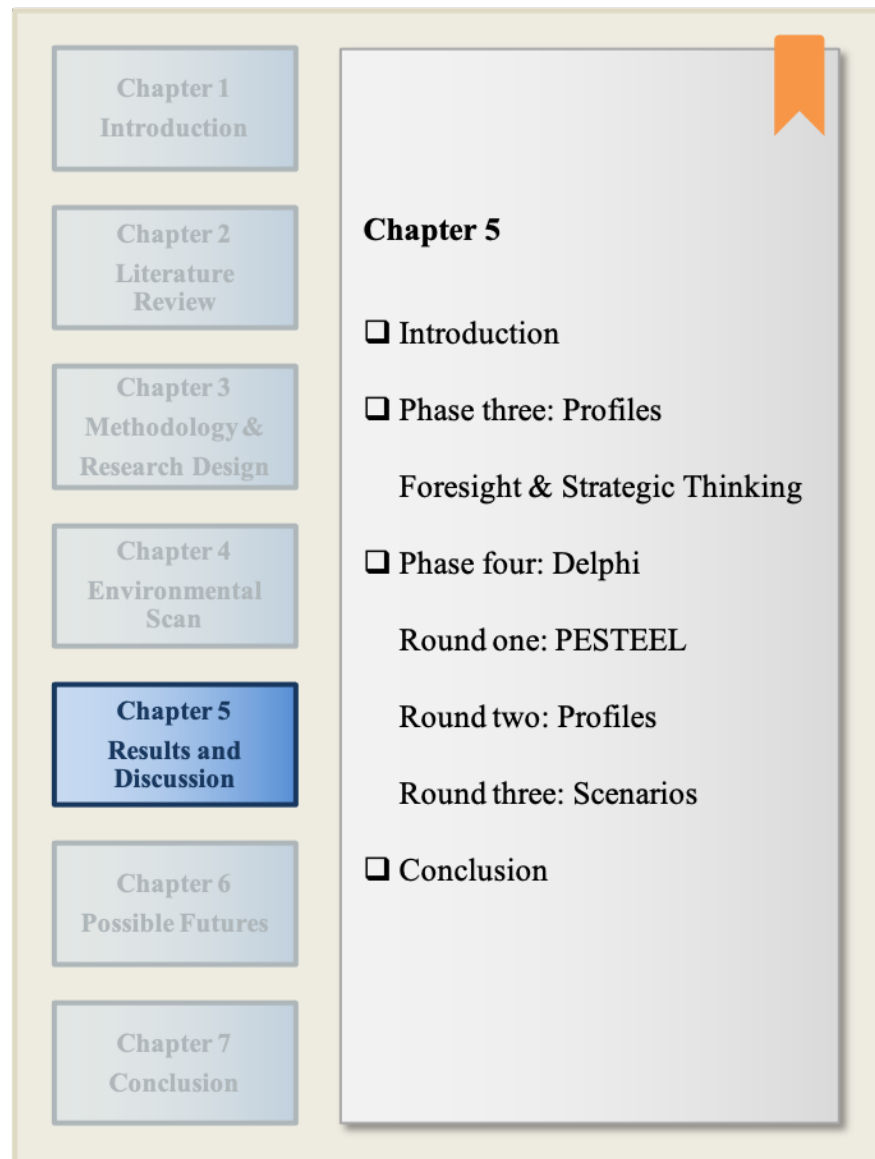
Source: Developed for this research

5.2 PHASE THREE: FORESIGHT AND STRATEGIC THINKING CAPABILITY PROFILES OF LEADERS IN SINGAPORE

5.2.1 Introduction

In this phase, the researcher collated and analysed a secondary dataset representing measures of foresight and strategic thinking capabilities of leaders in Singapore, as described in the research methodology (Section 3.5.4). Figure 5-2 illustrates the positioning of phase three in the research design.

Figure 5-2 Research design - Phase 3
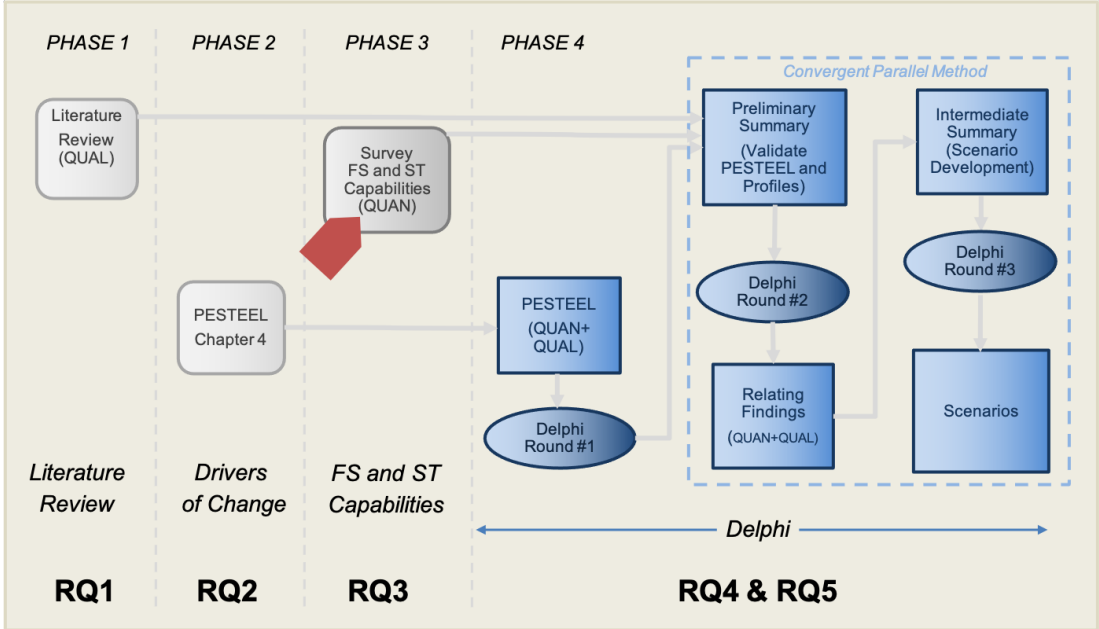
Source: Developed for this research

The dataset included three instruments: Foresight Styles Assessment, TimeStyle Inventory, and Decision Style Inventory. The instruments are associated with the constructs in the theoretical and conceptual frameworks introduced in Chapter two and have been empirically validated (Van der Laan, 2010; Van der Laan & Erwee, 2012). The dataset represents a sample (n=330) of strategic leaders in Singapore organisations who exert influence on strategy formulation and organisational outcomes. The analysis covered descriptive and parametric statistics, including scoring the leaders' profiles for the three instruments.

5.2.2 Dataset preparation

This study built on previous empirical research that operationalised a validated and reliable model to investigate the strategic leadership capabilities of foresight and strategic thinking in strategic leaders (Section 3.5.4). The dataset employed in this

research was collected as part of post-doctoral research completed by Dr Luke van der Laan, who granted the researcher permission to use the data for this research. Strategic leaders completed the selected dataset in Singapore between 2016 and 2018. The data were extracted from a larger dataset (n=863) of leaders in the Asia Pacific region. The criteria for inclusion were that the leaders were located in Singapore or were in Singaporean organisations and exerted a moderate to high influence on the organisation's strategy.

That dataset contained responses to a questionnaire that included four instruments (Foresight Styles Assessment, Time Style Inventory and Decision Styles Inventory, and Strategy Making Process scales) which have been validated as measuring the concepts of foresight capability and strategic thinking capabilities (Van der Laan, 2010).

Missing data

The study followed the process outlined in Section 3.5.4.4 to identify any missing data (Table 5-1). The dataset included some missing data in three instruments: TSI, FSA, and DSI. The missing data were under 10% of the sample size, which made it ignorable (Hair et al., 2018).

Table 5-1 Data preparation – missing data

Instruments	N	Missing Data	%
TimeStyle Inventory (TSI)	330	1	0.3%
Foresight Styles Assessment (FSA)	330	22	6.6%
Decision Style Inventory (DSI)	330	53	16%
Demographics	330	173	52%
SMP	330	0	0%
SF	330	0	0%

Source: Developed for this research – See Appendix A for details

Conversely, DSI and Demographics recorded missing data higher than 10%, and a remedy approach was required (Hair et al., 2018). A diagnosis of the missing data revealed that the missing data are random, and mean substitution was selected as an imputation method.

Outliers

Univariate analysis was undertaken to assess for potential outliers. The univariate analysis is used to identify any observations that are unique or extreme.

Cases falling outside the range of 2.5 to 4 standard deviation from the mean indicate the detection of an outlier (Hair et al., 2018). No univariate outliers were detected following a review of the standards deviation.

Normality

Measures of skewness and kurtosis were also assessed to determine any possible impacts due to the distribution shape. Data with a skewness above an absolute value of 3.0 and kurtosis above an absolute value of 10.0 are considered problematic (Kline, 1998, 2015; Rand, 2009). Based on these criteria, the dataset was regarded as not representing a substantial departure from normality (Appendix B).

Descriptive statistics

Evaluation of the descriptive statistics of the data allows the researcher to become familiar with the dataset before proceeding with analysis (Hair et al., 2018). Descriptive statistics (means and standard deviation) for the variables in each construct are reported in Appendix C. The descriptive statistics are consistent with the findings of the earlier studies in the literature. The next stage of the research was to describe the respondent profiles presented by the sample through frequency analysis.

5.2.3 Dataset frequency analysis

Chapter three (Section 3.5.4) described the strategy adopted by this study to acquire a secondary dataset representing foresight and strategic thinking capability profiles. The data analysis included advanced algorithmic modelling of a sample (n=330) of strategic leaders in Singapore who exert a medium to strong influence on the strategy formulation in their organisation, from private and public entities.

The study extracted and collated the dataset to assess the foresight capability (orientation to time and foresight styles), as part of the foresight capability construct, and strategic thinking capability (analytical and conceptual decision-making orientation), as part of the strategic thinking capability construct, as validated by Van der Laan (2010, 2012). This section describes how the data was analysed to address the study's research questions.

Frequencies: Sample demographics

The data analysis included the presentation of frequencies that describe the demographic characteristics of the sample. The study further includes averaged scores related to the sample responses pertaining to the instruments and model adopted. Table 5-2 presents the demographic frequencies of the sample. The study sample (n=330) answered all three instruments. However, only 160 respondents answered the demographics optional questions.

Table 5-2 Demographic profile of the study sample

Demographic	Frequency /Percent	Narrative
Sample	*n=330*	A total of 330 respondents but only 160 answered the optional demographic questions, 75.6% of the sample was male, and 24.4% of the sample was female
Male	121 / 75.6%	
Female	39 / 24.4%	
Age of respondents		
Age u34	47 / 29.4%	21.2% of the sample aged between 45 and 60 years old. 49.4% aged between 35-44 years old. 29.4% were up to 34 years old.
Age 35-44	79 / 49.4%	
Age 45-60	34 /21.2%	
Education		
High School	1 /0.6%	51.7% of the sample were holders of postgraduate degrees. 37.7% were holders of bachelor's degrees. 10% were holders of Diploma degrees. O.6% was a holder of High school Certificate
Diploma	16 /10%	
Bachelor's degree	69 /37.7%	
Postgraduate degree	82 /51.7%	

Source: Developed for this research

The frequency statistics provide an indication of the demographics of the sample to be used:

a. They are predominantly male.

b. They predominantly aged between 35 and 45 years old.

c. They are mostly highly educated.

Frequencies: Foresight capability

As part of the Foresight construct, table 5-3 illustrates the frequency statistics of the respondents' answers to TSI using a 7-point Likert scale, ranging from strongly disagree to strongly agree.

Table 5-3 TSI Frequency table

TimeStyle Inventory (TSI)	Strongly disagree	Moderately disagree	Slightly disagree	Neither agree nor disagree	Slightly agree	Moderately agree	Strongly agree
1. Known for generating ideas	3.17%	3.17%	2.71%	14.93%	24.89%	33.48%	17.65%
2. Being organised is important for me	3.62%	1.36%	1.36%	9.05%	13.57%	34.39%	36.65%
3. People think of me as a visionary	2.71%	3.62%	4.98%	20.81%	29.86%	30.32%	7.69%
4. People think of me as organised	2.26%	4.07%	3.62%	14.93%	20.81%	37.56%	16.74%
5. Tend to dwell on what was	6.79%	6.79%	9.50%	24.43%	23.98%	20.36%	8.14%
6. People think of me as structured	3.17%	1.81%	4.07%	13.12%	24.43%	37.10%	16.29%
7. Known for invention/innovation	2.71%	5.88%	8.14%	14.03%	30.32%	25.34%	13.57%
8. People think I am best at planning and organising	3.17%	3.62%	5.43%	17.65%	26.24%	30.77%	13.12%
9. Often think about past decisions	3.17%	9.05%	9.50%	17.19%	29.86%	22.17%	9.05%

Source: Developed for this research

The responses indicate a propensity to deal with current tasks and time allocation, with a clear focus on planning and organising for the short term (Questions 2, 4, 6, and 8). There is also some orientation towards innovation and creativity in generating new ideas and inventions (Questions 1, 3, and 7). Finally, and to a lesser extent, leaders are not paying equal attention to the past to reflect and learn from past experiences (Questions 5,9).

Also, as part of the foresight construct, table 5-4 illustrates the frequency statistics of the respondents' answers to the Foresight Styles Assessment, using a 6-point Likert scale, ranging from "It doesn't describe me" to "Described me perfectly".

The responses indicate a propensity to adapt to whatever the situation requires at the time (Questions 3,13, 15) by being flexible and do what is needed. There is also some tendency to consider future challenges and interpret the trends leading to the future (Questions 6, 8, 11, 12). Furthermore, leaders demonstrate an opportunistic approach to new ideas and trends as they prevail (Questions 1, 9, 10,14). Finally, and to a lesser extent, leaders may resist change and try to protect their current settings (Questions 2, 4, 5, 7).

Table 5-4 FSA Frequency table

Foresight Assessment Inventory	It doesn't describe me	Describes me a little bit	Describes me	Describes me very well	Describes me extremely well	Described me perfectly
1. Test new products/trends very early	4.76%	17.46%	27.51%	26.46%	15.87%	7.94%
2. Don't like changes that disrupt opportunity	23.28%	21.69%	24.87%	14.81%	12.17%	3.17%
3. Quickly adjust to new situations	1.06%	9.52%	21.16%	29.63%	22.22%	16.40%
4. Hold the line when new plans are imposed	11.64%	24.87%	24.87%	21.69%	12.17%	4.76%
5. Don't want too much change	24.34%	31.75%	23.28%	10.58%	8.99%	1.06%
6. Consider how trends interact	2.65%	8.99%	28.57%	29.10%	24.34%	6.35%
7. Against changes that threaten one's position	26.98%	28.57%	20.11%	12.70%	8.99%	2.65%
8. Focus on future questions	2.12%	8.47%	25.93%	26.46%	26.46%	10.58%
9. Conscious of big trends in society	2.12%	11.11%	24.87%	25.40%	27.51%	8.99%
10. Go along when trends come	2.12%	8.99%	23.28%	33.33%	24.87%	7.41%
11. Interested in future questions	1.06%	7.41%	17.99%	29.10%	31.22%	13.23%
12. Focus on greater future questions	1.59%	8.47%	24.34%	25.40%	28.57%	11.64%
13. Make things happen when future demands	1.06%	10.58%	16.40%	32.28%	26.98%	12.70%
14. Take advantage of trends that pop up	1.59%	13.23%	20.11%	32.28%	18.52%	14.29%
15. Flexible person	1.06%	6.88%	18.52%	28.04%	25.93%	19.58%

Source: Developed for this research

Frequencies: Strategic Thinking capability

Table 5-5 illustrates a frequency table of the respondents' answers to the Decision Styles Inventory, using a 4-point ranking scale, ranging from "Describe me least" to "Described Mostly" for each statement that describes a possible answer for an inventory question.

Table 5-5 DSI frequency table

Decision Style Inventory	Describes me moderately	Describes me least	Describes me slightly	Describes me moderately	Describes mostly
1. My prime objective is to have:	Have a position with status	30.59%	33.53%	21.76%	14.12%
	Be the best in my field	14.12%	15.88%	27.06%	42.94%
	Achieve recognition for my work	9.41%	24.71%	40.59%	25.29%
	Feel secure in my job	45.88%	25.88%	10.59%	17.65%
2, I enjoy the jobs that:	Are technical and well defined	32.94%	21.76%	22.35%	22.94%
	Have considerable variety	8.24%	28.24%	34.71%	28.82%
	Allow independent action	30.00%	23.53%	24.71%	21.76%
	Involve people	28.82%	26.47%	18.24%	26.47%
3. I expect people working for me to be:	Productive and fast	22.35%	31.18%	28.24%	18.24%
	Highly capable	15.29%	32.94%	31.18%	20.59%
	Committed and responsive	13.53%	21.76%	21.18%	43.53%
	Receptive to suggestions	48.82%	14.12%	19.41%	17.65%
4. In my job, I look for:	Practical results	20.59%	20.59%	25.88%	32.94%
	The best solutions	18.24%	30.59%	29.41%	21.76%
	New approaches or ideas	21.76%	32.94%	25.88%	19.41%
	Good working environment	39.41%	15.88%	18.82%	25.88%
5. I communicate best with others:	In a direct one-to-one basis	17.06%	11.76%	20.59%	50.59%
	In writing	35.29%	29.41%	18.82%	16.47%
	By having group discussions	12.35%	31.18%	39.41%	17.06%
	In a formal meeting	35.29%	27.65%	21.18%	15.88%
	Current problems	28.82%	30.00%	25.29%	15.88%

6. In my planning I emphasise:	Meeting objectives	10.00%	27.06%	27.06%	35.88%
	Future goals	15.88%	23.53%	32.35%	28.24%
	Developing people's career	45.29%	19.41%	15.29%	20.00%
7. When faced with solving a problem, I:	Rely on proven approaches	15.29%	32.94%	27.65%	24.12%
	Apply careful analysis	15.29%	18.24%	32.94%	33.53%
	Look for creative approaches	10.59%	34.71%	30.00%	24.71%
	Rely on my feelings	58.82%	14.12%	9.41%	17.65%
8. When using information, I prefer:	Specific facts	11.18%	25.29%	37.06%	26.47%
	Accurate and complete data	16.47%	19.41%	31.18%	32.94%
	Broad coverage of many options	10.00%	41.76%	18.82%	29.41%
	Limited data which is easily understood	62.35%	13.53%	12.94%	11.18%
9. When I am not sure about what to do, I:	Rely on intuition	37.06%	25.29%	21.76%	15.88%
	Search for facts	10.59%	14.12%	24.12%	51.18%
	Look for possible compromise	15.88%	37.65%	35.88%	10.59%
	Wait before making a decision	36.47%	22.94%	18.24%	22.35%
10. Whenever possible, I avoid:	Long debates	18.24%	25.29%	31.18%	25.29%
	Incomplete work	12.35%	23.53%	32.94%	31.18%
	Using numbers of formulas	45.88%	27.06%	15.88%	11.18%
	Conflict with others	23.53%	24.12%	20.00%	32.35%
11. I am especially good at:	Remembering dates & facts	44.12%	18.24%	16.47%	21.18%
	Solving difficult problems	12.94%	27.06%	31.76%	28.24%
	Seeing many possibilities	17.65%	24.71%	33.53%	24.12%
	Interacting with others	25.29%	30.00%	18.24%	26.47%
12. When time is essential I:	Decide and quickly	13.53%	15.88%	31.76%	38.82%
	Follow plans and priorities	10.00%	22.94%	32.35%	34.71%
	Refused to be pressured	54.12%	21.76%	12.94%	11.18%
	Seek guidance or support	22.35%	39.41%	22.94%	15.29%
13. In social settings, I generally:	Speak with others	35.88%	17.06%	22.35%	24.71%
	Think about what is being said	25.29%	32.35%	22.94%	19.41%
	Observe what is going on	15.29%	21.76%	29.41%	33.53%
	Listen to what is going on	23.53%	28.82%	25.29%	22.35%
14. I am good at remembering:	People's name	45.29%	22.35%	16.47%	15.88%
	Place we met	18.24%	34.71%	28.24%	18.82%
	People's faces	17.06%	25.29%	32.35%	25.29%
	People's personality	19.41%	17.65%	22.94%	40.00%
15. The work I do provides me:	The power to influence others	20.59%	25.29%	22.35%	31.76%
	Challenging assignments	15.29%	28.82%	27.65%	28.24%
	Achieving my personal goals	29.41%	26.47%	28.24%	15.88%
	Acceptance by the group	34.71%	19.41%	21.76%	24.12%
16. Work well with those who are:	Energetic and ambitious	27.65%	27.06%	12.35%	32.94%
	Self-confident	30.00%	28.24%	26.47%	15.29%
	Open-minded	10.59%	28.24%	37.06%	24.12%
	Polite and trusting	31.76%	16.47%	24.12%	27.65%
17. When under stress, I:	Become anxious	17.65%	23.53%	42.94%	15.88%
	Concentrate on the problem	10.00%	14.71%	22.35%	52.94%
	Become frustrated	24.12%	44.71%	20.00%	11.18%
	Am forgetful	48.24%	17.06%	14.71%	20.00%
18. Others consider me:	Aggressive	42.94%	20.00%	18.82%	18.24%
	Disciplined	11.18%	27.65%	32.35%	28.82%
	Imaginative	27.65%	32.35%	24.71%	15.29%
	Supportive	18.24%	20.00%	24.12%	37.65%
19. My decisions typically are:	Realistic and direct	12.94%	17.65%	20.59%	48.82%
	Systematic or abstract	25.29%	25.29%	31.76%	17.65%
	Broad and flexible	26.47%	27.06%	29.41%	17.06%
	Sensitive to the needs of others	35.29%	30.00%	18.24%	16.47%
20. I dislike:	Losing control	17.65%	18.82%	25.88%	37.65%
	Boring work	17.65%	30.59%	27.06%	24.71%
	Following rules	36.47%	36.47%	18.82%	8.24%
	Being rejected	28.24%	14.12%	28.24%	29.41%

Source: Developed for this research

Style Inventory (A. Rowe & Boulgarides, 1994) was used to operationalise strategic thinking styles, which is regarded as a synthesis of systematic analysis (rational) and creative (generative) thought processes reflected in analytical and conceptual styles, respectively, as confirmed by van der Laan (2010). The responses indicate a propensity towards achievement (Q1), problem focused (Q17), applying careful analysis (Q7), relying on accurate data (Q8) and searching for facts (Q9) to making decisions.

Frequencies: Strategy

Table 5-6 illustrates a frequency table of the respondents' answers describing the context within which they practise strategy, using a 5-point Likert scale, ranging from strongly disagree to strongly agree. It covers Strategy Making Process (SMP) and Strategy Formulation (SF).

The frequency statistics briefly explore perceptions as to how strategy is understood and formulated in Singapore. From the responses, it is inferred those strategic leaders are divided in how they perceive the strategy formulation in their environment. More than a third of the sample indicates that the strategy takes a top-down approach primarily. Likewise, almost 24% of the sample believe that the main actors are on the same page when it comes to strategy, while 14% think they conflict with strategy. In contrast, 16% believes that strategy formulation is a team effort, while almost 14% feel no strategy in their organisations.

Given the descriptors in Table 5-6, it is deduced that organisations in Singapore continue to function within the traditional views of strategy and that work engagement in strategy formulation is somewhat limited or non-existent in most organisations, which is necessary for a sound strategy that can lead to organisational effectiveness (Chermack et al., 2010).

A total of 330 respondents, but only 240 answered the strategy formulation optional questions. 24% of the sample indicates that the main actors involved in developing strategy understand it within the same paradigm. 13% of the sample suggests a conflict between the main actors related to the formulation of strategy. 34% of the sample indicates that strategy is primarily a top/down approach. 15% of the sample believe that strategy formulation is a team effort. 14% of the sample does not think there is a proper strategy formulation in their organisation.

Table 5-6 SMP frequency table

Strategy making process	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Strategy, in this company, is primarily set by the CEO and a few of his or her direct subordinates	4.27%	15.24%	29.27%	37.20%	14.02%
Strategy is developed on a continual basis, involving managers, staff and executives in an ongoing dialogue	2.44%	16.46%	30.49%	40.24%	10.37%
Business planning in our company is ongoing, involving everyone in the process to some degree	3.05%	20.12%	28.05%	41.46%	7.32%
Our middle managers play a critical role in converting top management's general vision into specific strategies	0.61%	13.41%	30.49%	40.85%	14.63%
Most people in this company have input into the decisions that affect them	3.05%	23.17%	34.76%	31.71%	7.32%
Strategic planning in our firm is a formal procedure occurring on a regular cycle	1.83%	7.93%	34.15%	45.12%	10.98%
We have a clearly defined vision of the products and services we provide and the customers we serve	1.83%	12.20%	31.71%	39.02%	15.24%
This company has a well-defined niche in the marketplace	0.61%	14.02%	30.49%	39.63%	15.24%
There is a clear set of values in this company that governs the way we do business	0.61%	6.10%	27.44%	46.34%	19.51%
Employee initiative and innovation are a key capability of our firm	1.22%	7.32%	32.93%	42.68%	15.85%
The strategy for this company emerges upward from the 'firing line' rather than downward from the top	5.49%	15.85%	40.85%	29.88%	7.93%
We spend a lot of time with customers, listening to what they have to say about our company	4.27%	12.20%	33.54%	37.20%	12.80%
Strategy formulation	In terms of strategy formulation in my organisation:				
The main actors understand strategy in the same way	23.75%				
There is conflict between the main actors	13.33%				
It is very much 'top / down'	33.75%				
It is a 'team effort' by all employees	15.42%				
There is no clear strategy formulation	13.75%				

Source: Developed for this research

The frequency statistics related to strategy formulation and strategy-making process in corporate Singapore are averaged and presented for possible inferential discussion.

Frequencies: Leadership Delivery

For the first time, this study operationalised the leadership delivery style using the Decision Style Inventory (A. Rowe & Boulgarides, 1994) as detailed in section 3.5.4. The research regards Leadership Delivery styles as thought processes, on a continuum, from a directive (commanding) to a behavioural / participatory (engaging), as part of DSI. Table 5-5 illustrates a frequency table of the respondents' answers.

The responses indicate propensity towards maintaining focus on meeting objectives, adopting a directive communication style, making decisions and expect people to be responsive and committed, and keeping a position of power and influence while offering support to subordinates and avoid conflicts.

Frequencies: Summary

The sample represents a highly educated, middle age, male-dominated group. The leaders are focusing on planning and organising to adapt to the current challenges. They rely on analysis and data to solve problems. The top management team oversee strategy formulation, and they direct their resources, accordingly, they expect loyalty and commitment from their employees towards implementing the strategy.

5.2.4 Foresight Capability – Leaders' Profile

As operationalised by van der Laan (2010), the foresight capability construct was tested for internal consistency and reliability. The construct comprises two measures: TimeStyle Inventory (TSI) and Foresight Styles Assessment (FSA).

TSI Validity and Reliability (EFA and Cronbach's Alpha)

The analysis reported Kaiser-Meyer-Olkin (KMO) statistics of .699, which indicates sampling adequacy. In addition, a total Variance of 67.6%, explained by three factors (Table 5-7).

Table 5-7 TSI Total Variance Explained

Variable	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% Of Variance	Cumulative %	Total	% of variance
1	3.078	34.202	34.202	3.078	34.202
2	1.676	18.618	52.821	1.676	18.618
3	1.337	14.857	67.678	1.337	14.857
4	.728	8.084	75.761		
5	.654	7.267	83.028		
6	.481	5.339	88.368		
7	.436	4.849	93.216		
8	.389	4.317	97.534		
9	.222	2.466	100.000		

Source: Developed for this research

The rotated component matrix (Table 5-8) represents the principal component analysis's rotated solution. It contains factor loadings ranging from .718 to .885 between the top five variables and factor 1, which measure propensity to "Present". The following three variables exhibit factor 2, ranging from .706 to .853, which measure "Future" orientation. The last two variables are ranging from .873 to .869, which measure "Past" orientation.

Table 5-8 TSI Rotated Component Matrix

Variable	1	2	3
People think of me as organised	.885		
People think of me as structured	.812		
Being organised is important for me	.728		
People think I am best at planning and organising	.718		
Known for invention / innovation		.853	
People think of me as a visionary		.774	
Known for generating ideas		.706	
Tend to dwell on what was			.873
Often think about past decisions			.869

Source: Developed for this research

The Cronbach's Alpha statistic of reliability for the TimeStyle scale is 0.747. The reliability and rotated factor solutions indicate that TSI in the study is a good measure of strategic leaders' orientation to time. It also reflects that it is a good measurement of the foresight capability construct and the underlying structure and provides evidence of convergent validity.

TSI Leaders' profiles - Scoring

As part of the Foresight Capability construct, the TimeStyle Inventory (TSI) represents the degree to which leaders are orientated to time (Figure 5-3). They adopt dominant styles, backup styles and least preferred styles of cognitively responding to past, present, and future as described below:

1) Past: dominantly risk reductive, contemplative thinking, accesses past experiences and knowledge.

2) Present: dominantly orientated toward "getting things done" and organised thinking. A high orientation to the present results in mentally "stepping out of time".

3) Future: big picture thinking, imaginative thinking, ability to see gaps in knowledge, and identifying patterns and trends that diverge.

Figure 5-3 TSI Leader's profiles - Scoring
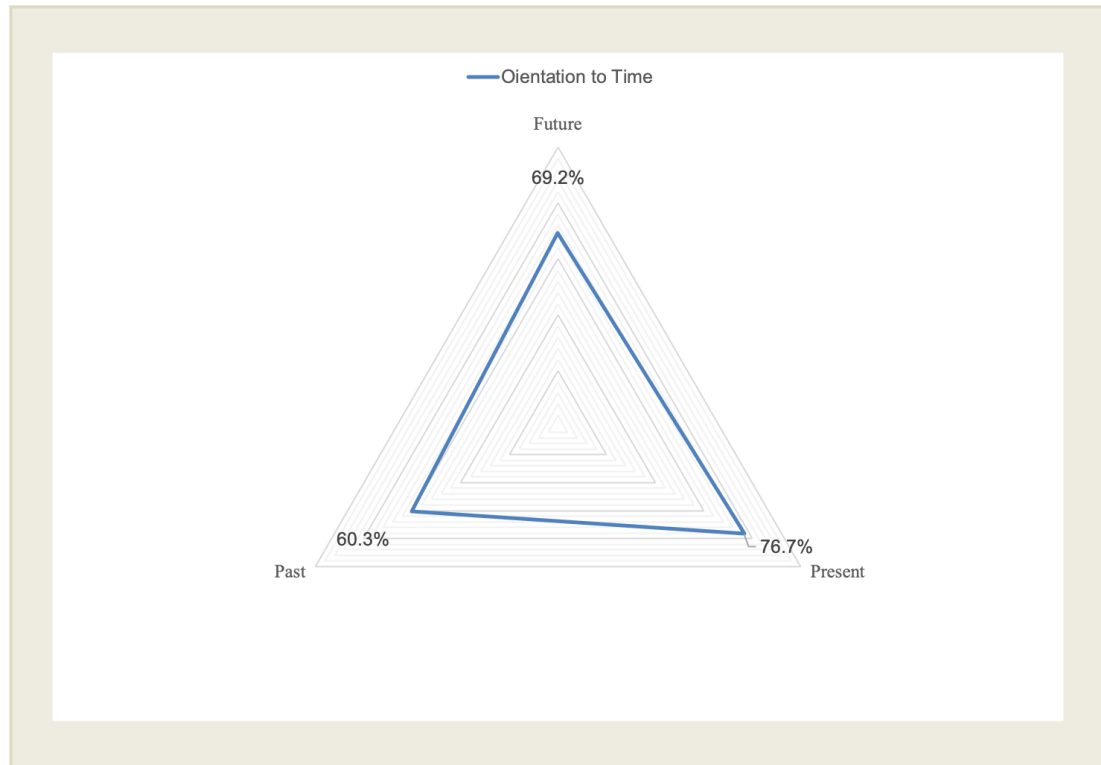
Source: Developed for this research

This scoring (Figure 5-3) suggests that leaders are dominantly orientated to the present (score=76.6%) and somewhat orientated to the future (score=69.2%). On the other hand, the leaders seem less orientated towards the past (score=60.3%).

TSI Leaders' profile – Discussion

The "Present" orientation to time suggests that leaders and their organisations have stepped out of time while stayed focused on 'getting things done. They do not consider the essential dimensions of the past and futures to the same degree as their focus on the present. That leader cognitions are focused on operational matters and tactical plans, occupied with daily tasks, and the organisation resources are directed to current priorities. Leaders are characterised by organised thinking. The idealised profile for individuals' orientation to time would include equal orientation to the past and present, and a slightly increased orientation to the future thinking is associated with creativity and generative thinking (van der Laan & Yap, 2016).

This dominant "Present" orientation to time suggests work engagement is likely to be higher based on the behavioural aspect of engagement (e.g., being motivated to

achieve short-term targets). The findings indicate that the cognitive aspect (e.g., being able to relate to and be immersed in the purpose and meaning of their work) and emotional part (e.g., enthusiasm and motivation derived from a sense of purpose and direction) of engagement in Singapore are likely to be reduced.

FSA Validity and Reliability (EFA and Cronbach's Alpha)

The scoring reported Kaiser-Meyer-Olkin (KMO) statistics of 0.906, which indicates sampling adequacy. Furthermore, a total Variance of 72.7% explained four factors (Table 5-9).

Table 5-9 FSA Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of variance
1	6.470	46.215	46.215	6.470	46.215
2	2.304	16.454	62.669	2.304	16.454
3	.756	5.397	68.066	.756	5.397
4	.660	4.712	72.778	.660	4.712
5	.639	4.565	77.343		
6	.560	4.002	81.345		
7	.530	3.783	85.128		
8	.446	3.187	88.314		
9	.396	2.825	91.140		
10	.346	2.473	93.613		
11	.298	2.125	95.738		
12	.254	1.817	97.556		
13	.197	1.410	98.966		
14	.145	1.034	100.000		

Source: Developed for this research

The rotated component matrix (Table 5-10) represents the principal component analysis's rotated solution. It contains factor loadings ranging from .552 to .879 between the top five variables, and the first factors captured the latent variable, 'Framer' Foresight style. The following three variables (0.807, 0.654, 0.633) loading on the second factor captured the latent variable, 'Adaptor' foresight style. Four variables (0.842, 0.823, 0.794, and 0.565) with high loadings on the third factor captured the latent variable, 'Reactor' foresight style. Finally, two items (0.839 and

0.548) loaded on the fourth factor, which captured the latent variable, 'Tester' foresight style.

Table 5-10 Rotated Component Matrix

Component	1	2	3	4
Interested in future questions	.879			
Focus on greater future questions	.857			
Focus on future questions	.848			
Conscious of big trends in society	.637			
Make things happen when future demands	.552			
Quickly adjust to new situations		.807		
Take advantage of trends that pop up		.654		
Go along when trends come		.633		
Don't want too much change			.842	
Against changes that threaten one's position			.823	
Don't like changes that disrupt opportunity			.794	
Hold the line when new plans are imposed			.565	
Test new products/trends very early				.839
Consider how trends interact				.548

Source: Developed for this research

The Cronbach's Alpha statistic of reliability for the Foresight Scale is 0.892, indicating that the FSA in the study is a good measure of strategic leaders' Foresight style. It also reflects that it is a good measurement of the foresight capability construct underlying structure and provide evidence of convergent validity.

FSA Leader profiles - Scoring

As part of the Foresight Capability construct, the Foresight Styles Assessment (FSA) measure represents the degree to which leaders adopt dominant styles, back-up styles and least preferred styles of cognitively responding to change and their envisioned prospects of the future, as follows:

- Framer style: interested in long-term issues that define the future and envision 'bigger picture' alternative versions of possible futures

- Adapter style: adjusts to new situations as the future demands, balances multiple challenges and choices activates actions, flexible and influencer, and helps others adapt.

- Tester style: Adopts new trends, a diffuser of innovation, and opportunistic.

- Reactor style: preserves own position, mitigates, and resists change, links to past successes.

Figure 5-4 FSA Leaders' profile
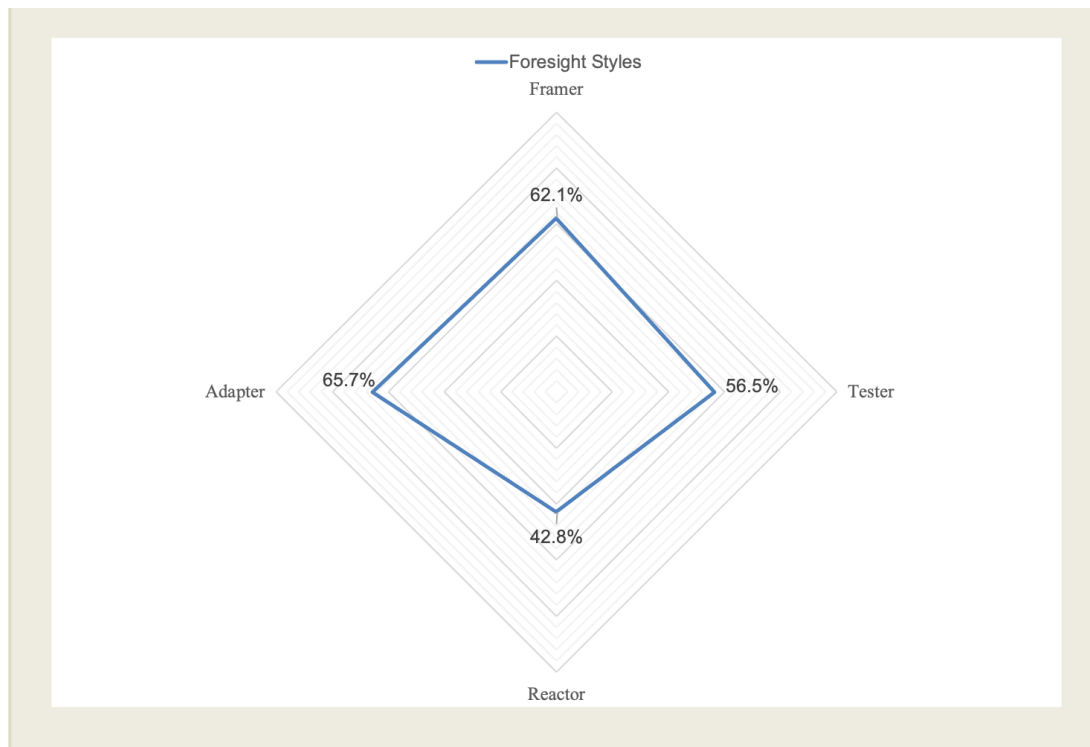
Source: Developed for this research

This scoring suggests that the leaders' dominant foresight style is the Adapter style (score= 65.67) with a backup style of Framer (score=62.11). There is a lower orientation to the Tester style (score=56.45) and the Reactor style (score=42.77).

FSA Leaders' profile – Discussion

The "Adapter" style suggests that leaders and their organisations are trying to balance multiple challenges and choices, and they adjust to future demands as needed. They activate action accordingly and try to help and influence others to adapt. Leaders are characterised by flexibility, change orientated, and influencing others. The idealised profile for individuals' foresight style would display strong tendencies toward the Tester and Framer styles (van der Laan & Yap, 2016).

This dominant foresight style "Adapter" suggests work engagement is likely to be higher based on the behavioural aspect of engagement (e.g., being focused on adjusting to new situations and multiple challenges). The findings suggest that the

cognitive aspect (e.g., being able to have the space to think creatively) and emotional part (e.g., excitement derived from a sense of innovation and growth) of engagement likely to be reduced. It is proposed that some response bias has led to a lower reactor style and informed a higher adaptor style. Therefore, it is likely that the sample's Tester style is a backup style but as a last resort.

5.2.5 Strategic Thinking Capability – Leaders' profile

The strategic thinking capability construct operationalised by van der Laan (2010) was tested for internal consistency and reliability. Strategic Thinking is a cognitive function associated with strategic decision making. Strategic thinking is defined as "a synthesis of systematic analysis (analytical) and creative (conceptual) thought processes that seek to determine the longer-term direction of the organisation" (van der Laan, 2010). The strategic Thinking construct is concerned with the deriving intent of the organisation's future, combining conceptual and analytical thought processes to bridge the gap between the status quo and the intended future state.

DSI Validity and Reliability

Each of the four DSI categories is unidimensional and independent of each other (A. Rowe & Mason, 1987b). As a result, Van der Laan (2010) confirmed that the four categories are unable to converge in a meaningful higher-order factorial structure if treated as a whole; instead, he conducted Confirmatory Factor Analysis (CFA) using one-factor congeneric models on each DSI category and confirmed its reliability and validity as illustrated in section 3.5.4.5. As such, the study treated each category of the DSI as an independent construct measuring the four decision dimensions independently. The scope of the study did not include conducting CFA and one-factor congeneric model.

DSI Leaders' profile (Conceptual and Analytical) - Scoring

The cognitive nature of strategic thinking suggests that the evaluation of decision-making styles serves as an indicator of the strategic thinking propensity of leaders (Van der Laan, 2010), and defined as follows (Boulgarides, 1984):

- CONCEPTUAL:

    "Because of their high cognitive complexity and people orientation, they tend to want elaborate treatment of problems and want to consider many alternatives. They are generally broad thinkers who take a systems perspective

and are future oriented. They value quality and prefer openness and shared goals with subordinates. They are highly creative and have a high organisational commitment. They are high achievers who need praise and recognition. They tend to be very independent and refuse to be pressured. They prefer loose control to power and enjoy interacting with others" (A. Rowe & Boulgarides, 1983, p. 6).

- ANALYTICAL:

"This style is typical of the abstract thinkers who have a high tolerance for ambiguity and thus use considerable information and are very careful in the examination of alternatives. They tend to optimise problem solutions and enjoy challenges. They often reach top posts in their companies and are innovative in their solution to problems. They prefer written reports and looks for variety in their work" (A. Rowe & Boulgarides, 1983, p. 5).

This scoring (Figure 5-5) suggests that the leaders' dominant strategic thinking style is Analytical (score=81.76) and seem much less dominant than Conceptual (score=67.53).

Figure 5-5 DSI Leaders' profile
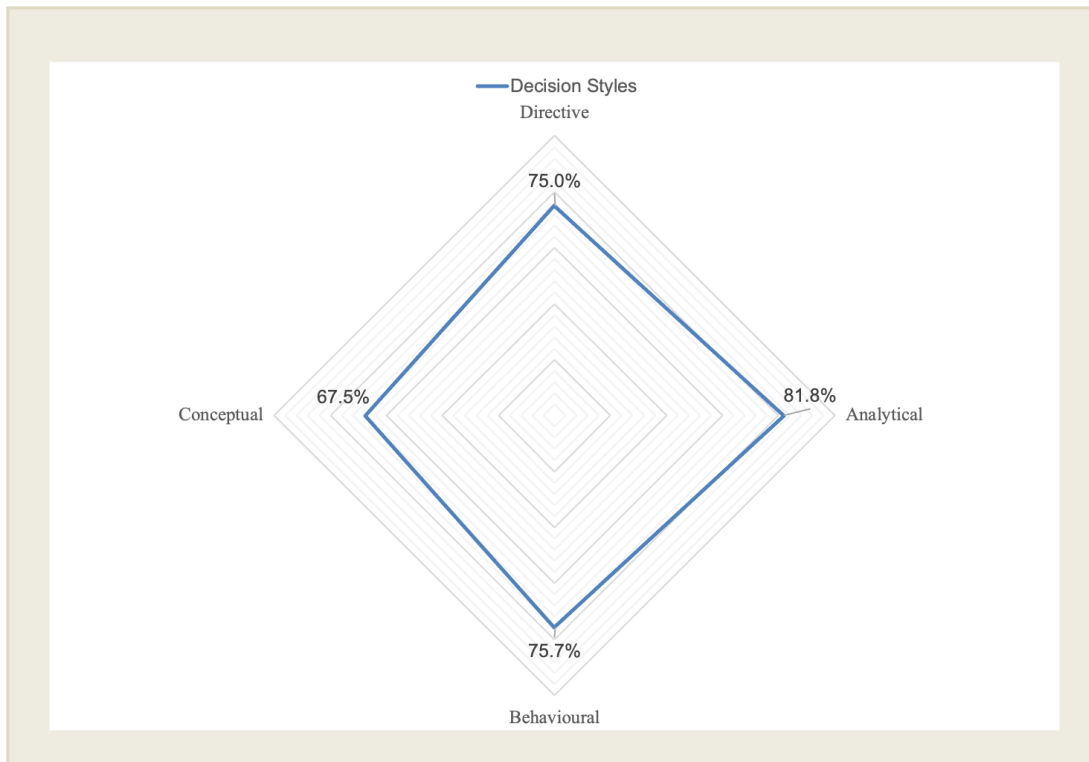
Source: Developed for this research

DSI Leaders' profile (Conceptual and Analytical) – Discussion

The "Analytical" style suggests that leaders and their organisations have maintained their focus on analysing the current problems and assuming a hypothesis approach towards solutions. Leaders are driven by their strategic intent and strive to maintain a systems perspective. They require control of resources and apply persuasion in their approaches. The idealised profile for individuals' strategic thinking would display strong tendencies toward the Conceptual and Analytical styles.

The dominant strategic thinking style "Analytical", suggests work engagement is likely to be higher based on the behavioural aspect of engagement (e.g., being focused on problem-solving and data analysis). The findings indicate that the cognitive aspect (e.g., envisioning the future and participating in its creation) and emotional aspect (e.g., inspiration derived from a vision) of engagement are likely to be reduced.

5.2.6 Leadership Delivery Style – Leaders' Profile

Moreover, descriptive statistics related to strategy formulation dimensions in corporate Singapore are averaged and presented for possible inferential discussion.

DSI Leaders' profile (Directive and Behavioural) – Scoring

This study defined DSI styles of the directive and behavioural as Leadership Delivery styles, as a cognitive function associated with strategic decision-making style and manifest itself as a leadership delivery style as leaders assume leadership practices associated with strategic leadership:

- BEHAVIOURAL:

    "This style has a deep concern for their fellow employees and have a strong need for affiliation. They are supportive, are good listeners, receptive to suggestions and communicate easily. They exhibit warmth and accept loose control. They prefer meetings to reports and do not use much data in arriving at decisions. Their focus tends to be people-oriented with short-range goals" (A. Rowe & Boulgarides, 1983, p. 5).

- DIRECTIVE:

    "These individuals have a low tolerance to ambiguity and tend to focus on technical problems. They have a high need for power and prefer tangible to intrinsic rewards. They tend to be aggressive and authoritarian and focus internally on the

organisation with short-range and tight controls. They are very effective in achieving results" (A. Rowe & Boulgarides, 1983, p. 5).

This scoring (Figure 5-5) suggests that the leaders have a balanced average of Behavioural / Participatory (score=75.6) and Directive (score=75%).

DSI Leaders' profile (Directive and Behavioural) – Discussion

The balanced "Participatory" and "Directive" leadership delivery style suggests that leaders and their organisations strive to mandate priorities impose controls on their resources. They exhibit an authoritarian approach while caring for people and providing them with their needs. The idealised profile for individuals' leadership delivery style would display strong tendencies toward the Behavioural and in comparison to the Directive style.

The relatively leading "Participatory" leadership delivery style ahead of the "Directive" style suggests work engagement is likely to be higher based on the behavioural aspect of engagement (e.g., being involved and participating in strategy processes). Conversely, the "Directive" style suggests that strategy is taking a top-down approach. The findings propose that the cognitive aspect (e.g., being able and participate in strategy processes) and emotional part (e.g., inspiration derived from a shared vision) of engagement in Singapore are likely to be reduced.

5.2.7 Summary of Findings

The quantitative analysis provides a profile of foresight's cognitive constructs (i.e., orientation to time, foresight styles), and strategic thinking (i.e., analytical, conceptual). Furthermore, the DSI inventory provides Directive and Participatory measures as a representation of the leadership delivery style. Moreover, the frequency statistics related to strategy formulation and strategy-making process in corporate Singapore were presented for possible inferential discussion around the strategy practice of strategic leadership.

Foresight Capability

A high level of orientation illustrates the foresight capability of leaders in Singapore to the *Present* and a low level of reflection on the *Past*. *Future orientation* scored higher than that of the past but lower than the present. In addition, the dominant style of leaders in Singapore is that of *Adaptor*, while the backup style was that of *Framer*.

To unlock innovation and organisational generative/creative thought processes, the idealised profile for individuals' orientation to time would include equal orientation to the past and present and a slightly increased orientation to the future (future thinking is associated with creativity and generative thinking). Similarly, the idealised profile for leaders' foresight orientation displays strong tendencies toward the Tester and Framer dimensions.

The foresight capability of leaders in Singapore reveals a tendency to adapt to current changes in a reactive manner considering the foreseeable future. Leaders are less focused on the past to learn from previous strategic episodes and patterns; instead, they are biased by what occupies their attention at present. They focus on day-to-day activities and short-term plans.

The dominant Present/Adapter foresight capability profile of leaders in Singapore is associated with control and power. It drives change by adjusting to future demands and stimulates action, flexibility, and pragmatism. Management focuses on short term targets and uses rewards to recognise achievement. In response, work engagement is characterised dominantly by *Vigour*, or the behavioural aspect of engagement (e.g., being motivated to achieve short-term targets), and work harder to adjust to changes.

Strategic Thinking Capability

The strategic leadership capability of leaders in Singapore is predominantly orientated towards the *Analytical* style, with less emphasis on *Conceptual* style.

Effective strategic thinking is typified by a balance of conceptual (creative/generative) and analytical (rational) cognitions when tasked with thinking about an organisation's future (strategy & innovation). The idealised strategic thinking profile would illustrate a balance between the conceptual and analytical dimensions to favour a behavioural approach. Participation is essential in enabling the generative processes and the emergence of new ideas associated with innovative and strategically astute organisations (van der Laan & Yap 2016).

The strategic capability of leaders in Singapore reveals a tendency to favour the analytical (rational) cognitive tasks associated with strategy and innovation. Leaders apply careful analysis to solve problems. They are hypotheses driven, intent focused and retained a systems perspective.

The dominant *Analytical* strategic thinking capability profile of leaders in Singapore is associated with control, power data analysis and problem focused. It drives change by exploiting the current resources and opportunities and maintain focus on tangible results. Management focuses on financial measures and uses rewards to recognise achievement. In response, work engagement is characterised dominantly by *Vigour*, or the behavioural aspect of engagement (e.g., being motivated to achieve short-term targets), and work harder to achieve rewards.

Leadership Delivery Style

The leadership delivery style of leaders in Singapore is a balanced average of *Behavioural / Participatory* and *Directive* styles.

Effective leadership delivery style is typified by a *Participatory* behavioural approach when tasked with thinking about an organisation's future (strategy & innovation). The idealised leadership delivery profile would illustrate a strong culture of participation, collaboration and co-creation of value. Similar to the conceptual style of strategic thinking, participation is recognised as essential in enabling the generative processes and emergence of new ideas associated with innovative and strategically astute organisations (van der Laan & Yap 2016).

The leadership delivery style of leaders in Singapore reveals a low tolerance to ambiguity and tend to focus on technical problems. They have a high need for power and prefer tangible to intrinsic rewards. They tend to be authoritarian and focus internally on the organisation with short-range and tight controls. They are very effective in achieving results. Concurrently, they care for and respond to their needs.

The leadership delivery profile of leaders in Singapore is associated with control, power, data analysis, and problem focused. They drive change by persuasion and direct communication. Leaders are receptive to ideas from employees but selective in the way they adopt new ideas, which may lead to employees shying away from offerings feedback. In response, work engagement is characterised dominantly by *Vigour*, or the behavioural aspect of engagement (e.g., being motivated to achieve short-term targets), and *Dedication* when employees feel they are getting the support they need.

Summary and conclusion

Organisations in Singapore continue to function within the traditional views of strategy, and that engaging employees in strategy formulation are somewhat limited

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or non-existent in most organisations, which is necessary for a sound strategy that can lead to organisational effectiveness; mainly, strategy practice is a top-down approach and a task of strategic leadership. Leaders in Singapore are adaptive to changes and primarily focused on the present and deal with future demands as they occur. They adopt analytical approaches to solve problems and maintain tight control while focusing on problem-solving. As a result, engagement is transactional, and efforts are rewarded based on meeting goals set by management.

5.3   PHASE FOUR: THE DELPHI STUDY

5.3.1 Introduction

This section introduces the results of the Delphi method. The Delphi method's objective was to synthesise contributions from several subject matter experts concerning the possible futures of work engagement in Singapore. The Delphi study seeks to triangulate the leader profiles and PESTEEL analysis outcome by identifying the environmental drivers of change that can impact work engagement and informing the various scenarios of future engagement in Singapore by 2030.

The purpose of the Delphi method is to discuss, distil, challenge or support projections put forward by the study concerning drivers of change (Chapter 4) and the cognitive profiles for Singapore leaders as described in section 5.2 concerning work engagement. In addition, the technique enables meaningful feedback between iterations when the study uses quantitative and qualitative data, from panellists' comments to feedback in a controlled format to allow them to comment and critique all the facets of work engagement concurrently between rounds (Geist, 2010; Ismail & Taliep, 2020).

The Delphi method employed in this study consists of three rounds (Section 3.5.5.9). The process conducted a web-based survey application. Panellists were identified and briefed. The researcher followed the Delphi process as detailed in section 3.5.5.4. The study conducted a quantitative analysis (see Section 3.5.5.7) and qualitative data analysis (see Section 3.5.5.8) after each round.

5.3.2 Delphi round one results

The study introduced the PESTEEL findings (Chapter 4) to the Delphi panel to seek their views on the key drivers of change that may impact work engagement in Singapore by 2030. Figure 5-6 shows Delphi round one within the research roadmap.

Figure 5-6 Research design – Delphi round one
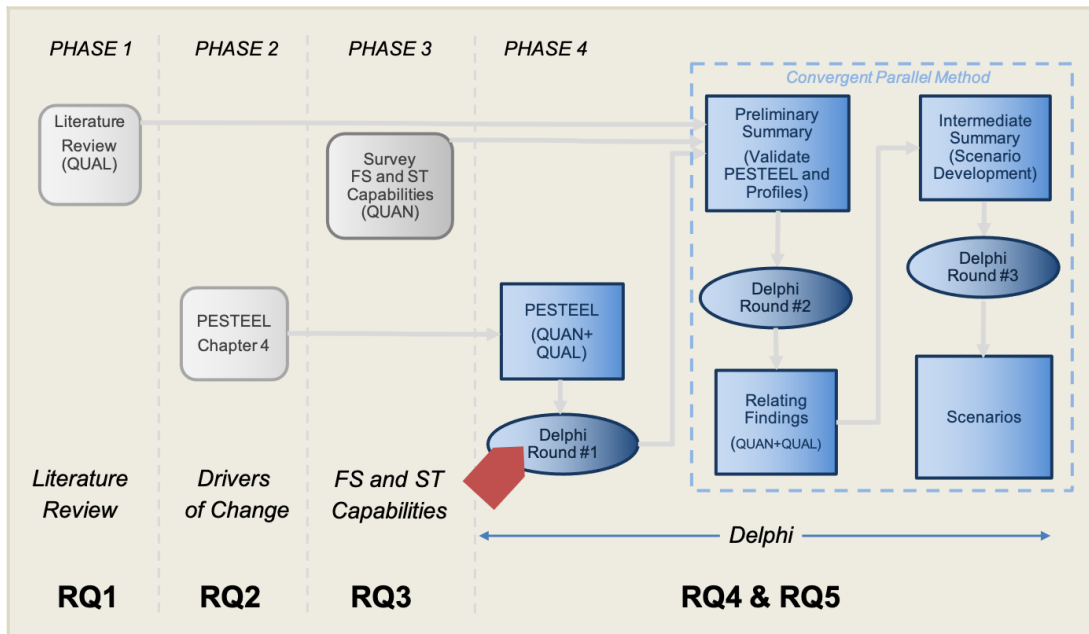
The Delphi questionnaire with the title "The Possible Futures of work engagement in Singapore" (Appendix D) was used to collect data. The survey had an introduction page that summarised the project objective and provided a brief background for the research. The survey had seven sections covering the seven dimensions of the PESTEEL environmental scan: political, economic, social, technological, environmental, legal, and ethical. Each section contains "key drivers" identified in Chapter 4 and the remaining drivers listed under "other drivers". The former represents key drivers that the researcher proposed as shaping forces for engagement futures. The latter represent other drivers of lesser impact. The primary goal of round one was to confirm the key drivers of change that may impact Singapore's future work engagement. The panellists were asked to evaluate the impact of each driver on engagement, on a five-point balanced bipolar, Likert scale response (Likert, 1932), based on extant information in 2020 and their future views for 2030. In round one, A total of seventeen panellists completed the questionnaire.

In round one, the qualitative analysis focused on unearthing additional key drivers that may impact engagement and question those that did not gain consensus as part of the round two questionnaires. For each PESTEEL dimension, the study summarised the quantitative and qualitative analysis findings under four sets: key drivers that reached >70% consensus, key drivers added by panel experts, key drivers

that did not reach 70% consensus, and required for further iteration, and other drivers that did not meet consensus for additional clarification in round two.

Political dimension – round one

The environmental scan provided twenty-nine political drivers (Section 4.4) under two categories: a) five "key drivers" that have the highest impact on engagement, b) twenty-four "other drivers" representing the remaining drivers.

Three "key drivers" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement, and the other two recorded no consensus. Seventeen "other drivers" met the consensus level of impact on engagement, while the remaining seven recorded no consensuses (Appendix E).

Table 5-11 shows round one findings for the political dimension. The analysis of the key drivers' group comments from the Delphi panel produced five additional key drivers: freedom of expression, freedom of information, immigration policies, and political leadership. The comments under the other' drivers group emphasised the key drivers of leadership, migration policy, and freedom of information.

Table 5-11 Delphi round one – Political drivers' analysis

Drivers Source/Status	Political Drivers of change
Key drivers achieving consensus	Changing global politics
	Tax policy
	Social welfare
Key drivers added by the expert panel	Freedom of expression
	Freedom of information
	Immigration policies
	Leadership change
Key drivers for clarification in round two	Loss of trust in national politics
	Ethnic tension
Other drivers for clarification in round two	Import restrictions
	Bureaucracy
	Corruption level
	Major government scandal
	Rise of illegitimate organised crime
	US / China trade war
	Risk of bioterrorism

Source: Developed for this research

It is worth noting that the key driver, loss of trust in national politics, did not gain consensus despite its ranking as the most influential political driver. Besides

reporting the updated key political drivers, the researcher also conveyed two key drivers and seven other drivers for clarification from the expert panel in round two.

Economic dimension – round one

The environmental scan provided twenty-seven economic drivers (Section 4.5) under two categories: a) five "key drivers" that have the highest impact on engagement, b) twenty-two other drivers representing the remaining drivers.

Only one "key driver" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement, while the remaining four recorded no consensuses. Thirteen "other drivers" met the consensus level of impact on engagement, while the remaining nine drivers recorded no consensus (Appendix E).

Table 5-12 shows round one findings of the economic dimension. The analysis of the key drivers' group comments from the Delphi panel produced five additional key drivers: globalisation and regionalisation, technological advancement and acquisition of new skills, trade protectionism, cost of living, and high disposable income. The researcher also conveyed four key drivers and nine other drivers for clarification from the expert panel in round two.

Table 5-12 Delphi round one – Economic drivers' analysis

Drivers Source/Status	Economic Drivers of change
Key drivers achieving consensus	Changing global economy through digitisation
Key drivers added by the expert panel	Globalisation and regionalisation
	Technological advancement and acquisition of new skills
	Trade protectionism
	Cost of living
	High disposable income
Key drivers for further iteration in round two	National income at risk
	Risk of cyberattack endangering the system
	Risk of pandemic endangering the economy
	Inequity between poor and rich
Other drivers for further iteration in round two	High inflation rate
	High interest rate
	Forced monetary policies
	Forced fiscal policies
	Low productivity
	Higher cost of living
	Less favourable exchange rates
	Continuation of climate change
	US$ loses its status of world reserve currency

Source: Developed for this research

Social dimension – round one

The environmental scan provided thirty-two social drivers (Section 4.6) under two categories: a) five "key drivers" that have the highest impact on engagement, b) twenty-seven "other drivers" representing the remaining drivers.

Two "key drivers" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement, and the other three drivers recorded no consensus. Twenty-two "other drivers" met the consensus level of impact on engagement, while the remaining five drivers recorded no consensus (Appendix E).

Table 5-13 round one findings for the social dimension. The analysis of the Delphi panel's key drivers' group comments produced five additional key drivers: cultural norms and values, increased liberal views of social norms, living standards, social conflict, and social inequity. The researcher also conveyed three key drivers and five other drivers for clarification from the expert panel in round two.

Table 5-13 Delphi round one – Social drivers' analysis

Drivers Source/Status	Social Drivers of change
Key drivers achieving consensus	A more holistic approach to life, work, and retirement
	Rise of automation and the need to learn new skills
Key drivers added by the expert panel	Cultural norms and values
	Increased liberal views of social norms
	Standards of living
	Social conflict
	Social inequity
Key drivers for further iteration in round two	Ageing population and generational conflict
	Casualisation of the workforce
	Reduction in the welfare state
Other drivers for further iteration in round two	Traditions shifting towards reduced standards
	Increased sense of inequality and social classes
	Reduced Long term social loyalty (minorities and citizens)
	Impact due to Hong Kong evacuation-
	Increase in mental health issues

Source: Developed for this research

Technology dimension – round one

The environmental scan provided fifteen technology drivers (Section 4.7) under two categories: a) five "key drivers" with the highest impact on engagement, b) ten "other drivers" representing the remaining drivers.

Five "key drivers" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement. All ten "other drivers" met the consensus level of impact on engagement (Appendix E).

Table 5-14 Delphi round one – Technology drivers' analysis

Drivers Source/Status	Technology Drivers of change
Key drivers achieving consensus	Enhanced communication infrastructure
	Increased use of analytics in decision making
	Major security breaches
	Increased censorship and citizen monitoring
	Possibilities of new generations in IT
Key drivers added by the expert panel	Use of artificial intelligence
	Technology and science advances

Source: Developed for this research

Table 5-14 shows a breakdown of round one findings for the technology dimension. The analysis of the key drivers' group comments from the Delphi panel produced two additional key drivers: the use of artificial intelligence and technology and science advances. The researcher reported key drivers to the expert panel in round two.

Environmental dimension – round one

The environmental scan provided seventeen environmental drivers (Section 4.8) under two categories: a) five "key drivers" with the highest impact on engagement, b) twelve "other drivers" representing the remaining drivers.

One "key driver" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement, and the other four recorded no consensuses. Eleven "other drivers" met the consensus level of impact on engagement, while the remaining one recorded no consensuses (Appendix E).

Table 5-15 shows a breakdown of round one findings for the environmental dimension. The data analysis of the key drivers' group comments from the Delphi panel produced one additional key drivers: corporate ESG and CSR towards the environment and society. The researcher also conveyed four key drivers and one other driver for clarification from the expert panel in round two.

Table 5-15 Delphi round one – Environmental drivers' analysis

Drivers Source/Status	Environmental Drivers of change
Key drivers achieving consensus	Mentality changes to counter the effects of climate
Key Social drivers added by the expert panel	Corporate ESG and CSR towards environment and society
Key drivers for further iteration in round two	Widespread melting of the Arctic and Antarctic poles
	The extreme rise in the sea level
	Increased coastline erosion
	Desalination of water to meet increased demand
Other drivers for further iteration in round two	Reoccurring of environmental disaster (e.g., tsunami)

Source: Developed for this research

Ethical dimension – round one

The environmental scan provided twenty-three ethical drivers (Section 4.9) under two categories: a) five "key drivers" that have the highest impact on engagement, b) eighteen "other drivers" representing the remaining drivers.

Four "key drivers" out of the top five identified in the PESTEEL analysis met the consensus level for impact on engagement, and the remaining one recorded no consensus. For other drivers, all eighteen drivers met the consensus level of impact on engagement (Appendix E).

Table 5-16 Delphi round one – Ethical drivers' analysis

Drivers Source/Status	Ethical Drivers of change
Key drivers achieving consensus	Promoting social sustainability concerning human capital
	Engaging employees in driving ethical behaviours initiatives
	Ethical business leadership
	Developing ethical grounds for protecting intellectual property
Key drivers added by the expert panel	Ethical human resources practices
	Ethical leadership
Key drivers for further iteration in round two	Perceived class and ethnic ethical variability in recruiting

Source: Developed for this research

Table 5-16 shows a breakdown of round one findings of the ethical dimension. The data analysis of the Delphi panel's key drivers' group comments produced two additional key drivers: ethical human resources practices and ethical leadership. The researcher also conveyed one key driver for clarification from the expert panel in round two.

Legal dimension – round one

The environmental scan provided thirteen legal drivers (Section 4.10) under two categories: a) five "key drivers" with the highest impact on engagement, b) eight "other drivers" representing the remaining drivers.

All five "key drivers" met the consensus level for impact on engagement. All eight "other drivers" met the consensus level of impact on engagement (Appendix E).

Table 5-17 Delphi round one – Legal drivers' analysis

Drivers Source/Status	Legal Drivers of change
Key drivers achieving consensus	Employment law
	Work health and safety law
	Privacy and data protection law
	Anti-discrimination law
	Copyright, patents, and intellectual property law
Key drivers added by the expert panel	Industrial relationships law

Source: Developed for this research

Table 5-17 shows a breakdown of round one findings for the legal dimension. The data analysis of the Delphi panel's key drivers' group comments produced one additional key driver: industrial relationship law. The researcher conveyed the updated key drivers to the expert panel in round two.

Summary of round one

Table 5-18 provides a summary of round one findings. The summary includes the number of participants who completed the survey, the number of drivers covered under each PESTEEL dimension as proposed to the Delphi panel, the number of "key drivers" and "other drivers" that achieved consensus out of the proposed ones, the number of comments received, and the number of additional drivers extracted from the comments.

The expert panel suggested additional drivers in the comments section and commented on the study's ones (Appendix F). Some of the comments reflected the individual line of business and their biases. The comments were added concerning "key drivers" and "other drivers" separately.

Table 5-18 Delphi Round one – Frequency statistics

PESTEEL Dimension	# Of Participants	# Of Drivers	Drivers achieving consensus		Drivers achieving No Consensus	# Of comments	Additional Key Drivers
			Key Drivers	Other Drivers			
Political	17	29	3	17	9	25	4
Economic	17	27	1	13	13	13	5
Social	17	32	2	22	8	11	5
Technology	17	15	5	10	--	8	2
Environmental	17	17	1	11	5	9	1
Ethical	17	23	4	18	1	5	2
Legal	17	13	5	8	--	3	1

Source: Developed for this research

The qualitative analysis's focus in round one was to extract additional key drivers that may impact engagement and question those that did not gain consensus in the following round. For each PESTEEL dimension, the study summarised the qualitative analysis findings under four sets; key drivers >70%consensus; key drivers added by panel experts; key drivers for further iteration; and other drivers for additional clarification round two.

The summary of the PESTEEL guided the researcher in confirming the drivers of change that will impact work engagement. Furthermore, the summary helped to formulate questions concerning the drivers that did not reach the consensus level. The researcher prepared a summary of round one findings and raised questions concerning all drivers that did not meet the consensus criteria for further feedback from the panellists. Additionally, the researcher identified a key driver (e.g., Political driver: lost trust in national politics) which did not meet the consensus criteria, despite gaining the highest rating in terms of its influence on the engagement.

5.3.3 Delphi Round two

In round two, the study introduced the feedback summary from round one to further consider how the drivers of change impact work engagement. Additionally, the study presented the leaders' foresight and strategic thinking capability profiles and the engagement dimensions (i.e., vigour, absorption, and dedication) for consideration by

the panel regarding their accuracy in describing the Singaporean leaders. Figure 5-7 shows the Delphi round two within the research design.

Figure 5-7 Delphi round two in the research design
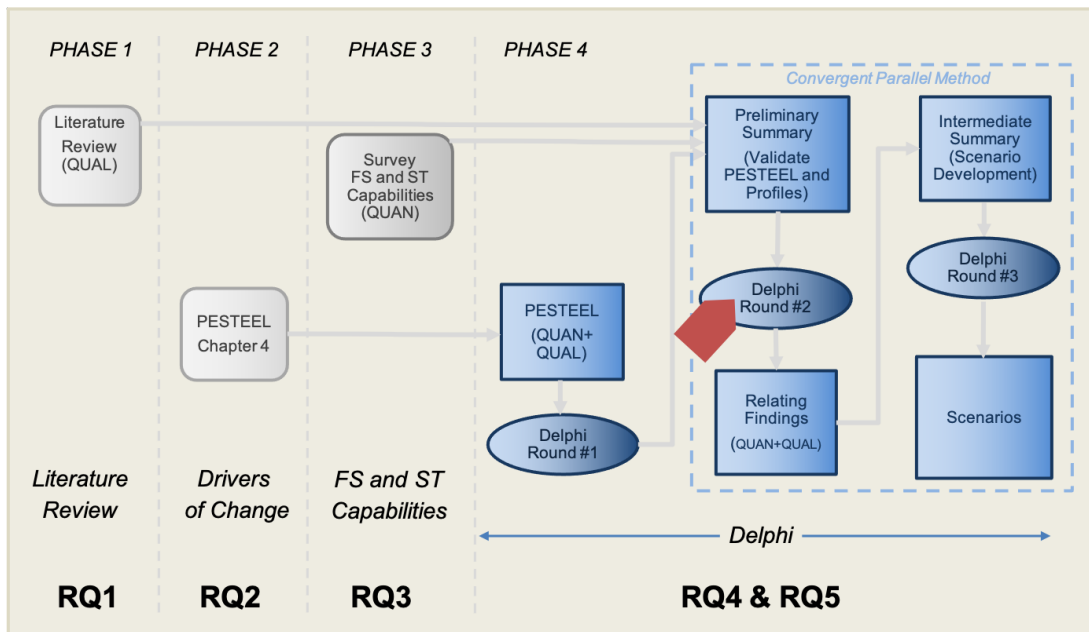
Source: Developed for this research

In round two, a Delphi questionnaire with the title "Delphi round two – work engagement in Singapore" (Appendix G) was administered. The questionnaire had an introduction page that summarised the purpose of round two and outlined the conceptual relationship between the cognitive capabilities of foresight and strategic thinking and engagement dimensions. Figure 5-8 illustrates the links between the content of round two questionnaires and the study's conceptual framework.

Figure 5-8 Conceptual relationship between FS, ST, and EE

Source: Developed for this research

Chapter 5: Results and Discussion
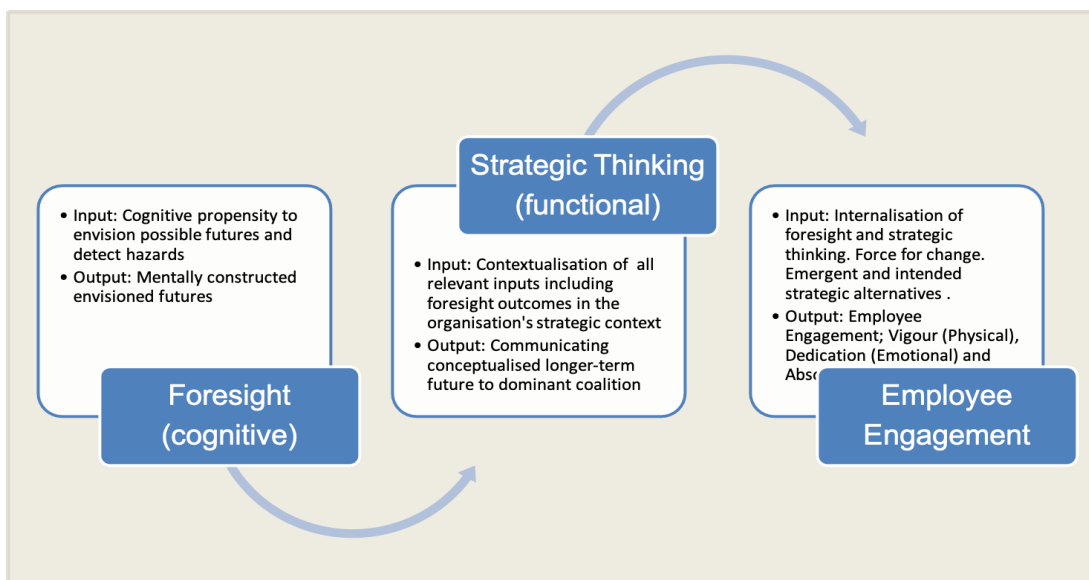
The primary goals of round two were to gain the panellists' agreement or disagreement with: a) the conceptual propositions of the study, b) the Singaporean leaders' foresight and strategic thinking capabilities profiles, c) introducing Singaporean work engagement. The questionnaire had nine sections, and fourteen panellists. Furthermore, round two aimed to validate and/or reconsider round one outcomes. The researcher aligned all drivers under the relevant PESTEEL dimensions and removed any extraneous information.

Singapore Leaders 'profiles

The leaders' profile dataset (Section 5.2) provided scores for the leader's cognitive capabilities of foresight and strategic thinking styles of leaders in Singapore: orientation to time (i.e., past, present, and future), foresight styles (i.e., Adaptor, Framer, Tester, and Reactor), Strategic thinking (i.e., Analytical, conceptual), and leadership delivery style (i.e., Directive, Participatory), as explained in Table 5-19.

Table 5-19 Delphi round two – cognitive abilities

Cognitive Abilities		Measures achieving consensus		Measures achieving No Consensus
		Agree	Disagree	
Foresight Capability	**Orientation to time:** Leaders are dominantly orientated to the present (score=76.6) and somewhat orientated to the future (score=69.2). The leaders seem less orientated towards the past (score=60.3).	✓	--	--
	Foresight style: Leaders' dominant foresight style is the Adapter style (score= 65.67) with a back-up style of Framer (score=62.11). There is a lower orientation to the Tester style (score=56.45) and the Reactor style (score=42.77). It is proposed that some response bias has led to a lower reactor style and informed a higher adaptor style. It is likely that the sample's Tester style is a backup style but as a last resort.	✓	--	--
Strategic Thinking Capability	**Strategic Thinking Style:** Leaders' strategic thinking is strongly informed by a well-developed Analytical approach to strategy development (score=81.76). However, the Conceptual (more generative/creative) approach is significantly less developed (score=67.53). This suggests that, generally, Singapore leaders favour a less risky and more predictable approach to their strategic direction.	✓	--	--
Leadership Delivery	**Leadership Delivery Style:** leaders equally use Participatory (score=75.68) and Directive (score=75) styles to achieve their decision-making output. It is proposed that the higher levels of Participatory (collaborative) input into strategy formulation is likely to be the case in larger private corporations and entrepreneurial/ high tech companies. The higher Directive (top-down) input into strategy formulation is likely to be the case in public entities and family businesses.	✓	--	--

Source: Developed for this research

The panellists' ratings reached consensus across all measures and confirmed that the sample (n=330) represents a cross-section of Singapore's leadership. Furthermore, the expert panel comments suggested that the orientation of leaders were probably more present orientated than indicated by the profile. Despite some evidence of long-term planning taking place, the orientation to the present seems dominant. Leaders in Singapore seem to be dominantly adaptive while preferring an analytical approach to strategic decision making. It is also clear from the panel comments that the leadership delivery style is a more top-down approach.

Engagement and leaders' profiles

For each of the four measures (i.e., orientation to time, foresight style, strategic thinking style, and leadership delivery style), the panellist scored their perceptions of work engagement in Singapore concerning the style definitions and based on proposed statements by the researcher exemplifying the engagement dimensions of vigour (i.e., behavioural), dedication (i.e., emotional), and absorption (i.e., cognitive). The panel were asked to consider the impact of the leader profiles on work engagement as described in Table 5-20.

The panellists' ratings reached a consensus that a) the foresight and strategic thinking capabilities were representative and b) confirmed that the statements proposed by the study represent the engagement settings in Singapore. Moreover, the expert panel contributed valuable insights in support of their views. The comments reflect that the combination of dominant Present, Adapter and Analytical styles of strategic leaders in Singapore drives Vigour as the predominant manifestation of engagement, with less emphasis on Absorption and Dedication.

The panellists' comments focused on "vigour" as a product of education, culture, and political/organisational agenda. Furthermore, it reflects leaders' foresight and strategic thinking capability (i.e., present, adapter, and analytical) and the directive leadership style. The panellists pointed towards "vigour" as a response to directives and to avoid risks. However, there is an indication that new generations may engage beyond "vigour" as they join the workforce.

Table 5-20 Round two – Cognitive abilities and Engagement dimensions

Cognitive Abilities and Engagement		Achieving Consensus		Achieving No Consensus
		Agree	Disagree	
Foresight Capability	- The dominant "present" orientation to time suggests that the vigour dimension of work engagement may be higher based on the behavioural aspect of engagement (e.g., being motivated to achieve short-term goals). - The higher "present" orientation suggests that leaders and their organisations in Singapore have generally 'stepped out of time' in that they may not consider the equally important dimensions of the past and future to the same degree as their focus on the present. - The lower orientation to the future and past suggests that the cognitive aspect (e.g., being able to relate to and be immersed in the purpose and meaning of their work) and emotional aspect (e.g., enthusiasm and motivation derived from a sense of purpose and direction) of engagement in Singapore are likely to be lower.	✓	--	--
	- The dominant foresight style "Adapter" suggests that the vigour dimension of work engagement may be higher based on the behavioural aspect of engagement (e.g., being focused on adjusting to new situations and multiple challenges). - The "Adapter" style suggests that leaders and their organisations have maintained their focus on the current situation, and they drive actions accordingly while helping and influencing others to adapt. - The dominant Adaptor style suggests that the cognitive aspect ('dedication,' e.g., being able to have space and time to think creatively while dedicated to a longer-term aspiration) and emotional aspect ('absorption,' e.g., excitement derived from a sense of direction, aspiration vision, innovation, and growth) of engagement in Singapore are likely to be lower.	✓	--	--
Strategic Thinking Capability	- This dominant "Analytical" approach to strategic thinking suggests work engagement may have a higher behavioural aspect of engagement (Vigour, e.g., being focused on problem-solving and data analysis). -The dominant "Analytical" style suggests that leaders and their organisations have maintained their focus on analysing predictable current and short term problems and assuming hypotheses driven approach towards solutions. - The significantly lower conceptual approach suggests that the cognitive aspect (Dedication, e.g. being able to envision the future and participate in its creation) and emotional aspect (Absorption, e.g. inspiration derived from a vision) of engagement is likely to be lower in Singapore amongst its workforce more generally.	✓	--	--

Source: Developed for this research

Political drivers' outcome – round two

The researcher reported the political drivers' status based on round one feedback (Table 5-11). The data analysis confirmed five additional key drivers as having an impact on engagement: Loss of trust in national politics, ethnic tension, bureaucracy, corruption level, and US/China trade war. In comparison, four drivers perceived having no impact on work engagement, as shown in Table 5-21.

Table 5-21 Delphi round two – Political drivers' analysis

Drivers Source/Status	Drivers of change
Key political drivers that have an impact on engagement as perceived by the expert panel	Changing global politics
	Tax policy
	Social welfare
	Freedom of expression
	Freedom of information
	Immigration policies
	Leadership change
	Loss of trust in national politics
	Ethnic tension
	Bureaucracy
	Corruption level
	US / China trade war
Political drivers that have no impact on engagement as perceived by the expert panel	Import restrictions
	Major government scandal
	Rise of illegitimate organised crime
	Risk of bioterrorism

Source: Developed for this research

Economic drivers' outcome – round two

The researcher reported the economic drivers' status based on round one feedback (Table 5-12).

Table 5-22 Delphi round two – Economic drivers' analysis

Drivers Source/Status	Drivers of change
Key economic drivers that have an impact on engagement as perceived by the expert panel	Changing global economy through digitisation
	Globalisation and regionalisation
	Technological advancement and acquisition of new skills
	Trade protectionism
	Cost of living
	High disposable income
	National income at risk
	Risk of pandemic endangering the economy
	Inequity between poor and rich
	Low productivity
Economic drivers that have no impact on engagement as perceived by the expert panel	Risk of cyberattack endangering the system
	High inflation rate
	High interest rate
	Forced monetary policies
	Forced fiscal policies
	Higher cost of living
	Less favourable exchange rates
	Continuation of climate change
	US$ loses its status of world reserve currency

Source: Developed for this research

The data analysis confirmed four additional key drivers as having an impact on engagement: national income at risk, risk of pandemic endangering the economy, inequity between poor and rich, and low productivity. In comparison, nine drivers perceived having no impact on work engagement, as shown in Table 5-22.

Social drivers' outcome – round two

The researcher reported the social drivers' status based on round one feedback (Table 5-13). In round two, the data analysis confirmed five additional key drivers that impacted engagement: an ageing population and generational conflict, casualisation of the workforce, traditions shifting towards reduced standards, increased sense of inequality and social classes, and raised mental health issues. In comparison, three drivers perceived having no impact on work engagement, as shown in Table 5-23.

Table 5-23 Delphi round two – Social drivers' analysis

Drivers Source/Status	Drivers of change
Key social drivers that have impact on engagement as perceived by the expert panel	A more holistic approach to life, work, and retirement
	Rise of automation and the need to learn new skills
	Cultural norms and values
	Increased liberal views of social norms
	Standards of living
	Social conflict
	Social inequity
	Ageing population and generational conflict
	Casualisation of the workforce
	Traditions shifting towards reduced standards
	Increased sense of inequality and social classes
	Increase in mental health issues
Social drivers that have no impact on engagement as perceived by the expert panel	Reduction in the welfare state
	Reduced Long term social loyalty (minorities and citizens)
	Impact due to Hong Kong evacuation-

Source: Developed for this research

Technology drivers' outcome – round two

The researcher reported the technology drivers' status based on round one feedback (Table 5-14). The data analysis confirmed no additional key drivers in round two, as shown in Table 5-24.

Table 5-24 Delphi round one – Technology drivers' analysis

Drivers Source/Status	Drivers of change
Key technology drivers that have an impact on engagement as perceived by the expert panel	Enhanced communication infrastructure
	Increased use of analytics in decision making
	Major security breaches
	Increased censorship and citizen monitoring
	Possibilities of new generations in IT
	Use of artificial intelligence
	Technology and science advances

Source: Developed for this research

Environmental drivers' outcome – round two

The researcher reported the environmental drivers' status based on round one feedback (table 5-15). Four key drivers and one other driver did not get a consensus. The data analysis confirmed no additional key driver in, as shown in Table 5-25.

Table 5-25 Delphi round one – Environmental drivers' analysis

Drivers Source/Status	Drivers of change
Key environment drivers that have impact on engagement as perceived by the expert panel	Mentality changes to counter the effects of climate
	Corporate ESG and CSR towards environment and society
Environment drivers that have no impact on engagement as perceived by the expert panel	Widespread melting of the Arctic and Antarctic poles
	The extreme rise in the sea level
	Increased coastline erosion
	Desalination of water to meet increased demand
	Reoccurring of environmental disaster (e.g., tsunami)

Source: Developed for this research

Ethical drivers' outcome – round two

The researcher reported the ethical drivers' status based on round one feedback (Table 5-16). In round two, the data analysis confirmed three additional key drivers as having an impact on engagement: ethical human resources management, ethical leadership, and perceived class and ethnic variabilities, as shown in Table 5-26.

Table 5-26 Delphi round one – Ethical drivers' analysis

Drivers Source/Status	Drivers of change
Key ethical drivers that have impact on engagement as perceived by the expert panel	Perceived class and ethnic ethical variability in recruiting
	Promoting social sustainability concerning human capital
	Engaging employees in driving ethical behaviours initiatives
	Ethical business leadership
	Developing ethical grounds for protecting intellectual property
	Ethical human resources management
	Ethical leadership
	Perceived class and ethnic ethical variability

Source: Developed for this research

Legal drivers' outcome – round two

The researcher reported the legal drivers' status based on round one feedback (Table 5-17). In round two, the data analysis confirmed no additional key drivers as having an impact on engagement, as shown in Table 5-27.

Table 5-27 Delphi round one – Legal drivers' analysis

Drivers Source/Status	Drivers of change
Key legal drivers that have impact on engagement as perceived by the expert panel	Employment law
	Work health and safety law
	Privacy and data protection law
	Anti-discrimination law
	Copyright, patents, and intellectual property law
	Industrial relationships law

Source: Developed for this research

Summary of round two

Table 5-28 provides a summary of round two. The summary includes two sections; the cognitive styles; and the PESTEEL dimensions. A total of fourteen panellists completed the Delphi round two questionnaires (Appendix G) and all comments were collected (Appendix H) and analysed.

Under cognitive styles, the panellists were asked to review the foresight and strategic thinking capability profiles of leaders in Singapore to confirm if the profiles represent a cross-section of the strategic leadership in Singapore. The Questionnaire contained the scoring of TSI (Present, Past, Future), FSA (Framer, Tester, Adapter, Reactor), and DSI (Conceptual, Analytical) as detailed in Section 5.2. Panellists confirmed that the profiles represent a cross-section of the strategic leadership in the city-state. Furthermore, the Questionnaire provided the study propositions of work engagement predictions in response to each of the foresight and strategic thinking dimensions for the panellists to validate its appropriateness to Singapore. The Delphi panel confirmed the suitability of the engagement propositions associated with TSI, FSA, and DSI as proposed by the study. In addition, the expert panel provided insights related to the present/adapter/analytical styles (i.e., foresight and strategic thinking profile of leaders in Singapore). The comments described a strong culture of compliance, fear of failure, and propensity to avoid risks except for one expert who expressed bias towards the current national settings and applauded its merits while still agreeing with most of the profiles scores.

Under the PESTEEL dimensions, panellists reached a consensus on twelve political drivers, ten economic drivers, twelve social drivers, seven technology drivers, two environmental drivers, six legal drivers, and eight ethical drivers. Several drivers failed to achieve consensus under each dimension and were perceived not to impact engagement, as shown in Table 5-28. In addition, the panellists' rich comments provided a clear indication of how the various drivers may impact work engagement in Singapore.

Table 5-28 Delphi Round two – Summary

Leaders Profile and Engagement	# Of Participants	# Of Dimensions	Measures/ achieving Consensus	Engagement[5] Propositions achieving Consensus	# Of comments
Foresight Capability: Orientation to time/ Engagement	14	3[1]	3/3	3/3	11
Foresight Capability: Foresight style/ Engagement	14	4[2]	4/4	4/4	14
Strategic Thinking Capability / Engagement	14	2[3]	2/2	2/2	10
Leadership delivery/ Engagement	14	2[4]	2/2	2/2	3
PESTEEL Dimensions	# Of Participants	# Drivers for iteration	# Drivers achieving consensus	# Drivers achieving no consensus	# Of comments
Political Drivers	14	9	12	4	131
Economic Drivers	14	13	10	9	98
Social Drivers	14	8	12	3	87
Technology Drivers	14	0	7	0	--
Environmental Drivers	14	5	2	5	32
Ethical Drivers	14	1	8	0	14
Legal Drivers	14	0	6	0	1

Source: Developed for this research –
1) TSI dimensions of Present, Past, Future,
2) FSA Dimensions of Framer, Tester, Adapter, Reactor,
3) DSI Dimensions of Conceptual, Analytical,
4) DSI Dimensions of Directive, Behavioural,
5) Engagement Dimensions of Vigour, Dedication, and Absorption.

Table 5-29 summarises all the PESTEEL drivers that the expert panel perceived as drivers of change that may impact work engagement in Singapore by the year 2030.

Table 5-29 Delphi Study – Drivers of change summary

Dimension	Drivers of change	
Political Drivers	1. Changing global politics 2. Tax policy 3. Social welfare 4. Freedom of expression 5. Freedom of information 6. Immigration policies	7. Leadership change 8. Loss of trust in national politics 9. Ethnic tension 10. Bureaucracy 11. Corruption controls 12. US / China trade war
Economic Drivers	1. Changing global economy through digitisation 2. Globalisation, regionalisation and deglobalisation 3. Technological advancement and acquisition of new skills 4. Trade protectionism 5. Cost of living	6. High disposable income 7. National income at risk 8. Risk of pandemic endangering the economy 9. Inequity between poor and rich 10. Low productivity
Social Drivers	1. A more holistic approach to life, work, and retirement 2. Rise of automation and the need to learn new skills 3. Cultural norms and values 4. Increased liberal views of social norms 5. Standards of living 6. Social conflict	7. Social inequity 8. Ageing population and generational conflict 9. Casualisation of the workforce 10. Traditions shifting towards reduced standards 11. Increased sense of inequality and social classes 12. Increase in mental health issues
Technology Drivers	1. Enhanced communication infrastructure 2. Increased use of analytics in decision making 3. Major security breaches	4. Increased censorship and citizen monitoring 5. Possibilities of new generations in IT 6. Use of artificial intelligence 7. Technology and science advances
Environmental Drivers	1. Mentality changes to counter the effects of climate	2. Corporate ESG and CSR towards environment and society
Ethical Drivers	1. Perceived class and ethnic ethical variability in recruiting 2. Promoting social sustainability concerning human capital 3. Engaging employees in driving ethical behaviours initiatives 4. Ethical business leadership	5. Developing ethical grounds for protecting intellectual property 6. Ethical human resources management 7. Ethical leadership
Legal Drivers	1. Employment law 2. Work health and safety law 3. Privacy and data protection law	4. Anti-discrimination law 5. Copyright, patents, and intellectual property law 6. Industrial relationships law

Source: Developed for this research

In preparation for the scenario development in Delphi round three, the researcher followed the steps outlined in Section 3.6.3 to rank the PESTEEL drivers (Table 5-29) regarding impact and uncertainty based on the research findings (chapter 4) and the feedback from the Delphi panel. Figure 5-9 illustrates the identification process where high impact and high uncertainty drivers were identified.

Figure 5-9 PESTEEL drivers with high impact and high uncertainty
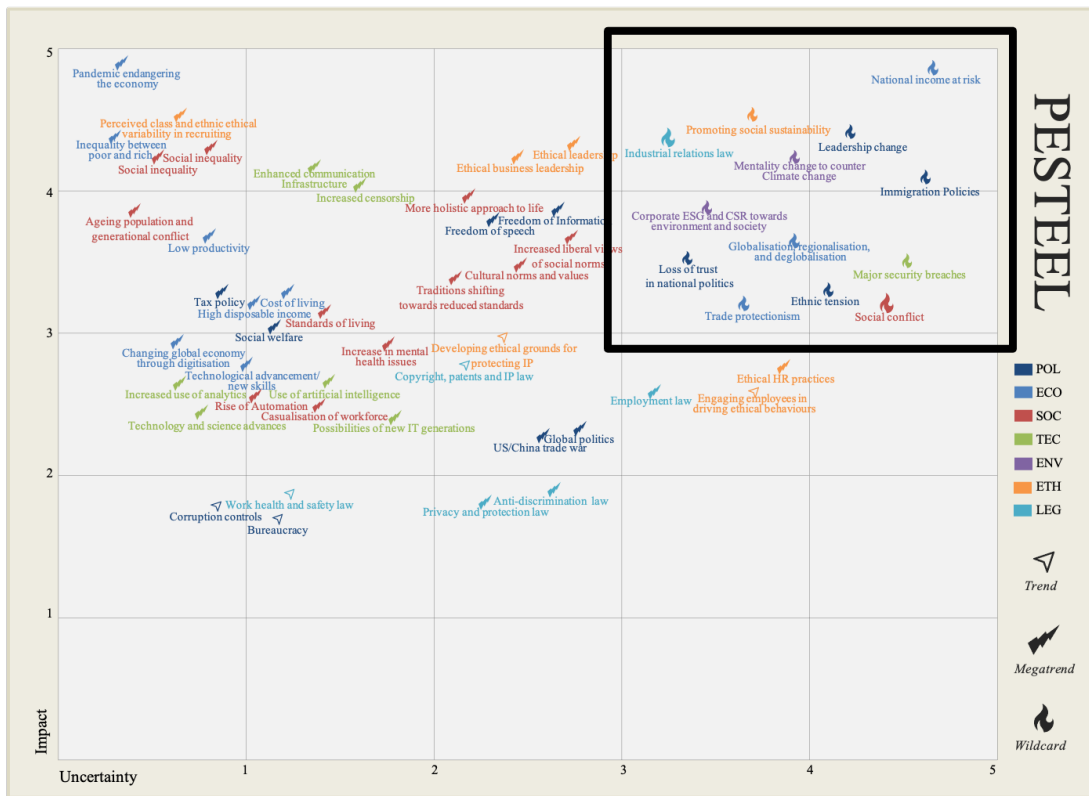
Source: Developed for this research

Table 5-30 illustrates the different drivers of change with high impact and high uncertainty. These drivers presented significant variations in the possible scenarios they may cause if they affect the environment.

Table 5-30 Drivers of change – high impact and high uncertainty

Dimension	Drivers of change (Uncertainties)
Political Drivers	1. Immigration policies 2. Leadership change 3. Loss of trust in national politics 4. Ethnic tension
Economic Drivers	1. Globalisation and regionalisation 2. Trade protectionism 3. National income at risk
Social Drivers	1. Social conflict
Technology Drivers	1. Major security breaches
Environmental Drivers	1. Mentality changes to counter the effects of climate
Ethical Drivers	1. Promoting social sustainability concerning human capital
Legal Drivers	1. Industrial relationships law

Source: Developed for this research

5.3.4 Delphi Round three

The round two Delphi questionnaire with the title "Delphi round three – work engagement in Singapore" (Appendix I) was administered. In round three (Figure 5-10), the study introduced a summary of the findings from round two to confirm the drivers of change that may impact work engagement. The questionnaire had an introduction page that summarised the purpose behind the round three questionnaires and provided definitions for the different concepts covered in the questionnaire.

Figure 5-10 Delphi round three in the research design
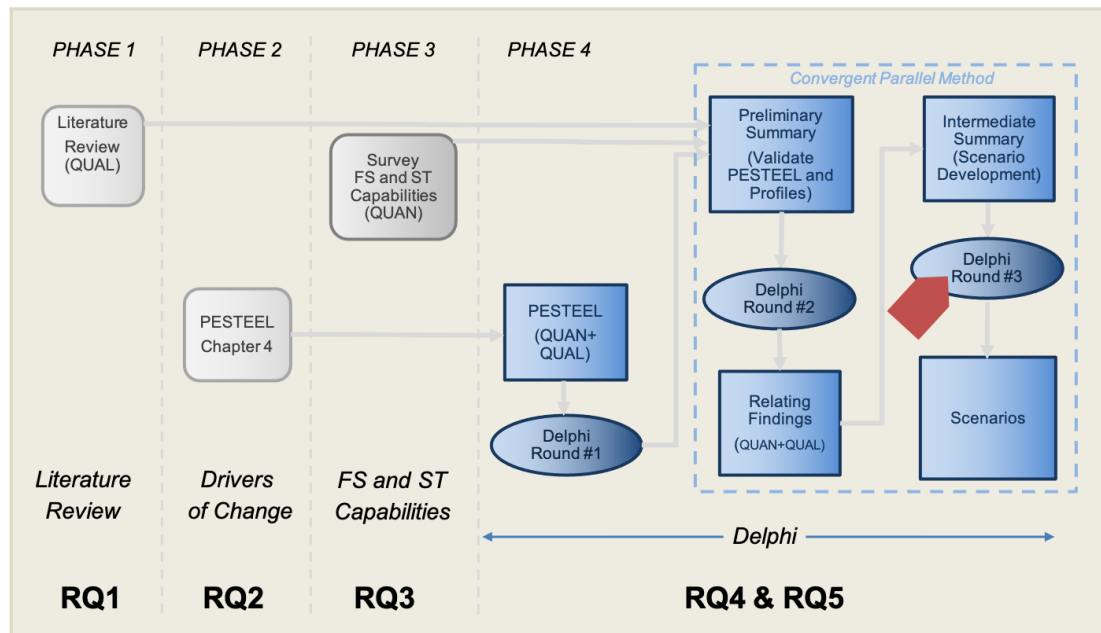
Source: Developed for this research

The questionnaire had two sections and was completed by thirteen panellists. The first section covered relational links between foresight and strategic thinking capabilities, engagement dimensions (i.e., vigour, dedication, and absorption), individual and organisational outcomes. The second section covered the proposed scenarios of work engagement in Singapore by 2030. The following sections cover the tasks of the questionnaire.

Cognitive capabilities and engagement outcomes

The first section proposed a relational table that links foresight and strategic thinking capabilities, engagement dimensions (i.e., vigour, dedication, and absorption), individual, and organisational outcomes. The researcher composed this table (Table 5-31) based on the panel input in round two. The expert panel confirmed the proposed relation between the foresight and strategic thinking capabilities and engagement dimensions in round two.

Table 5-31 Cognitive capabilities and engagement outcomes

Cognitive Abilities		Work Engagement Dimensions	Individual Outcomes	Organisational Outcomes
Foresight Capability: Orientation to Time	Dominant Past (Risk reduction and critical evaluation)	Low Dedication	Task performance Stress and strain Burnout Intentions to leave	Entropy increases, Things lose order. Teams left to their own devices; performance will become less structured.
	Dominant Present (Planning and implementation)	Vigour	Job satisfaction Task Performance	Team-task performance Short term financials
	Dominant Future (Generative and imaginative)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Extra role performance	Team innovation Organisational performance
Foresight Capability: Foresight Style	Dominant Adapter (Change agent)	Vigour	job satisfaction Task Performance Stress and strain Burnout Intentions to leave	Team performance Short term financials
	Dominant Framer (Transformation, visionary)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance Extra role performance Health and wellbeing	Team performance Team innovation Financial returns Organisational performance Competitive advantage
	Dominant Tester (Opportunistic)	Vigour and Dedication	Job satisfaction Task performance Burnout	Team performance Short term financials
	Dominant Reactor (Resistance to change)	Low Vigour	Stress, Strain Burnout Intention to leave	Silos, disintegrated workforce Low productivity & poor financials
Strategic Thinking Capability	Analytical (Logical, abstract thinker)	Vigour	Job satisfaction Organisation commitment Task performance Burnout	Team-task performance Short term financials
	Conceptual (Creative, future, system thinker)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance Extra role performance Health and wellbeing	Team performance Team innovation Financial returns Organisational performance Competitive advantage
Leadership Delivery	Directive (Authoritarian)	Vigour	Task performance Stress, Strain & Burnout Intention to leave	Team-task performance Short term financials
	Behavioural (Participatory)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance / Extra role performance Health and wellbeing	High-performance teams Team innovation Financial returns Organisational performance Growth and development

Source: Developed based on (Albrecht et al., 2015; Saks, 2019; Schaufeli et al., 2002).

In round three, the study included extensions for individual and organisational outcomes (Table 5-31) regarding work engagement and the leaders' profile. The table adopts the findings of Saks (2019) that the engagement dimensions partially or fully

mediated the relationships between antecedents' variables and the individual outcomes. Furthermore, the study adopted the organisational outcomes suggested by Albrecht et al. (2015) as part of the underpinning theoretical links between the engagement theory and predicting individual and organisational outcomes (Section 2.7.3).

The feedback received from participants on engagement outcomes and how they relate to the leaders' cognitive abilities confirmed the propositions of the researcher and the comprehensiveness of the findings. The following discussions present the results of the content analysis of the expert's comments (Appendix J) in relation to individual and organisational outcomes. The expert panel raised several arguments that provided valuable insights to the study, particularly the antecedents and engagement outcomes sections.

The first argument pointed to the impact of COVID-19 on leadership style and community at large regarding inward-looking behaviours that target foreign workers. The argument referred to dominant past orientation to time, inferring a reductive risk behaviour and polarising discursive construction of positive "self" and negative "others", which fosters the topic of national identity and globalism versus nationalism (Y. Yang & Chen, 2021). Organisations need to counteract the globalisation fears to protect their talent pool and lower the employee's turnover intention (Horak et al., 2019; Köllen & Kopf, 2021).

In addition to the engagement positive and negative outcomes introduced by the researcher, an expert raised counterproductive workplace behaviours as negative consequences for engagement, which manifest themselves in different ways. For example, when associated with emotional exhaustion, engagement can become an antecedent to counterproductive behaviours (H. Chen et al., 2020) It is also related to turnover intention and organisational citizenship behaviour (OCB) (Xiong & Wen, 2020).

Diversity and inclusion were also called out concerning engagement outcomes. Diversity practices are positively related to work engagement (Downey et al., 2015). Perceptions of inclusion enhance diversity practices and embed trust (Le et al., 2020) as an antecedent for job commitment, satisfaction, turnover intentions, and OCB (Sendjaya et al., 2019). The comments expressed work-life balance (WLB), which is also an enabler for diversity and inclusion (Brue, 2018; Hutchinson, 2018), to

enhancing employee retention and achieving broader engagement leading to organisational outcomes (Chaudhuri et al., 2020; Johari et al., 2018). The panellists also captured generational differences in the workforce as consideration for developing work engagement models to address the diverse needs (Ahad & Khan, 2020; Jones et al., 2018; Lapoint & Liprie-Spence, 2017).

The comments also highlighted the temporal context of organisational outcomes (i.e., short term, midterm, and long term). Forecasting work engagement concerning organisational outcomes is problematic. Financial outcomes are usually midterm to long term focus. Leaders who maintain a short-term approach and focus on economic outcomes may not trigger the engagement antecedents required for engaging the workforce. The temporal context of engagement is under-researched in the literature.

Many comments echoed the imperative of balanced cognitive styles in response to complexity and challenges at work, care for the immediate and distal priorities, and balance the deliberate/analytical orientation with the creative/generative emphasis.

A panel expert raised the topic of national outcomes as a suggestion for the study. Although it is not the focus of this research, it is essential to highlight that collective work engagement at national levels in sectors like health, for example, a case of work engagement leading to national outcomes (Wake & Green, 2019).

Developing the Scenario Matrix

In the second section of the questionnaire, the study introduced the scenario matrix, which was developed based on the scenario development process as detailed in Section 3.6.3 and described in the following sections.

Variables and critical uncertainties

An environmental scan using the PESTEEL method identified the different trends, megatrend, and wild cards (or uncertainties) in the environment that may impact work engagement by 2030. The findings were validated by the Delphi expert panel in round two and separated into two groups. First, trends and megatrends as key drivers of high impact on engagement have a degree of certainty. Second, uncertainties representing drivers of high impact and a high degree of uncertainty (Table 5-30).

In addition, in round two, Delphi validated the engagement dimensions of vigour, dedication, and absorption concerning in relation to the leaders' profile. Next, the researcher applied a converged parallel method (Creswell, 2014) to relate the

leaders' profiles predictive values with the quantitative and qualitative evidence from the PESTEEL and the Delphi analysis as variables into the scenario development process. The following discussion identifies the various continuums which will inform the different scenario matrix.

Uncertainties

The researcher separated the driver of changes identified as high impact and high uncertainty in Table 5-30. A total of twelve uncertainties were coded as U1-U12, as illustrated in Figure 5-11.

Figure 5-11 Uncertainties
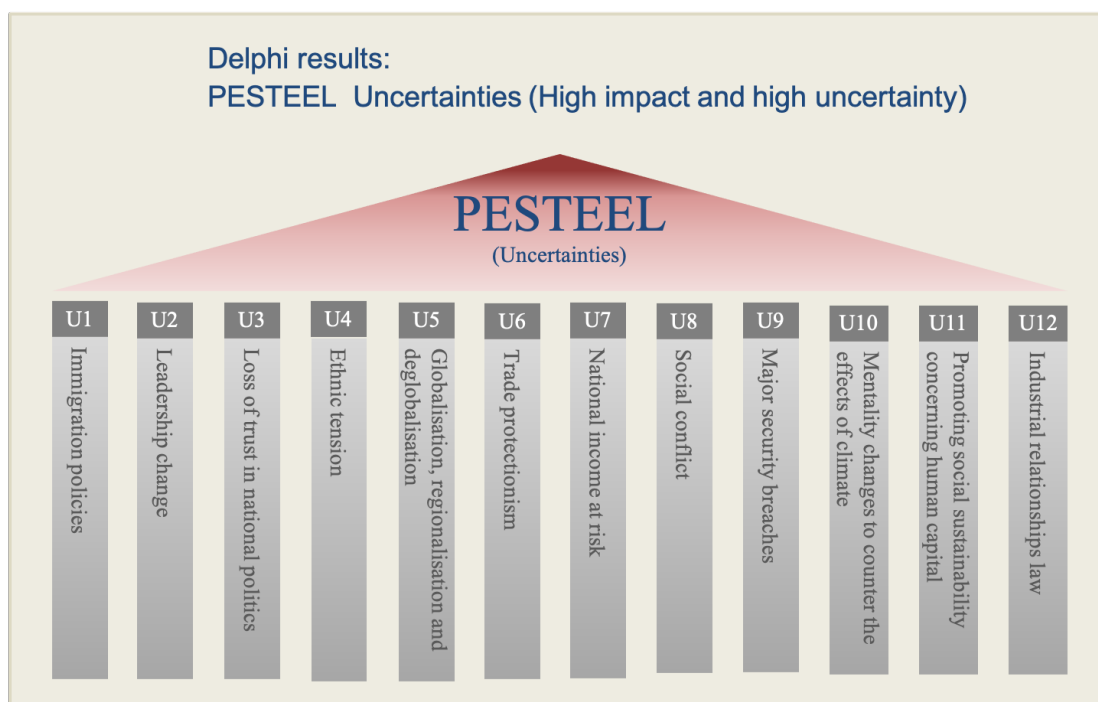
Source: Developed for this research

Next, the researcher addressed the interrelationships among the uncertainties to ensure internal consistency (Schoemaker, 1995). A total of twelve uncertainties from Figure 5-11 were mapped into Table 5-32. For each uncertainty (U), if a "yes" answer to any uncertainty affects the chance of a "yes" response for another uncertainty, then the correlation is considered positive (+). If the chance goes down, then the correlation is negative (-) or unknown (?), as detailed in Section 3.6.3.

Table 5-32 Interrelationship among uncertainties

U	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12
U1	x	-	-	-	+	-	-	-	-	-	-	-
U2	x	x	+	+	?	-	-	+	-	+	-	-
U3	x	x	x	+	-	-	-	+	-	-	-	-
U4	x	x	x	x	-	-	-	+	-	-	-	-
U5	x	x	x	x	x	-	?	-	-	-	-	+
U6	x	x	x	x	x	x	+	-	+	-	-	-
U7	x	-	x	x	x	x	x	-	+	-	-	-
U8	x	x	x	x	x	x	x	x	-	-	-	+
U9	x	x	x	x	x	x	x	x	x	-	-	-
U10	x	x	x	x	x	x	x	x	x	x	-	-
U11	x	x	x	x	x	x	x	x	x	x	x	+
U12	x	x	x	x	x	x	x	x	x	x	x	x

The process resulted in a clear correlation between clusters of uncertainties that can shape the formation of four different scenarios, based on specific uncertainties that can bring internal consistency to the scenario planning process:

1. Scenario one addresses the positive correlation between the uncertainties of globalisation and immigration policies.

2. Scenario two addresses the positive correlation between the uncertainties of major security breaches, trade protectionism, and national income at risk.

3. Scenario three addresses the positive correlation between the uncertainties of loss of trust in national politics, ethnic tension, social conflict, leadership change, mentality change to counter climate change.

4. Scenario four addresses the positive correlation between the uncertainties of promoting social sustainability and industrial relations law.

Trends and Megatrends

The researcher separated the predetermined trends and megatrends that will have the same implication on all scenarios in Figure 5-12. A common feature among these drivers is their high to medium impact and high to medium certainty towards the

future. Such drivers can be applied to the different scenarios based on scenario logic and goal, and whether they are favourable or unfavourable concerning their impact on work engagement. Thus, the researcher is taking a deductive approach when applying these drivers towards building the scenario matrix. The selection of the drivers (i.e., trends and megatrends) for each scenario must demonstrate internal consistency with the uncertainties and the three critical axes chosen to drive the matrix orientation for the four scenarios.

Figure 5-12 Trends and Megatrends
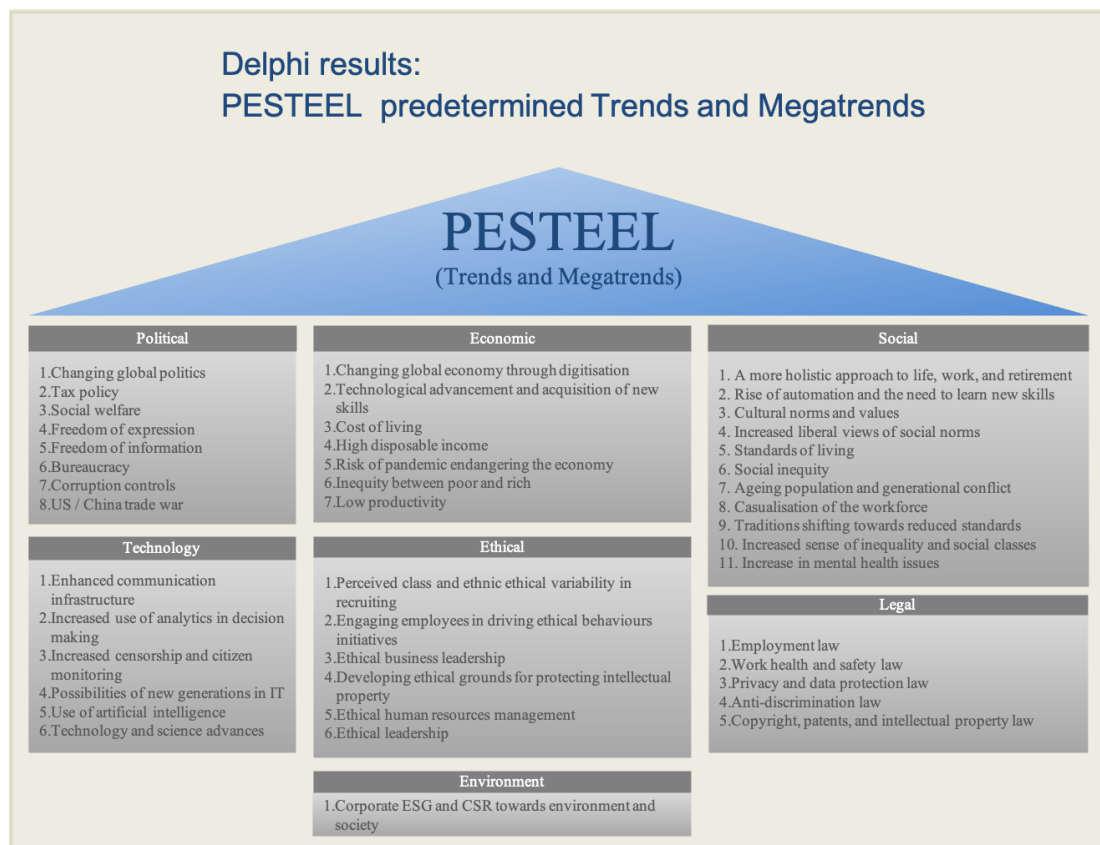
Source: Developed for this research

Summary of variables and uncertainties

Table 5-33 summarises all the variables within the scope of this study and uncertainties that may impact Singapore's possible future work engagement by 2030, based on the findings of round two. The variables include the uncertainties (Figure 5-11), foresight orientation to time and style, strategic thinking style, and leadership delivery style.

Table 5-33 Variables and uncertainties

Variables & Uncertainties		Description
Uncertainties	High impact and high uncertainty drivers of change	1. Immigration policies 2. Leadership change 3. Loss of trust in national politics 4. Ethnic tension 5. Globalisation and regionalisation 6. Trade protectionism 7. National income at risk 8. Social conflict 9. Major security breaches 10. Mentality changes to counter the effects of climate 11. Promoting social sustainability concerning human capital 12. Industrial relationships law
Foresight: Orientation to Time	Past (Risk reduction and critical evaluation)	Risk reductive accesses past experiences and knowledge
	Present (Planning and implementation)	Orientated toward getting things done
	Future (Generative and imaginative)	orientated toward 'big picture and imaginative thinking
Foresight: Foresight Style	Adapter (Change agent)	adjusts to situations as future demands, and balances multiple challenges
	Framer (Transformation, visionary)	define the future vision and address long term issues
	Tester (Opportunistic)	adopts new trends and focus on innovation creativity
	Reactor (Resistance to change)	preserves own position mitigates and resists change, links to past successes
Strategic Thinking Style	Analytical (Logical, abstract thinker)	problem solver, use considerable data, careful analysis, assess options
	Conceptual (Creative, future, system thinker)	Future long term oriented, multiple ideas and choices
Delivery Style	Directive (Authoritarian)	top-down management strategy decisions
	Behavioural (Participatory)	encourage engagement and participation, bottom-up ideas and invite input to strategy

Source: Developed for this research

Scenario Matrix

The study proposed four scenario structures describing work engagement by 2030. The purpose of the scenarios is to: a) Expand the scope of possibility beyond that which seems probable, and b) to describe possible futures to be memorable and allows the reader to envision the possible futures. Scenarios describe ways in which engagement in Singapore may evolve. The four scenarios are illustrated and named in Figure 5-13. One scenario presents the baseline, one envisions slow economic growth, one emphasises a shift toward people needs, and one focuses building the nation.

Figure 5-13 Delphi round three - Possible future scenarios

Smart City Scenario (Baseline):
Over confidence view, growth continue unabated
FS&ST
- Present / Adapter / Analytical

LD
- Directive

ENG: (Low)
- Antecedents: Rewards & Benefits
- : Moderate Vigour
- Consequences: Low job satisfaction, OC, OCBI, in role performance, extra role, task performance

Have

Smart Nation Scenario:
Possibilities that are presently obscured.
FS&ST
- Balanced Time / Framing-Testing / Analytical-Conceptual
  (Political, Economic, Social, Technology, Environment, Ethics, legal)
LD
- Participatory
ENG (High):
- Antecedents: Rewards & Recognition, POS, PSS, Justice, Leadership
- UWES: Vigour, Dedication, Absorption
- Consequences: Job satisfaction, OC, OCB, job performance, extra role, innovation, Life satisfaction, low turnover

Desire

Ivory Tower Scenario:
Iron grip approach to preserve the past
FS&ST
- Present-Past / Reactor / Analytical
  (Political, Economic, Technology, Environment, Legal)
LD
- Directive
ENG (Very Low):
- Antecedents: Rewards & Benefits
- UWES: Low Vigour
- Consequences: Low job satisfaction, OC, OCB, in role performance, extra role, task performance. Low intention to stay and high turnover and burnout

Defend

Shangri-la Scenario:
Naively Hopeful, experiment and wish for the best
FS&ST
- Future / Tester / Conceptual
  (Political, Economic, Social, Technology, Environment, Ethics, legal)
LD
- Participatory
ENG (Medium):
- Antecedents: Rewards & Recognition, POS
- UWES: Dedication
- Consequences: OC, OCB. Task performance

Dream

Outcomes

Engagement

Source: Developed for this research

Figure 5-13 summarises the main characteristics of each scenario. The characteristics include foresight capability (FS represented by TSI and FSA measures) and strategic thinking capability (ST represented by DSI measures), leadership delivery style (LD expressed by DSI measures) and engagement antecedents, dimensions, and consequences. Each scenario was created based on selected wild cards that reflect the drivers of change as favourable or unfavourable.

The panellists were asked to answer two questions in response to each scenario. Firstly, explore the viability of the engagement scenario by 2030 and explain what they agree/disagree with about the scenario. Secondly, share any further insights or comments that may inform the study concerning the scenario and its characteristics.

Smart City Scenario (HAVE)

The baseline scenario (Table 5-34) presents the Smart City scenario overview and the current cognitive measures of foresight and strategic thinking, based on the drivers of change in play, leaders' profile, and the foreseen individual and organisational outcomes.

Table 5-34 Skeleton scenario one – Smart city

Elements		Description
Overview	*Theme*	Overconfidence view that development and growth continue unabated
	Goal	Maintain what we **"Have"**
	Logic	Favourable drivers of change, less balanced cognitive capabilities of leaders
	Abstract	The smart city scenario is the easiest to imagine and probably one that resides in the living memory. This is the current de facto position of Singapore. Most of the citizens identify with the city status in terms of wealth, technological advancement and its competitive ranking based on the competitive index measures of institutions, performing public sector, social services, and financial hub status. An authoritarian political system combines effective governance with a semi-democratic rule while enforcing the rule of law and regulations, focusing on providing core social services but not addressing the welfare of the majority and exercising a degree of control on the freedom of speech and the public worldview, driving a highly developed economy and living standards while maintaining ownership of key corporations and real estate assets across the city-state. This scenario ensures economic growth and protection by preserving the integrity of the financial and trade systems and providing necessary legislation to protect its longevity, with less focus on equality, equity, and sustainability. The overall strategic leadership delivery style is directive in nature. The vision, objectives, and tasks are top-down driven, with minimum engagement from the workforce.
Leaders' cognitive abilities	*Orientation to time*	*Dominant Present:* orientated toward getting things done
	Foresight Style	*Dominant Adapter:* adjusts to situations as future demands and balances multiple challenges
	Strategic thinking Style	*Analytical:* problem solver, use considerable data, careful analysis, assess options
	Leadership Delivery Style	*Directive:* top-down management
	Predetermined Drivers (Trends & Megatrends)	- Political: Global politics, corruption control - Economic: Pandemic, inequality between poor and rich, low productivity - Social: Ageing population, casualisation, cultural norms, a rise of automation - Technology: Increased censorship, Enhanced communication, AI - Environment: Corporate ESG and CSR - Ethical: Perceived class and ethnic variability - Legal: Copyright, patents, and IP law, work health and safety
	Wild Cards	- Globalisation and regionalisation - Immigration policies
Work engagement	*Vigour*	The behavioural aspect of engagement (e.g., being motivated to achieve short-term targets) is likely to be higher.
	Absorption	The cognitive aspect (e.g., being able to relate to and be immersed in the purpose and meaning of their work) is likely to be reduced.
	Dedication	The emotional aspect (e.g., Enthusiasm and motivation derived from a sense of purpose and direction) of engagement in Singapore are likely to be reduced.
Outcomes	*Individual*	low job satisfaction, task performance, Intention to leave
	Organisational	- Team-task performance, short term financials

Source: Developed for this research

Table 5-34 illustrates globalisation and immigration policies as the key uncertainties (wild cards) in play driving the economic growth of Singapore and the goal to maintain what we "HAVE". The scenario logic is based on favourable drivers

of change in play, less balanced foresight and strategic thinking capability, and a directive leadership style. The scenario acknowledges the current challenges around ageing population, productivity, inequality, human rights, and work engagement.

The expert panel expressed a general agreement about the viability of the scenario, and they can see it and feel it as it is real today. Moreover, they have raised valuable insights concerning the drivers of change and the engagement outcomes. In addition, other comments called out democratisation, freedom of speech, human rights, classes inequity, and social sustainability as forces as not attracting sufficient attention.

As presented in this scenario, many participants perceived the status quo here to stay, and it is hard to change unless the global scene forces a change or the public demand it. However, it has delivered long-term success for Singapore, and there is little evidence of change behaviours in the leadership.

Some comments reflected some confusion about the state of engagement in Singapore. Two panellists do not agree that employees are overly concerned with their level of cognitive and emotional engagement under this scenario. As a result, they underplay some of the outcomes (e.g., intention to leave). They also suggested adding the impact of the current COVID-19 pandemic on engagement levels and outcomes. One panellist suggested considering the increasing presence of the millennials in the workforce and their lack of engagement.

The panel expressed mixed opinions regarding drivers of change. Many agreed on such drivers, while others believed that the drivers of change are dynamic and disruptive under the current environment. Still, they also think that Singapore is ready to confront future challenges (e.g., pandemic).

Ivory Tower Scenario (DEFEND)

Table 5-35 presents the Ivory Tower scenario overview. It illustrates the key uncertainties (wild cards) in play: national income at risk, trade protectionism, and significant security breaches leading to an economic slowdown. The goal remains to "DEFEND" what we had. The scenario logic is based on less favourable drivers of change in play, less balanced foresight and strategic thinking capability, and a directive leadership style. The scenario acknowledges the more profound challenges concerning the ageing population, productivity, inequality, human rights, and work engagement.

Table 5-35 Skeleton scenario two – Ivory Tower

Elements		Description
Overview	*Theme*	Refusal to accept the limits of growth, apply an iron grip to preserve the past
	Goal	**"Defend"** what we had
	Logic	Unfavourable drivers of change, less balanced cognitive capabilities of leaders
	Abstract	The ivory tower scenario is based on the potential for the global economy to stall, and leaders refuse to accept limits of growth and apply an iron grip to preserve the past, defend the wealth and family traditions, and shield the past success against the forces of change. A dystopian outlook of the future. An ultra-authoritative government with a short-term horizon trying to maintain a competitive status, combine strict control and vast bureaucracy while enforcing the rule of law and regulations, focusing on providing minimum social services but not addressing the welfare of the people and exercising control on freedom and human rights, and featuring government instability. This scenario assumes uncertainty in global politics and power which introduce a level of complexity and negative implications on international trade; it can also result from post-pandemic. The overall strategic leadership delivery style is directive in nature. The vision, objectives, and tasks are top-down driven, with minimum engagement from the workforce
Leaders' cognitive abilities	*Orientation to time*	*Dominant Past:* risk reductive, accesses past experiences and knowledge
	Foresight Style	*Dominant Reactor:* preserves own position, mitigates, and resists change, links to past successes
	Strategic thinking Style	*Analytical:* use considerable data, a careful analysis that may lead to paralysis
	Leadership Delivery Style	*Directive:* top-down management and no engagement
	Predetermined Drivers (Trends & Megatrends)	- Political: Tax policy, US/China trade war, bureaucracy - Economic: low productivity, cost of living - Social: Ageing population, Mental health, social inequity, and inequality - Technology: Increased censorship - Environment: not a priority - Ethical: not a priority - Legal: not a priority
	Wild Cards	- Trade protectionism - Major security breaches - National income at risk
Work engagement	*Vigour*	The behavioural aspect of engagement (e.g., being motivated to achieve targets) is likely too high.
	Absorption	The cognitive aspect (e.g., being able to relate to and be immersed in the purpose and meaning of their work) is likely to be very low.
	Dedication	The emotional aspect (e.g., dedication to the organisation and tradition) may be low.
Outcomes	*Individual*	- Organisation commitment - low job satisfaction - Burnout, intention to leave - Task performance
	Organisational	- Entropy increases, things lose the order - Teams left to their own devices - Performance will become less structured - Silos, disintegrated workforce - Low productivity & poor financials

Source: Developed for this research

The Ivory tower scenario received mixed reactions from the panellists. The mixed comments ranged from "not viable" to "plausible and probable," with comments focusing on leadership, forces of change, and engagement outcomes.

Some panellists raised the leadership theme and the younger generation influence over the next. There is a belief that younger generations will challenge the status quo and maintain a long-term focus. They will also sense the economic risks associated with the scenario settings and their devastating impact on a small population like Singapore.

Conversely, other panellists detected weak signals that may drive this scenario; for example, the ruling party (PAP) has been in power for more than 70 years. Their focus on the past and unwillingness to change is driving anti-government sentiments among the people of Singapore. Besides the clear economic risks, panellists highlighted the risk of social fragmentation leading to civil unrest and security concerns.

The comments related to forces of change highlighted the difficulty around the nominated forces to prevail. Since the economy relies heavily on international trade, the city-state flourishes on globalisation and foreign talent as requisites for survival due to a lack of human resources.

Some panellists suggested the Defend strategy as an essential add on strategy for the current baseline strategy. Overall, the sentiment for this scenario is leaning towards "viable" but not "plausible."

Shangri-La Scenario (DREAM)

Table 5-36 presents the Shangri-La scenario overview. It illustrates the key uncertainties (wild cards) in play: loss of trust in national politics leading to change in leadership, ethnic tension and social conflict, and industrial relations. "DREAM" that tomorrow will be better is the goal behind the scenario. The scenario logic is based on less favourable drivers of change in play, more balanced foresight and strategic thinking capability, and a participative leadership style. The scenario addresses the challenges concerning the ageing population, productivity, inequality, human rights, and work engagement.

Table 5-36 Skeleton scenario three – Shangri-La

Elements		Description
Overview	*Theme*	Naively hopeful, where leaders experiment and wish for the best
	Goal	**"Dream"** that tomorrow will be better
	Logic	Unfavourable drivers of change, more balanced cognitive capabilities of leaders
	Abstract	Utopian outlook being hopeful but without results, an illusion of activity and productivity muddled together without a clear vision or goals, in response to a long cycle of prosperity with less emphasis on human rights, employee rights and democracy. The Shangri-La scenario is a fictional one described in the 1933 novel Lost Horizon. It describes Shangri-La as a mystical, harmonious place, a permanently happy land, isolated from the world. Leaders are primarily focused on people, open to ideas and maintain a high level of optimism in their decision-making approach. A semi-democratic political system, which provides equity and equality to its citizens. Leaders are focused on creating the right environment for employees to engage but not necessarily focused on organisational outcomes, except for the welfare of the workforce. The participatory, bottom-up driven ideas/initiatives and the increased engagement, supported by long-term waiting for engagement to occupy the stage and sense of complacency on the leadership end to guide a clear vision, may lead to an engaged workforce, highly active and but not productive.
Leaders' cognitive abilities	*Orientation to time*	*Dominant Future:* orientated toward 'big picture and imaginative thinking
	Foresight Style	*Dominant Tester:* adopts new trends and focus on innovation creativity
	Strategic thinking Style	*Conceptual:* Future long term oriented, multiple ideas and choices
	Leadership Delivery Style	*Participatory:* encourage engagement and participation, bottom-up ideas
	Predetermined Drivers (Trends & Megatrends)	- Political: social welfare - Economic: Technological advancement / new skills needed - Social: Ageing population, increased liberal views, standards of living, traditions shifting towards reduced standards - Technology: Technology and science advances - Environment: not a priority - Ethical: Ethical HR practices, ethical business leadership - Legal: Anti-discrimination, employment, privacy, and protection laws
	Wild Cards	- Industrial relations - Ethnic tension - Social conflict - Loss of trust in national politics - Leadership change
Work engagement	*Vigour*	The behavioural aspect of engagement (e.g., being motivated to achieve targets) is likely to be high.
	Absorption	The cognitive aspect (e.g., being able to relate to and be immersed in exciting work) is likely to be high.
	Dedication	The emotional aspect (e.g., enthusiasm and motivation derived from a sense of excitement about the future) is likely to be high.
Outcomes	*Individual*	- Job engagement / Job satisfaction but lacking a sense of purpose - Organisation engagement - Organisation commitment - Organisation citizenship - Health and wellbeing
	Organisational	- Team innovation - Low financial returns

Source: Developed for this research

The Shangri-La scenario resulted in division among the panellists. The current leadership settings influence strong views, and the trajectory set by the government revealed that such a scenario might not be viable. The government is determined to maintain the competitiveness of Singapore among other nations in Southeast Asia and the fact that younger generations have been conditioned not to accept other alternatives. Other panellists saw this scenario as viable, but it manifests itself in a slow process due to subtle changes taking place until the tipping point is reached.

In summary, this scenario may be hard to conceive due to the city-state's political and social settings accustomed to over the years. However, the feedback indicates that the government has to provide more support to ensure the people's wellbeing if the scenario materialises.

Smart Nation Scenario (DESIRE)

Table 5-37 presents the Smart Nation scenario overview. It illustrates the key uncertainties (wild cards) in play: social sustainability and mentality change to counter climate change.

And the current cognitive measures of foresight and strategic thinking, based on the drivers of change in play, leaders' profiles, and the foreseen individual and organisational outcomes. This scenario reflects the "DESIRE" of what the nation wants to become. The scenario logic is based on more favourable drivers of change in play, balanced foresight and strategic thinking capability, and a participative leadership style.

The scenario effectively addresses the challenges concerning the ageing population, productivity, inequality, human rights, and work engagement. The scenario exemplifies a nation that has a clear vision and strong leadership. A democracy that unites people based on equality and shared equity.

Table 5-37 Skeleton scenario four – Smart Nation

	Elements	Description
Overview	*Theme*	Explore the not-here and the not-yet, the desirable images of futures worth having, the realisation of possibilities that are presently obscured.
	Goal	What we **"Desire"** to be
	Logic	Favourable drivers of change, balanced cognitive capabilities of leaders
	Abstract	The smart nation scenario represents the other end of the continuum, starting with the smart city scenario, but it is not a physical identity. It is an identity where all the participants in the nation, all coming together under a unified and shared vision that they all subscribe to the vision based on a level of equity and equality that is widely accepted. A democratic rule while enforcing the rule of law and regulations, focusing on providing core social services and addressing the welfare of the majority and exercising a high degree of freedom of speech and rights of association. This scenario ensures economic growth and its protection by maintaining the integrity of the financial and trade systems and providing necessary legislation to protect its longevity, focusing on equality, equity, and sustainability. In this scenario, work engagement antecedents take centre stage, driven by the key cognitive capability of foresight and strategic thinking and leading to desired outcomes at the individual and organisational levels. The participatory, bottom-up driven ideas/initiatives and increased engagement are supported by a shared vision and engaging leadership, resulting in collective organisational engagement.
Leaders' cognitive abilities	*Orientation to time*	*Balanced:* between past learning, present needs, and future aspirations
	Foresight Style	*Framer / Tester:* define the future vision and adopts new trends, focus on innovation and address long term issues
	Strategic thinking Style	*Balanced Conceptual / Analytical:* Future long term oriented, tolerance for ambiguity, while solving problems and apply system thinking and data analysis to reach decisions
	Leadership Delivery Style	*Participatory:* top-down and bottom-up vision and initiatives and enhanced engagement
	Predetermined Drivers (Trends & Megatrends)	- Political: Freedom of speech, Freedom of information - Economic: High disposable income, change global economy/digitisation - Social: Ageing population, more holistic approach to life - Technology: Use of artificial intelligence, use of analytics - Environment: Corporate ESG/CSR - Ethical: Ethical leadership, Ethics of IP protection, engaging employees in driving ethical behaviours - Legal: Anti-discrimination, employment law, privacy and data protection.
	Wild Cards	- Mentality change to counter climate change - Promoting social sustainability
Work engagement	*Vigour*	The behavioural aspect of engagement (e.g., being motivated to achieve targets) is likely to be high.
	Absorption	The cognitive aspect (e.g., being able to relate to and be immersed in the purpose and the meaning of their work) is likely to be high.
	Dedication	The emotional aspect (e.g., enthusiasm and motivation derived from a sense of purpose and direction, envisioning the future and participating in its creation) is likely to be high.
Outcomes	*Individual*	- Job engagement / Job satisfaction - Organisation engagement - Organisation commitment - Organisation citizenship - Task performance / Extra role performance - Health and wellbeing - Growth and development
	Organisational	- Team performance - Team innovation - Financial returns - Organisational performance - Growth and development - Learning organisation

Source: Developed for this research

Smart Nation scenario won the hearts and minds of the expert panel. Various comments pointed towards leadership and their role in leading the Smart Nation scenario and the desired engagement outcomes. The comments supported the scenario's viability, probability, and plausibility, with caveats to avoid over-optimism around equity and equality, freedom of speech, and leaders' readiness, considering the proposed foresight and strategic thinking capability suggested for this scenario.

Summary of round three

Table 5-38 provides summaries of the round three findings. The summary includes two sections; the engagement outcomes; and the scenario matrix. A total of thirteen panellists completed the Delphi round three questionnaires (Appendix I).

Table 5-38 Delphi Round three – Summary

Engagement outcomes	# Of Participants	# Of Insights	Agreement level
Individual outcomes, Organisational outcomes, Foresight, Strategic thinking, and Leadership delivery	13	12	All participants agreed with the comments
Scenarios	**# Of Participants**	**# Of insights**	**# Agreed**
Smart City	13	23	11
Ivory Towers	13	16	6
Shangri-La	13	18	4
Smart Nation	13	15	9

Source: Developed for this research

The Delphi panel reached consensus in relation to the engagement outcomes (Table 5-31), and added more insights concerning both individual and organisational outcomes in Singapore.

The panellists favoured the Smart City scenario as the most possible to continue but highly favoured the Smart Nation as a future. The comments portrayed a more conservative view of what the Smart Nation will look and feel like as a possible future. Conversely, Ivory Towers and Shangri La were less favoured by the panellists. The comments reflect implausible trajectories that people find difficult to conceive.

5.4   CONCLUSION

In Chapter 5, the study presented the results from the quantitative strand (Leaders' profile) and the Qualitative strand (PESTEEL) as introduced to the Delphi panel in rounds one and two to validate and triangulate the findings.

The Delphi experts validated the engagement dimensions of vigour, dedication, and absorption concerning the leaders' profile. Furthermore, the study presented engagement propositions to link the work engagement dimensions to the foresight and strategic thinking capability, the leadership delivery style, and both the individual and organisational outcomes to validate and triangulate the engagement propositions concerning foresight and strategic thinking capabilities.

Next, the researcher applied a converged parallel method (Creswell, 2014) to relate the leaders' profiles predictive values with the quantitative and qualitative evidence from the PESTEEL and the Delphi analysis as variables into the scenario generation process. The study presented four possible futures of work engagement in Singapore based on the scenario development process and the input from the Delphi panel.

In Chapter 6, the study presents an updated scenario matrix and a narrative of each scenario based on the feedback from the Delphi panel.

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Chapter 6: Possible Futures

6.1   INTRODUCTION

Chapter 5 provided a Delphi based analysis of 167 quantitative estimations (11 cognitive measures and 156 drivers) and 559 qualitative comments from 17 experts. Furthermore, the researcher developed four possible futures for work engagement in Singapore by 2030. The links between PESTEEL drivers, leaders' cognitive capabilities of foresight and strategic thinking, leadership delivery style, and engagement dimensions were made explicit in the four scenarios proposed to the Delphi panel. The future implications on work engagement and organisational outcomes in Singapore by the year 2030 were also presented.

The Delphi study provided some key insights, confirming driving forces and uncertainties that may influence Singapore's future work engagement by 2030. But, more importantly, the Delphi study triangulated and validated the research findings concerning the leaders' profile, forces of change, engagement dimensions related to foresight and strategic thinking, and the individual and organisational outcomes.

In this chapter, the study presents the baseline scenario and the three alternative scenarios for 2030. Each of the three alternative scenarios is positioned based on distinct uncertainties and variables, exploring the possible impact of such drivers on work engagement in Singapore by 2030. The Delphi study included findings on controversial and extreme alternatives. Based on these findings, the researcher derived implications for work engagement by 2030, based on the modified scenario matrix.

This chapter presents the final scenario narratives based on the results of Chapter 5. Figure 6-1 illustrates the contents of this chapter. After the introduction, Section 6.2 introduces the modified scenario matrix of the work engagement futures. Section 6.3 covers the Smart City scenario. Section 6.4 covers the Ivory Tower scenario. Section 6.5 covers the Shangri La scenario. The section covers 6.6, the Smart Nation scenario. Section 6.7 is a summary of the work engagement scenarios, and Section 6.8 is the conclusion.

Figure 6-1 Chapter 6- Contents

Source: Developed for this research

6.2 WORK ENGAGEMENT FUTURES: MODIFIED SCENARIO MATRIX

The following discussion proposes a typology of the possible futures of work engagement in Singapore by 2030. The modified scenario matrix derived from the Delphi study (Section 5.3.4). The matrix represents four scenarios. Smart City, Ivory tower, Shangri-La, and Smart Nation (Figure 6-2). The underlying proposition is that a fit between the drivers of change (favourable-unfavourable), the internally consistent uncertainties (Section 5.3.4), the Strategic leadership capabilities of foresight and strategic thinking (less balanced-more balanced), and the leadership delivery style (directive-behavioural) allows the researcher to identify four different, plausible

scenarios. The study applied a deductive strategy to scenario building (Ogilvy & Schwartz, 2004).

Figure 6-2 Possible futures of work engagement in Singapore
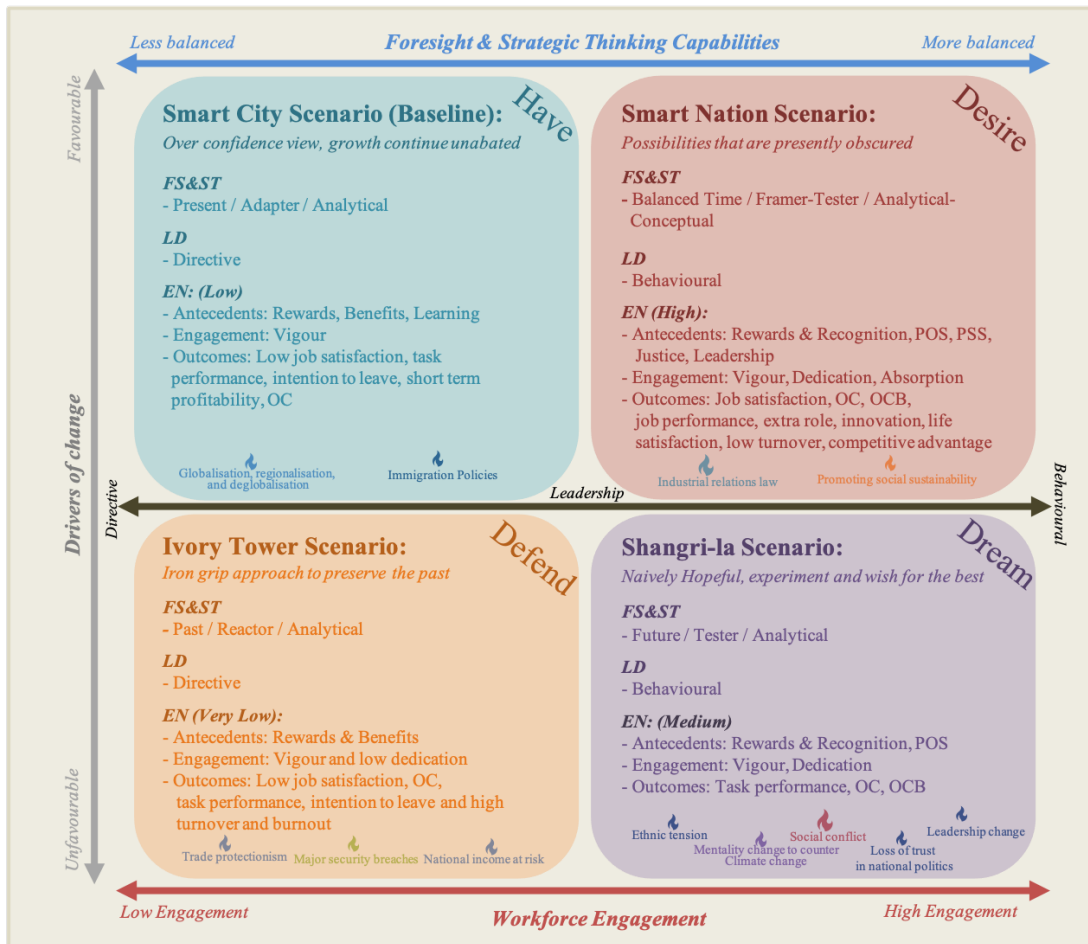
Source: Developed for this research

The Smart City scenario reflects the current identity of Singapore as specified by the government. A system focused on the materialistic development of the country infrastructure and technological applications in government services, transportation, security, and financial system. Conversely, the same level of advancement did not catch up with the social development and human resources growth as the core assets of the nation. A sentiment of overconfidence that development and growth continue unabated resulted in a scenario focusing on maintaining *what we "HAVE"* as a nation.

The Ivory Tower scenario reflects the potential for the global economy to stall, and leaders refuse to accept; instead, they apply an iron grip to preserve the national wealth and shield the past success against the forces of change. Ivory Tower is a dystopian outlook of the future. The government use strict controls while enforcing the rule of law, provide minimum social services, which doesn't address the welfare

of the people. Leaders want to preserve the past, which resulted in a scenario that focuses on **"DEFEND"** *what we had*.

Shangri-La Scenario is a product of a long cycle of prosperity, under an autocratic regime, with less emphasis on human rights, employee rights and democracy. It results in ethnic tension, social conflict, and loss of trust in national politics leading to an unplanned transition from authoritarianism to democracy. Utopian outlook of being hopeful but without results, an illusion of activity and productivity muddled together without a clear vision or goals, a permanently happy land, isolated from the world. Leaders are primarily focused on people, open to ideas and maintain a high level of optimism in their decision-making approach. A sentiment of being naively hopeful, where leaders experiment and wish for the best, resulted in a scenario that focuses on **"DERAM"** *that tomorrow will be better*.

The Smart Nation scenario reflects a national identity where all the nation's participants come together under a unified and shared vision that they all subscribe to. A democratic system with a vision that focuses on the welfare of the people and the nation's prosperity. The vision based on a level of equity and equality that is widely understood and accepted. A sentiment of exploring the images of futures worth realising possibilities that are presently obscured resulted in a scenario that focuses on *what we* **"DESIRE"** *to be*.

6.3   SMART CITY SCENARIO

A sentiment of overconfidence that development and growth continue unabated resulted in a scenario focusing on maintaining what we **"HAVE"** *as a nation.*

Smart City: Environmental Forces

By 2030, the Smart City is the easiest to imagine and probably one that resides in the recent memory of its citizens and leaders. It is the most probable future and reflects Singapore's current de facto position, as specified by the government.

The city-state of 6.9 million people has an ethnic fabric dominated by Chinese decedents, making it the only country outside China where Chinese descent makes up most of the population. Most citizens identify with the city status regarding wealth, technological advancement, and its competitive ranking among global cities. A system focused on the materialistic development of the country infrastructure and technological applications in government services, transportation, security, and

financial system. Conversely, the same level of advancement did not catch up with the social development and human resources growth as the core assets of the nation.

This authoritarian political system combines effective governance with a limited democratic rule while enforcing law and regulations. The balance between coercive power to drive compliance and obedience and legitimation capacity to gain trust is ironic. The government provides core social services but does not address the welfare of the majority and exercising a degree of control on the freedom of speech and the public worldview that creates tension.

The Smart City is an economic miracle. A fishing village turned to the world's maritime capital (Figure 6-3). A small country with no or minimal resources, including human resources, is driving a highly developed economy, and living standards while maintaining ownership of critical corporations and real estate assets across the city-state. The ingredients in the Singapore formula are hidden in two key drivers: globalisation, regionalisation, and immigration policies.

Figure 6-3 The Singapore Miracle

Source: Developed for this research

The Smart City is characterised by being a conduit for global trade due to the unique geographic location between regional economic blocks with diverse political characteristics and polarised national aspirations. Moreover, the city-state earned its reputation as a trusted financial centre that offers a level of secrecy and tax breaks to

attract money worldwide. In addition, the Smart City is the world's maritime capital. Thus, globalisation served Singapore very well.

Singapore continues to create an attractive environment characterised by safety, free of corruption, low taxes, and few restrictions for foreign investment. The qualities provided by the city-state differentiates Singapore from its neighbouring countries and position the City-state in a leadership position in the ASEAN economic block.

Singapore's government continues to launch initiatives to develop what it has defined as the Smart City of Singapore. The city is driven by digital innovation, state of the art telecommunication, and technologies that respond to the business and what it perceives as citizens' needs. Such efforts are rewarded by positioning the city-state as a global hub. Technology and telecommunication are the backbones of Singapore economy.

The Smart City has a well-developed economy and one of the highest GDP per capita in the world, besides being the most competitive country globally. Global trade and finance run the Singapore economy and is enabled by free trade with a low level of trade protectionism. Its economy has a substantial reserve and a currency diversification system that protects against fluctuations. The government ensures economic growth and protection by maintaining the integrity of the financial and trade systems and providing necessary legislation to protect its longevity.

The small population and lack of skills resulted in tailored-made immigration laws that have opened the doors for talent. The laws also continue to persuade multinational firms to come to Singapore and serves as a mechanism for the government to recruit labour to support the country's ongoing development. Conversely, the government immigration policies underpinned by the influx of foreign workers have contributed to widening income disparities. Resulting in lower wages, higher cost of living, declining productivity, deteriorating living standards. Furthermore, inequity and inequality seem to mount significant health, education, and economic consequences of structural injustice, undermine social cohesion, and exacerbate other divisions between ethnic communities, social classes, and foreign and local workers.

The government limited efforts to tackle the aging population problem is adding pressure on the economy as the workforce stagnates and productivity reduces. Ageing

is widely perceived as part of the life cycle where government expect society represented in families and community associations to share the caring responsibility of the older generations. The effect of the ageing population, low productivity, and low work engagement have not been meaningfully addressed. This is exacerbated by a general strategic leadership of the country that is less focused on equality, equity, and sustainability.

Smart City: Strategic Leadership

By 2030, The Smart City leaders' profile is typified by leaders predominantly orientated towards the present and focused on getting things done. They adopt a primarily adaptive style in viewing the future and adjust to future demands while balancing multiple challenges. Leaders are flexible and change orientated. They influence others and help people to adapt. They apply an analytical approach to solve problems and conduct a careful analysis to make decisions. They are intent-focused, hypotheses-driven, and immersed in a systems perspective to contextualise the organisation within its environmental settings and appetite for risk.

Smart City: The Practice of Strategy

The foresight and strategic thinking capability of the leaders in Singapore produce a highly organised and disciplined organisation. Despite the rapid achievement of extraordinary socioeconomic development through the city-state, the government strategy emphasises adaption and change facilitate continued growth. The government perceives that the people of Singapore may not have the sense of urgency needed to adopt the changing mindset embraced by the leaders. The strategic leaders disseminate a coherent vision of the desired future as specified by the upper echelons. Strategy making is approached rationally based on formal procedures and regular cycles and usually managed by consulting firms. First, leaders formulate the overall strategy. Next, more specific plans and actions are detailed by the next level managers. A formal structure and planning system delivers a deliberate, comprehensive, reliable, and cost-effective strategy formation process. Finally, the strategy is executed through tight operational controls. The Upper Echelons may not realise the potential of lower echelons to contribute positively to the strategy-making process. Instead, they expect people to trust the plans based on previous success and positive track records.

Strategic leaders adopt a resource-based view based on a retrospective sense-making of current trends and forward-thinking of what the desired future demand. In

a post-industrial economy, leaders are directing their strategic focus towards tangible assets to enhance the city-state entrepot status and its position as a global financial centre, with less emphasis on intangible assets related to human resources.

Smart City: The Practice of Leadership

The Leadership style is directive. Top management makes decisions cascaded through the ranks for implementation with minimum input from the people involved. The leaders' style provides structure, emphasises safety and security where there is no room for error, creates clarity within role expectations, and delivers the intended results. The autocratic, authoritative, and task-oriented approach is less likely to invite engagement or gain acceptance of managerial decisions.

Smart City: Work Engagement

In 2030, work engagement associated with the Smart City is typified by low engagement levels (medium vigour, low dedication, low absorption). This is further associated with low productivity and has a negative economic impact. Work engagement at this time is characterised by having increased vigour. This means there are higher levels of energy expended and mental resilience while working on a task given by management. The behaviour is characterised as transactional, where the work is exchanged for adequate rewards, skills development, and living standards.

The directive leadership style reduced psychological safety and meaningfulness. Restricted freedoms result in reduced dedication and absorption in the workplace. This leads to subdued involvement and lesser concentration at work. Consequently, employees may achieve task performance and a degree of organisation commitment but lack purpose and a sense of safety. The intention to leave for a better prospect and rewards leads to high skills turnover and is a national concern. As a result, organisational outcomes are reduced to task performance and short-term financial gains.

Smart City: Outlook

The Smart City represent the front page of the Smart Nation initiative that the government launched in 2015:

> "A Smart Nation is a Singapore where people will be more empowered to live meaningful and fulfilled lives, enabled seamlessly by technology, offering

exciting opportunities for all. It is where businesses can be more productive and seize new opportunities in the digital economy." (gov.sg, 2018)

The government's SMART NATION initiative fails to achieve traction due to its primary focus on technology that could not deliver meaningful and fulfilled lives. In addition, the failure of the government in securing data in recent years, which undermine the security and privacy of citizens is causing critics to push for a rethink of the smart Nation drive.

The highly educated and essentially materialistic society involve measures of success focusing on career and wealth. Singaporeans walk away from blue-collar jobs and employ foreign labour instead, resulting in an uneven society as foreigners seen as a threat. In addition, inequity, and inequality in a socially fragmented society resulted in a culture that lacks social inclusiveness.

6.4   IVORY TOWER SCENARIO

*The global economy stalls and the city-state reaches the limits of growth. So, leaders want to **"DEFEND"** what we had as a nation.*

Ivory Tower: Environmental Forces

By 2030, many people assume that Asia's continued economic growth is inevitable with little, if any, downside. However, advanced prognosis methods show that we are approaching the limits of economic growth. Moreover, the balance between labour, capital and energy indicates that energy price will form the primary hurdle for development. Hence the developed economies are shifting to service industries and moving their labour and capital to third world countries to obtain cheaper labour rates. The shift will create significant exposure to Singapore as a service economy relying heavily on trade and its status as a global financial centre.

The ivory tower scenario is based on the potential for the global economy to stall and shift to new markets. Leaders refuse to accept limits of growth and apply an iron grip to preserve the past, defend the wealth and family traditions, and shield the early success against the forces of change, a dystopian outlook of the future. An ultra-authoritative government with a short-term horizon is trying to maintain a competitive status. The government combines strict control and vast bureaucracy while enforcing the complete rule of law and regulations, focusing on providing minimum social

services and not addressing the welfare of the people and exercising control on freedom and human rights resulting in government instability.

This diminishing of the welfare state combined with the aging population increases the pressure on healthcare and education, which become more expensive for the average citizen. The inequality between poor and rich continue to grow in the absence of social services. This scenario assumes uncertainty in global politics and power, introducing a level of complexity and negative implications on international trade, leading to trade protectionism. Simultaneously, a significant cybersecurity breach in the Singapore financial district results in further trade protectionism to shield the other national income sources. The consequences are already visible in all sectors of the economy and society at large. People are so frustrated by living under and autocratic regime. The sense of vulnerability is growing in the community; the government emphasises solving material needs by providing jobs, housing, and related amenities. At the same time, the national income is at risk and the state reserve been depleted forces the government to introduce new taxes and cuts to the social welfare services. The government line of preserving the unity and avoid "rocking the boat" meant higher censorship and more restriction on civil liberties (Figure 6-9).

As the population ages, the workforce stagnates, and productivity reduces. In addition, as age diversity in the workforce grows, the perception of the work environment, job engagement, and outcomes are influenced by the difference in values and the perceived age discrimination among different age groups. As a result, the elderly citizens become a burden on working families, adding pressure to living costs. Furthermore, the aging population has negative implications on the society and economy.

The potential for stalling growth is real but difficult to imagine after a long run of impressive economic performance like Singapore. The government is pursuing the nation to adjust to the new norms instead of finding solutions. Equity, equality, and sustainability are not on the government priority list.

Ivory Tower: Strategic Leadership

By 2030, The Ivory tower leaders are predominantly orientated towards the past. They rely on past successes and sincerely believe that economic growth will continue if they try hard to defend it. They hardly notice the weak signals of change or the fact

they have reached the limits of growth; instead, they try to force the same strategies of the past. They are dominantly risk reductive and struggle to analyse risks associated with current events. Leaders adopt a primarily reactive style of viewing the future. They mitigate and resist change and rely on past experiences to make decisions. Leaders apply analysis to solve problems and careful consideration before making decisions, leading to "analysis–paralysis" syndrome. They focus on extenuating risks by contextualising the organisation within its past norms.

Ivory Tower: The Practice of Strategy

The foresight and strategic thinking capability of the leaders in Singapore produce an organisational culture that is highly autocratic with a clear separation between the leader and subordinates. The leaders form a vision of the desired future, which carries past themes and get blurred with reality as leaders continue to react to current events. Strategy making is approached in a command mode based on careful analysis. Leaders formulate the strategy under the guidance of external consulting firms and induce the plans on followers to behave invariably with their expectations. A formal structure and planning system that delivers a deliberate, comprehensive strategy formation process. The strategy is executed through tight operational controls, which has no margins for the emergent drivers of change.

Leaders are static as they face ambiguity and uncertainty. They are unable to renew themselves or establish direction. They are paralysed in the face of rapid change and unable to exploit or explore opportunities. Leaders' command mode, in developing strategy, constrains creativity and innovation in the organisation and denies employees the opportunity to rescue the Ivory Tower.

Strategic leaders adopt a resource-based view grounded in what they sense can save the ship. However, the boundedly rational leaders have incomplete information and fragmentary knowledge of consequences concerning their limiting beliefs about the tangible resources in Singapore. As a result, leaders perceive those tangible resources as the ultimate view for strategy development, while similar resources being developed more efficiently and effectively in the neighbouring countries. In addition, the most valuable resources, meaning talent is becoming mobile and finding its way to where it can flourish.

Ivory Tower: The Practice of Leadership

The leaders' delivery style is directive. An authoritarian approach characterised by management control over all decisions and choices based on their ideas and judgment. Leaders create highly structured and very rigid environments, which discourage creativity and initiation of new ideas.

Top management makes decisions and cascades them through the ranks for implementation with minimum input from the people involved. An autocratic, oppressive, and manipulative approach is less likely to invite engagement or create support and commitment.

Ivory Tower: Work Engagement

As a result, by 2030, work engagement at the Ivory Tower is typified by a deficient level of engagement (low vigour, low dedication, and low absorption), low productivity, and significant negative economic impact. Work engagement is characterised by low vigour, meaning a low level of energy and mental resilience while working on a task dictated by management, in exchange for less than adequate rewards and lower living standards. Equally, a combination of reduced psychological safety, meaningfulness, and availability due to leaders' profile, directive leadership style, and reduced civil liberties results in reduced dedication and absorption in the workplace, depicting subdued involvement and diminished concentration work. Consequently, employees may only achieve baseline task performance because they lack a sense of possessing the physical, emotional, and psychological resources necessary for investing themselves in their jobs. Subsequently, intention to leave, mental health issues, wellbeing, and physical health may result in outcomes. In the meantime, organisational outcomes may be reduced and lead to lower performance, lower profitability and reduced competitive advantage.

Ivory Tower: Outlook

The fairy tale comes to an end. Leaders are static and paralysed in the face of rapid change and uncertainty. They are unable to avoid the impact of change or convert risks into opportunities. Issues related to the ageing population, low productivity, structural injustice, and civil liberties are reaching a tipping point where the socioeconomic development enjoyed over the years becomes from the past.

6.5   SHANGRI-LA SCENARIO

*A sentiment of hope, where leaders experiment and **"DREAM"** that tomorrow will be better.*

Shangri-La: Environmental Forces

Shangri-La is a product of a long cycle of prosperity, under an autocratic regime, with less emphasis on human rights, employee rights and democracy. The distribution of income widens with development, differences among individuals increase, changes in wealth, and social setting alter their support of the autocrat. It results in ethnic tension, social conflict, and loss of trust in the national politics leading to change in leadership that ends with an unplanned transition from authoritarianism to democracy.

Shangri-La scenario is a fictional described in the 1933 novel Lost Horizon. It describes Shangri-La as a mystical, harmonious place, a permanently happy land, isolated from the world. Leaders are primarily focused on people, open to ideas and maintain a high level of optimism in their decision-making approach.

By 2030, the self-organising propensity of society takes precedence over the organising activity of the state and business. People are the ultimate source of power. As the economic environment evolves, individuals are driven to influence the agenda, either to weaken the government and management in order to compel it to grant civil rights and gain empowerment to act, or to disrupt the economic activities, threatening the political balance of power, and regime stability and leading to irregular government change.

In Shangri-La, citizens focus on creating an environment to involve people but not necessarily on tangible outcomes. The discourse around equity, equality and civil rights is a work in progress resulting in short term wins for the middle and lower classes. On the other hand, the upper and lower echelons are enthusiastic about how the future unfolds. A utopian dream centred around ambition but lacking concrete results, an illusion of activity and productivity muddled together without a clear vision or goals. Concurrently, past reflections of what the country enjoyed as effective governance, economic growth, competitive ranking, law, and order create an irony for leaders.

The leadership brings a new sense of democracy where people have freedom of speech, and only a court order can enact censorship. The government adjust the

immigration policies to create more job opportunities for its citizens. They enforce quotas for the employment of ethnic minorities in public service and government-owned enterprises. At the same time, the government introduces new legislation to restructure the tax system in Singapore to redistribute the wealth in order to close the gap between the rich and the poor. Higher wages and improved living standards result in higher inflation rates and cost of living.

The city-state starts to tackle the aging population challenge. A national scheme focuses on promoting successful, productive, and healthy living standards into old age and the reskilling of the older generations introduced by the government to ease the pressure on young families.

The new leadership brings a change in mentality to counter the effects of climate change. The government introduces education programs for the public to raise awareness concerning the consequences of climate change and its visible impact on coastline erosion, water supply, and the rise of sea level that may impact Singapore in the longer term. The government also started to plan new residential and industrial development using arcological structures to allow the highly dense population to include homes, businesses and agricultural facilities that provoke minimum environmental damage. In addition, the government focus on social issues results in creating a positive climate in the nation and a sense of equality among the people.

The focus on addressing social challenges meant a greater focus on the people related issues and less focus on the economy. However, the government initiatives to address the aging population and environmental change introduced significant costings to the economy and did not enhance productivity. In addition, the new immigration laws and workforce shortage add a significant negative impact on the economy.

Shangri-La: Strategic Leadership

By 2030, The strategic leaders are predominantly orientated towards the future and focused on people's aspirations. They stepped out of time to focus on the big picture. They remain naively of what tomorrow may bring. They adopt a primarily tester style in viewing the future and encourage people to experiment to learn. The leaders are open to short-term opportunities and the initiation of new ventures. They tolerate ambiguity and comfortable with uncertainty.

Shangri-La: The Practice of Strategy

The foresight and strategic thinking capability of the leaders in Singapore led to a culture that is open for creativity and innovation and opportunistic in approaching business prospects. Leaders are focused on people talent and what they can bring to the organisation. Strategy-making is approached in a transactive mode based on an iterative process involving everyone to some degree, aiming to reach consensus and maintaining harmony between all actors. The strategy implementation tolerates operational flexibility and employee-led actions.

The strategic leaders do not have a coherent vision of the desired future and are driven by testing new ideas and concepts. They tolerate ambiguity while solving problems based on people collective experience. Leaders are facilitators; they elevate the organisation discourse to a collective level to emphasise participation and action. The emphasis is placed on people involvement to reach decisions. They recognise that allowing new ideas to emerge into the scope of decision making will enable work engagement.

Strategic leaders adopt a resource-based view on social interaction preferences over economic ones. As a result, self-managed teams are empowered to drive business activities, and leaders tolerate ineffective use of resources due to misalignment.

Shangri-La: The Practice of Leadership

The leader's delivery style is participatory. It involves consulting with subordinates and value their suggestions as a basis for making decisions. Participatory leadership is associated with consultation, delegation, and employee involvement in decisions that lead to job satisfaction and organisational commitment.

Shangri-La: Work Engagement

As a result, by 2030, work engagement at Shangri la is typified by high engagement levels (moderate vigour, moderate dedication), higher involvement, and moderate economic impact. Work engagement is characterised by moderate vigour, meaning a high level of energy and mental resilience while working, in exchange for adequate rewards and recognition, standards of living, and a sense of equality. Similarly, a combination of increased psychological safety, meaningfulness, and availability due to leaders' profile, participatory leadership style, and the people's rights and civil liberties results in the increased dedication in the workplace, depicting

exquisite involvement and enhanced concentration at work. Consequently, employees can achieve task performance, OC, OCB, health, and wellbeing, because they have a sense of possessing the physical, emotional, and psychological resources necessary for investing themselves in their jobs. In the meantime, organisational outcomes may be increased and result in team performance, organisational outcomes, financial returns. The participatory, bottom-up driven ideas/initiatives and the increased engagement, accompanied by a sense of complacency on the leadership end to guide a clear vision, may lead to an engaged workforce, highly active and but not productive.

Shangri-La: Outlook

One can remain optimistic that the Shangri-La scenario will ignite creativity and innovation and increase work engagement in Singapore. As a transition from an authoritarian regime to a democratic way of living, it has merits that will provide people with a sense of relief. Still, it doesn't warrant economic growth nor sustainability for the city-state.

6.6   SMART NATION SCENARIO

Images of futures we **"DESIRE."**

Smart Nation: Environmental Forces

The Smart Nation embrace neo-liberalism and bring significant changes in the city-state. Most remarked upon has been the government's new liberalised approach to freedom of expression and association rights. In addition, the Smart Nation has a shared identity where all the participants (citizens, corporations, government) in the nation come together under a unified and shared vision that they subscribe to and accept. This is primarily due to shared values of equity and equality that started to take place in society.

The government is focused on providing core social services and addressing the welfare of most citizens, including the exercising of a higher degree of freedom. In addition, the government efforts to tackle the aging population is paying off. Ageing is widely perceived as successful and productive by promoting healthy living into old age and the reskilling programs for the older generations.

Economic growth is sustained and protected by upholding the integrity of the financial and trade systems while enabling legislation to secure its longevity. In

addition, the city-state attracts talents and investment worldwide as it develops a business-friendly, technologically advanced, and high value-added capability that provides a comparative advantage to the Smart Nation.

The government and society subscribe to technology for the future, not technology as the future. Technology and analytics are widely employed in government services, transportation, health care, security, financial systems, and information commonly available to inform decision-making. However, ethical and legal boundaries are put in place to enforce privacy and the ethics of technological advancements.

Equality, equity, and sustainability are a strategic priority of the nation. In addition, liberal democratic principles are protected by the rule of law and regulations. Nevertheless, the Smart Nation formula ingredients are hidden in two key drivers: "Promoting social sustainability" and fair "Industrial relations."

By 2030, the growing awareness of sustainability and corporate social responsibility recognises that human resources are critically important. Leaders are aware that any loss in talent may lead to a decline in the pace of economic development. They are at one with the world, knowing that it cannot make solid progress in resolving global issues like climate change, social justice, psychological wellbeing, future pandemics, global conflict, cybersecurity, and other critical factors, without leadership. The leaders further recognise that these issues in Singapore cannot be addressed unless social justice, psychological safety, meaningfulness, and availability are addressed first. Economic or environmental concerns are inseparable. These conditions are requisites for optimal work engagement. The foundation of economic and environmental sustainability is social sustainability. Social sustainability that addresses social risks by prioritising equity, safety, environmental, and spatial imperatives is recognised as a national priority underpinning economic and environmental concerns.

By 2030, the government vision for Singapore is to be a nation where people live meaningful and fulfilled lives. These are measured based on coherent social indicators: equal opportunity, training and development, health and safety, employment, human rights, cultural heritage, community involvement, job security and fair labour practices. In addition, the government introduces new legislation on industrial relations and employee rights allows collective bargaining to represent social

and professional concerns in play and a more positive role in developing the Smart Nation.

Smart Nation: Strategic Leadership

By 2030, The strategic leaders' profile in Singapore is typified by leaders who have an equal orientation to the past, present and future, able to balance past learning, present needs, and future aspirations. Leaders can foresee environmental changes. They recall past knowledge and experience to reflect and contemplate to reduce risks associated with current and future drivers of change. Leaders are focused on the big picture and always envisage infinite future possibilities.

The Strategic leaders adopt a primarily balanced framer and tester foresight style of viewing the future. They define future alternatives and embrace new trends while testing new solutions and innovations to address long-term challenges. Leaders consistently sense their environment and anticipate how emerging patterns evolve, how the future may unfold, and what viable alternatives it may generate.

The strategic leaders embrace a disciplined and holistic task of analysis and creative thinking, a primarily balanced conceptual and analytical strategic thinking style to achieve a good strategy. They are intent-focused, hypotheses-driven, and immersed in a systems perspective to contextualise the organisation within its purpose and appetite for risk. Conversely, the leaders are open to short-term opportunities and the initiation of new ideas. Tolerance to ambiguity, the ability to handle complexity, and staying focused while facing uncertainty are among the observed behaviours of Singaporean leaders. The foresight and strategic thinking capabilities of strategic leaders in Singapore inform decision making, and strategy formulation, in the city-state.

Smart nation: The practice of strategy

The foresight and strategic thinking dynamic capability of the leaders in Singapore produce an organisation that is agile, more resilient to change, opportunistic in approaching business prospects, yet maintain clear and purposeful direction.

The strategic leaders form a coherent vision of the desired future and are intent-driven in making strategic choices. They tolerate ambiguity while solving problems based on a systems perspective. They combine rational data analysis with generative

thinking to reach decisions. They recognise the importance of making strategic choices while allowing new ideas of value to emerge into the scope of decision making.

The strategy-making process is approached in a generative mode. Leaders are sense makers; they interrogate their current reality in anticipation of future challenges facing the organisation. They elevate the organisation discourse to a generative level the emphasise participation and action. The emphasis is placed on envisioning potential responses to future challenges rather than reports and transmitting the information. The strategy formulation is taking place within a broad set of organisation objectives, and the details are allowed to emerge over time.

Strategic leaders adopt a resource-based view based on a retrospective sense-making of emergent strategies and forward-thinking of the desired future demand for bundling resources, including assets and competencies, to further develop their dynamic organisational capabilities.

Smart nation: The Practice of Leadership

In the Smart Nation, leaders embrace a participatory leadership practice. It involves consulting with stakeholders and value employee contributions before decisions are made. In addition, leadership is founded on respect and engagement, which allows for emergent strategy to occur.

Singaporean leaders are post-conventional leaders. Their leadership is associated with consultation, delegation, and employee involvement. It is characterised by leaders taking bold, risky actions and encourage employees to experiment and take risks in identifying innovative ideas or products. Leaders value their people, and they use every interaction to released potential.

Smart nation: Work Engagement

By 2030, employees in the Smart Nation experience unprecedented levels of safety, meaningfulness, and availability. They experience meaningfulness as an increased sense of return on investment of self in-role performance. An increased understanding of safety is also apparent. This demonstrated their working without fear of adverse consequences to self-image, status, or career. The employee also enjoys the availability of the physical, emotional, and psychological resources necessary for investing in-role performance. These elevated levels of meaningfulness, safety, and

availability result in a high level of engagement typified by a high level of vigour, dedication, and absorption.

Increased vigour, meaning a high level of energy and mental resilience while working, willingness to invest time and efforts in one's work, and maintain persistence even in the face of difficulties. High dedication meaning strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. High absorption representing employees are concentrating and deeply engrossed in one's work and feeling a sense of flow while working.

Consequently, employees can achieve task performance, OC, OCB, health, and wellbeing because they have a sense of possessing the physical, emotional, and psychological resources necessary to invest themselves in their jobs. In the meantime, organisational outcomes may be increased and result in team performance, organisational outcomes, financial returns.

In Smart Nation, work engagement antecedents take centre stage, driven by the key cognitive competence of foresight and strategic thinking leading to desired outcomes at the individual and organisational levels. The participatory, bottom-up driven ideas/initiatives and the increased engagement, supported by a shared vision and engaging leadership, results in collective organisational engagement, higher productivity, significant economic growth, and sustainable competitive advantage.

Smart nation: Outlook

What a quantum leap for a nation, but not without trouble. Freedom of speech and association comes with responsibility and accountability. The government efforts to promote equity and equality means a cultural change, a slow process that requires education to promote tolerance, compassion, and inclusiveness.

6.7   SUMMARY OF SCENARIOS

Table 6-1 provides a summary of the scenarios discussed and the associated uncertainties and variables. The four scenarios portrays a base line scenario and three alterative ones for the future of work engagement in Singapore by 2030. The uncertainties that constituted the building blocks of the 2030 four scenarios and reflected the interrelationship that was established by the study in Section 5.3.4 were listed for each scenario. Furthermore, the foresight, strategic thinking, and leadership

variables were defined as variables. Finally, the engagement individual and organisational outcomes were also defined.

Table 6-1 Summary of scenarios

	Variables & Uncertainties	Smart City	Ivory Tower	Shangri La	Smart Nation
Uncertainties	High impact and high uncertainty drivers of change	-Globalisation -Immigration	-National income at risk -Trade protectionism -Security breaches	-National politics -Ethnic tension -Social conflict -Leadership change -Mentality change	-Social sustainability -Industrial relationship
Foresight: Capability	Orientation to time	Present	Past	Future	Present Past Future
	Foresight Style	Adapter	Reactor	Tester	Framer Tester
Strategic Thinking Capabilit	Strategic Thinking Style	Analytical	Analytical	Conceptual	Conceptual Analytical
Leadership	Delivery Style	Directive	Directive	Participatory	Participatory
Engagement Outcomes	Individual	Task Performance Stress and strain Intentions to leave	Stress and strain Burnout Intentions to leave	Job satisfaction Organisation citizenship	Task performance Job satisfaction Organisation commitment Organisation citizenship Extra role performance Health and wellbeing
	Organisational	Team-task performance Short term financials	Entropy increases, Things lose order. Teams left to their own devices; performance will become less structured. Silos, disintegrated workforce Low productivity & poor/short term financials	Team innovation Team-task performance Short term financials	Team-task performance Team innovation Organisational performance Competitive advantage High-performance teams Financial returns Growth and development

Source: Developed for this research

6.8   CONCLUSION

This chapter has presented scenarios for the possible future of work engagement in Singapore by 2030. The data sources and methods for developing the scenarios have been specified. The basis for developing the scenarios include the results of a convergent parallel mixed methods research design. The quantitative and qualitative data sources informed the Delphi study. Delphi sought to validate and triangulate the quantitative and qualitative data while also collecting data to develop the scenarios.

In developing the scenarios, A PESTEEL analysis that included the Delphi results were combined with the foresight and strategic thinking capability profiles, the leadership delivery style profile, and the engagement dimensions and outcomes (individual and organisational) as inputs into the scenario development process. The process included four clusters of uncertainties deemed appropriate for internal consistency purposes, as detailed in Section 5.3.4.

In addition, the four scenarios were positioned on the scenario matrix based on the four continuums that represent the scenario variables: the drivers of change (favourable-unfavourable), the Strategic leadership capabilities of foresight and strategic thinking (less balanced-more balanced), and the leadership delivery style (directive-behavioural), and work engagement (low-high). Four scenarios were developed: Smart City, Ivory Tower, Shangri La, and Smart Nation. The narrative of each scenario was structured to reflect key research areas of strategic leadership, strategy practice, leadership practice, environmental forces, work engagement and scenario outlook. The scenarios were developed as impactful narratives aimed to inform decision making and policymakers.

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Chapter 7: Conclusion

7.1 INTRODUCTION

This thesis sought to report on a work-based research study investigating the possible futures of work engagement in Singapore by 2030. Work disengagement is a challenge that many leaders are experiencing and are struggling to address in workplaces throughout the world (Bartels & Jackson, 2020; McCrae, 2020). Despite the increased interest in work engagement and how it predicts organisational outcomes, it has been reported that work engagement is on the decline (Aon, 2017). Gallup (2017) reported 23 % of Singaporean employees were engaged in the workplace, and 77% were either not engaged or actively disengaged (Gallup, 2017).

As a researcher, I am a professional leadership coach and a management consultant. I have forty years of corporate experience, with twenty-five years of strategic leadership experience, in large corporations and later as a managing partner in a consulting firm in Singapore. I undertook this purposive research to inform the professional practice and the body of knowledge in addressing the socioeconomic implications of low levels of work engagement in Singapore. Particularly in defining the role of strategic leadership in influencing work engagement.

Strategic leadership theory posits that organisational outcomes are reflections of the organisations' top leaders' characteristics and abilities. The theory suggests that these characteristics and abilities can be used as proxies to determine, to some extent, how an organisation's outcomes will turn out in the future. Studies also suggest that work engagement is related to desired organisational outcomes, including organisational commitment, citizenship behaviour, employee well-being, profitability, and competitive advantage. In addition, the literature acknowledges the effect of the environmental conditions on strategic leadership and work engagement.

The researcher undertook an environmental scan to identify the drivers of change and trends that may impact work engagement. The study developed a conceptual framework that integrated strategic leadership, work engagement, environmental drivers of change, individual outcomes, and organisational outcomes to inform the research methodology of this futures research study.

The study sought to develop a rigorous futures research methodology and design (Chapter 3) incorporating a foresight process. The study adopted a convergent parallel mixed method research design consisting of a quantitative strand (FS and ST profiles) and a qualitative strand (Chapter 4: PESTEEL analysis) and converging these into a Delphi study which sought to validate and triangulate the findings toward the development of scenarios. A scenario development process was followed (Chapter 5) using a modified four quadrant matrix approach (Section 3.6.3) in order to present the possible futures of work engagement in Singapore by 2030 (Chapter 6). This chapter presents the conclusions of the study, its contributions, limitations, and reflections of the researcher. Figure 7-1 illustrates the contents of this chapter.

Figure 7-1 Chapter 7 - structure
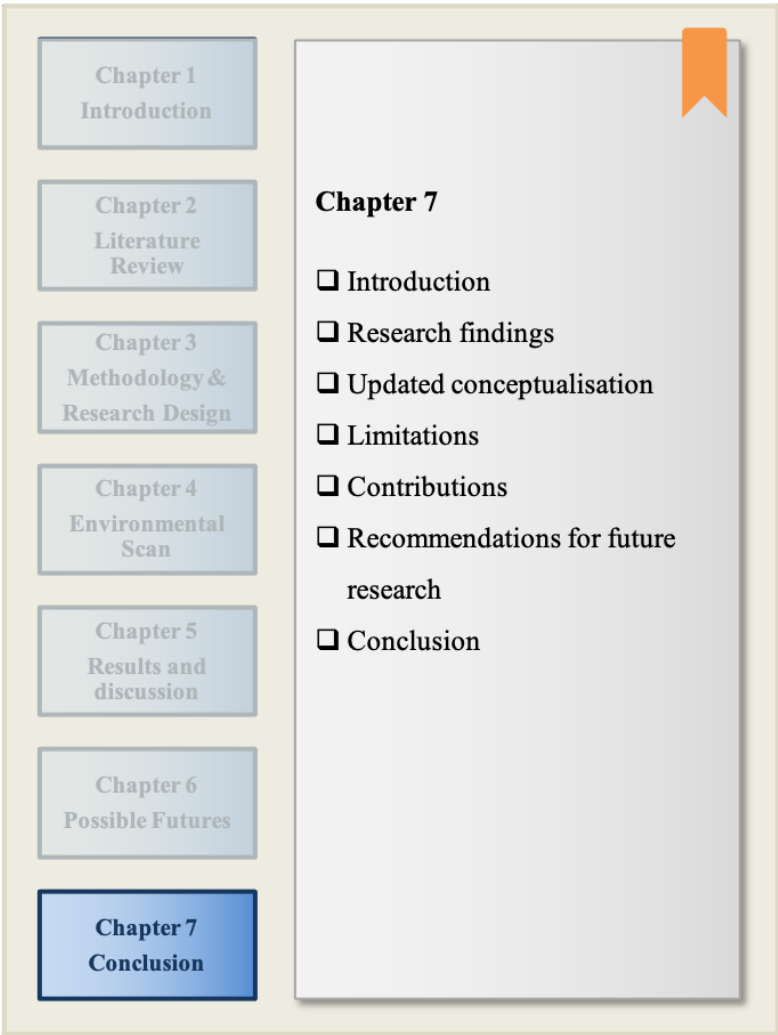
Source: Developed for this research

7.2 RESEARCH FINDINGS

7.2.1 Introduction

This research was based on a line of inquiry focused on state of work engagement and its futures in the Republic of Singapore by 2030. The overarching research question informed the research:

What are the possible futures of work engagement in Singapore given the strategic leadership capabilities of foresight and strategic thinking of leaders, and the drivers of change, by 2030?

In answering the overarching research question, the study sought to answer five research questions. These were arranged in terms of four research streams. First, a literature review of the strategic leadership and engagement theories determines if foresight and strategic thinking related to work engagement. Second, an environmental scan to determine drivers of change, trends and wildcards in Singapore that may influence work engagement. Third, the analysis of data of strategic leaders in Singapore to assess their cognitive capabilities of foresight and strategic thinking. Fourth, a scenario development process to determine the possible futures of work engagement in Singapore by 2030.

The following sub-questions and propositions guided the research streams:

RQ1: Is strategic leadership associated with work engagement?

RQ2: What are the drivers of change that impact the futures of work engagement in Singapore?

RQ3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?

RQ4: Are the foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?

RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities of Singaporean leaders?

7.2.2 Research Question 1: Is strategic leadership associated with work engagement?

P1: Strategic leadership is associated with work engagement

The first research question considers whether strategic leadership (SL) is associated with work engagement. The study proposed that the capabilities of foresight and strategic thinking of strategic leadership are associated with work engagement within the context of organisational strategy and leadership. Phase one of the study addressed the first research question in a literature review.

The initial conceptual framework (Figure 1-1) portrayed strategic leadership as an independent variable that affects organisational outcomes as dependent variables, with engagement as a mediating variable and the environmental drivers as moderating variables. Figure 7-2 illustrates a modified conceptual framework based on a review of the literature and the results of a Delphi study. A review of the extant literature identified foresight and strategic thinking as relevant cognitive capabilities that may serve as proxies that are reflective of work engagement and by extension organisational outcomes. This finding is tentative and has limitations. However, it is suggested that there is sufficient evidence from the literature and Delphi study to suggest that the relationships proposed by the conceptual framework are a valid conclusion of the study requiring further confirmatory research.

Figure 7-2 Modified Conceptual framework
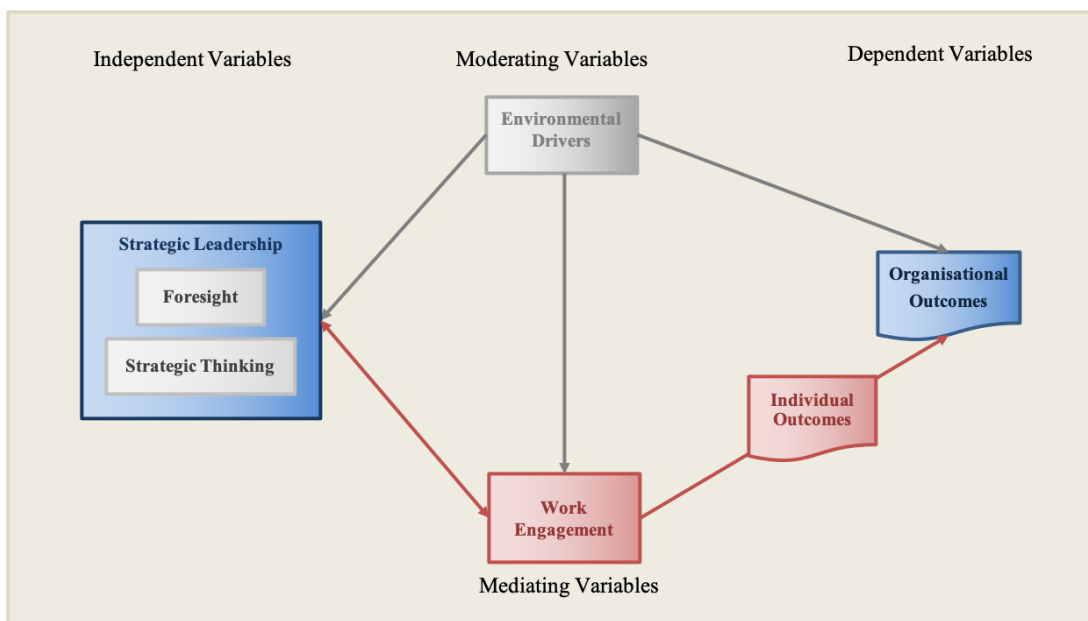
Source: Developed for this research

The figure illustrates the relationship between foresight and strategic thinking capabilities as independent variables mediated by work engagement. Engagement can inform the foresight and strategic thinking of leaders, as highlighted earlier. In addition, the moderating variable of environmental drivers can influence strategic leadership and organisational outcomes (Abatecola & Cristofaro, 2018; Finkelstein et al., 2009; Hambrick & Mason, 1984) and work engagement (Hameduddin, 2021). Finally, the study added individual outcomes (Bakker, 2017; Farndale et al., 2014; Joo et al., 2016; Kao et al., 2021; Saks, 2006, 2019) because individual outcomes would collectively inform organisational outcomes (Albrecht et al., 2015; Fischer et al., 2020; Kao et al., 2021; Tian et al., 2021).

7.2.3 Research Question 2: What are the drivers of change that impact the futures of work engagement in Singapore?

P2: Environmental drivers of change are associated with the futures of engagement in Singapore and can be defined

Phase two of the study included a desktop environmental scan. Using the PESTEEL analysis framework identified several drivers of change under the dimensions of political (29 drivers), economic (27 drivers), social (32 drivers), technological (15 drivers), environmental (17 drivers), ethical (23 drivers) and legal (13 drivers). In phase four, the study included a Delphi panel to triangulate and validate the PESTEEL findings. Delphi round one, two and three validated and expanded the PESTEEL analysis, which resulted in identifying drivers of change (trends and megatrends – Figure 7-3) and uncertainties (high impact and high uncertainty drivers – Figure 7-4).

Figure 7-3 Drivers of change – Trends and megatrends
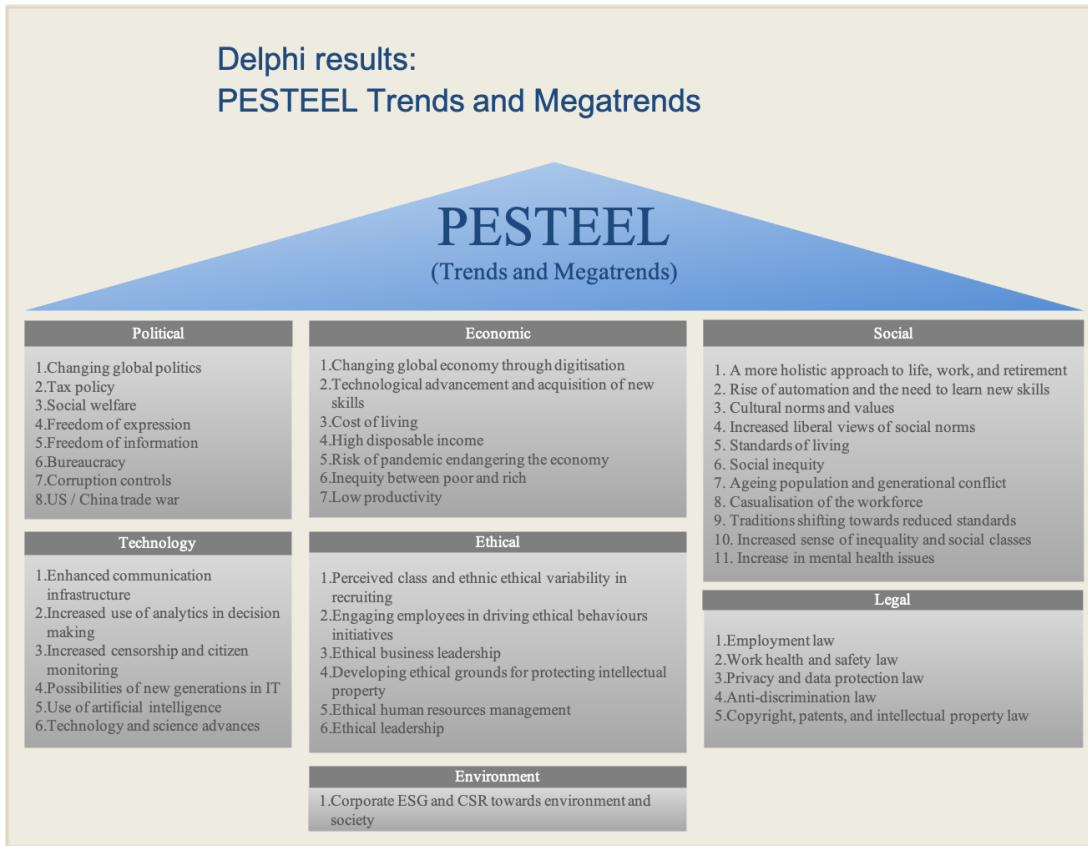
Source: Developed for this research

Figure 7-3 illustrates the drivers of change (trends and megatrends) and Figure 7-4 illustrates the uncertainties or wildcards (high impact and high uncertainty drivers).

Figure 7-4 Drivers of change - uncertainties
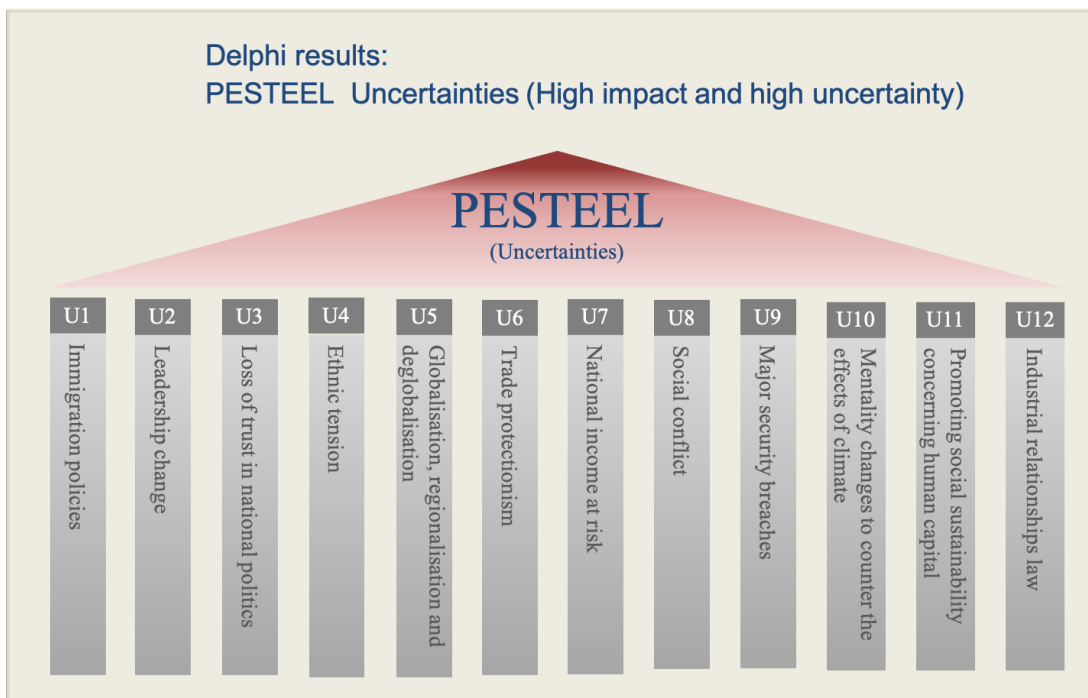
Source: Developed for this research

7.2.4 Research Question 3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?

P3: Foresight and strategic thinking cognitive capabilities of strategic leaders in Singapore are validated using the foresight and strategic thinking constructs operationalised by van der Laan (2010, 2016) as derived from the TimeStyle Inventory, Foresight Styles Assessment and Decision Style Inventory.

The foresight and strategic thinking capabilities have been previously operationalised by van der Laan (2010, 2013, 2016) and found to be valid and reliable measures of the constructs within the context of organisational strategy. The empirical results of this study, based on the measures described in chapter 3, include a relatively large sample and good EFA and reliability analysis results. As such, while the results cannot be generalised to include all strategic leaders of Singapore, it is a valid and reliable indication of what may be characteristics of the broader strategy level leader population. The limitations of these results are discussed below.

The foresight capability of leaders was operationalised as a latent variable made up of a leader's orientation to time and foresight styles. The results of this study suggest that the sample Singaporean leaders had a dominant orientation to the present. The "Present" orientation to time suggests that leaders and their organisations have stepped out of time while stayed focused on 'getting things done. They do not consider the essential dimensions of the past and futures to the same degree as their focus on the present. Leader cognitions are focused on operational matters and tactical plans, occupied with daily tasks, and the organisation resources are directed to current priorities. Leaders are characterised by organised thinking. The idealised profile for individuals' orientation to time would include equal orientation to the past and present, and slightly increased orientation to the future thinking; they can foresee environmental changes, recall past knowledge and experience to reflect and contemplate to reduce risks associated with current and future drivers of change, and stay focused on the big picture and always envisage infinite future possibilities (van der Laan & Yap, 2016).

Similarly, the leaders had a dominant foresight style of "Adaptor". The "Adapter" style suggests that leaders and their organisations are trying to balance multiple challenges and choices, and they adjust to future demands as needed. They

activate action accordingly and try to help and influence others to adapt. Leaders are characterised by flexibility, change orientated, and influencing others. The idealised profile for individuals' foresight style would display strong tendencies toward the Tester and Framer styles; they define future alternatives and embrace new trends while testing new solutions and innovations to address long-term challenges (van der Laan & Yap, 2016).

The strategic thinking dimensions of analytical and conceptual thinking styles were operationalised as one-factor congeneric variable. The strategic thinking capabilities of leaders in Singapore indicated a dominant orientation to analytical thinking. The "Analytical" style suggests that leaders and their organisations have maintained their focus on analysing the current problems and assuming a hypothesis approach towards solutions. Leaders are driven by their strategic intent and strive to maintain a systems perspective. They require control of resources and apply persuasion in their approaches. The idealised profile for individuals' strategic thinking would display strong tendencies toward the Conceptual and Analytical styles; they embrace a disciplined and holistic task of analysis and creative thinking. They are intent-focused, hypotheses-driven, and immersed in a systems perspective to contextualise the organisation within its purpose and appetite for risk. Conversely, the leaders are open to short-term opportunities and the initiation of new ideas. A primarily balanced conceptual and analytical strategic thinking style achieve a good strategy (van der Laan & Yap, 2016).

The Delphi panellists confirmed that the profiles represent a cross-section of the strategic leadership in the city-state.

7.2.5 Research Question 4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?

P4: Time Orientation style of strategic leaders is associated with work engagement

P5: Foresight style of strategic leaders is associated with work engagement

P6: Strategic thinking style of strategic leaders is associated with work engagement

The study findings related to the propositions underpinning this research question are tentative and primarily based on the Delphi study findings. As such, the

results are limited in terms of reliability but do justify conclusions that in terms of the exploratory intent of the study. These findings would certainly require further confirmatory research in order to confirm or reject these conclusions.

The study identified a set of engagement propositions for the engagement dimensions of vigour, dedication, and absorption. The propositions are statements describing the most appropriate level of engagement for each engagement dimension in response to the leader's profile of foresight and strategic thinking capabilities.

The dominant "Present" orientation to time suggests work engagement is likely to be higher based on the "Vigour" (behavioural) aspect of work engagement (e.g., being physically invested to achieve short-term targets). The findings indicate that the "Absorption" (cognitive) aspect (e.g., being able to relate to and be immersed in the purpose and meaning of their work) and "Dedication" (emotional) part (e.g., enthusiasm and motivation derived from a sense of purpose and direction) of engagement in Singapore are likely to be reduced.

The dominant foresight style "Adapter" suggests work engagement is likely to be higher based on the "Vigour" (behavioural) aspect of engagement (e.g., being focused on adjusting to new situations and multiple challenges). The findings suggest that the "Absorption" (cognitive) aspect (e.g., being able to have the space to think creatively) and "Dedication" (emotional) part (e.g., excitement derived from a sense of innovation and growth) of engagement likely to be reduced. It is proposed that some response bias has led to a lower reactor style and informed a higher adaptor style. Therefore, it is likely that the sample's Tester style is a backup style but as a last resort.

The dominant strategic thinking "Analytical" style suggests work engagement is likely to be higher based on the "Vigour" (behavioural) aspect of engagement (e.g., being focused on problem-solving and data analysis). The findings indicate that the "Absorption" (cognitive) aspect (e.g., envisioning the future and participating in its creation) and "Dedication" (emotional) aspect (e.g., inspiration derived from a vision) of engagement are likely to be reduced.

The Delphi panel confirmed the suitability of the engagement propositions associated with TSI, FSA, and DSI as proposed by the study.

7.2.6 Research Question 5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?

P7: Work Engagement is associated with individual outcomes

P8: Work Engagement is associated with organisational outcomes

P9: Foresight, strategic thinking, leadership delivery styles, are associated with engagement dimensions and outcomes in Singapore.

The study developed a relational table to extend the work engagement propositions in relation to the foresight, strategic thinking styles, leadership delivery style, work engagement dimensions, individual outcomes, and organisational outcomes (Section 5.3.4). These were developed to inform the development of scenarios as a response to the overarching research question.

Table 7-1 summarises the study findings regarding the identified engagement antecedents of foresight, strategic thinking, and leadership delivery style in relation to work engagement, and individual and organisational outcomes, as triangulated and validated by the Delphi panel.

Table 7-1 Engagement dimensions and outcomes

Cognitive Abilities		Work Engagement Dimensions	Individual Outcomes	Organisational Outcomes
Foresight Capability: Orientation to Time	Dominant Past (Risk reduction and critical evaluation)	Low Dedication	Task performance Stress and strain Burnout Intentions to leave	Entropy increases, Things lose order. Teams left to their own devices; performance will become less structured.
	Dominant Present (Planning and implementation)	Vigour	Job satisfaction Task Performance	Team-task performance Short term financials
	Dominant Future (Generative and imaginative)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Extra role performance	Team innovation Organisational performance
Foresight Capability: Foresight Style	Dominant Adapter (Change agent)	Vigour	job satisfaction Task Performance Stress and strain Burnout Intentions to leave	Team performance Short term financials
	Dominant Framer (Transformation, visionary)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance Extra role performance Health and wellbeing	Team performance Team innovation Financial returns Organisational performance Competitive advantage
	Dominant Tester (Opportunistic)	Vigour and Dedication	Job satisfaction Task performance Burnout	Team performance Short term financials

	Dominant Reactor (Resistance to change)	Low Vigour	Stress, Strain Burnout Intention to leave	Silos, disintegrated workforce Low productivity & poor financials
Strategic Thinking Capability	Analytical (Logical, abstract thinker)	Vigour	Job satisfaction Organisation commitment Task performance Burnout	Team-task performance Short term financials
	Conceptual (Creative, future, system thinker)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance Extra role performance Health and wellbeing	Team performance Team innovation Financial returns Organisational performance Competitive advantage
Leadership Delivery	Directive (Authoritarian)	Vigour	Task performance Stress, Strain & Burnout Intention to leave	Team-task performance Short term financials
	Behavioural (Participatory)	Dedication and Absorption	Job satisfaction Organisation commitment Organisation citizenship Task performance / Extra role performance Health and wellbeing	High-performance teams Team innovation Financial returns Organisational performance Growth and development

Source: Developed for this research

7.2.7 What are the possible futures of work engagement in Singapore given the strategic leadership capabilities of foresight and strategic thinking of leaders, and the drivers of change, by 2030?

The overarching research question was answered in the form of four scenarios that illustrated an expanded view of possible futures of work engagement in Singapore by 2030. The primary purpose of the scenarios is to present a range of possibilities that can inform decision making and policymakers in the city-state (Figure 7-5). The scenarios were presented and detailed in Chapter six and based on the matrix below. This section only presents a summary of each scenario.

Figure 7-5 Scenario matrix
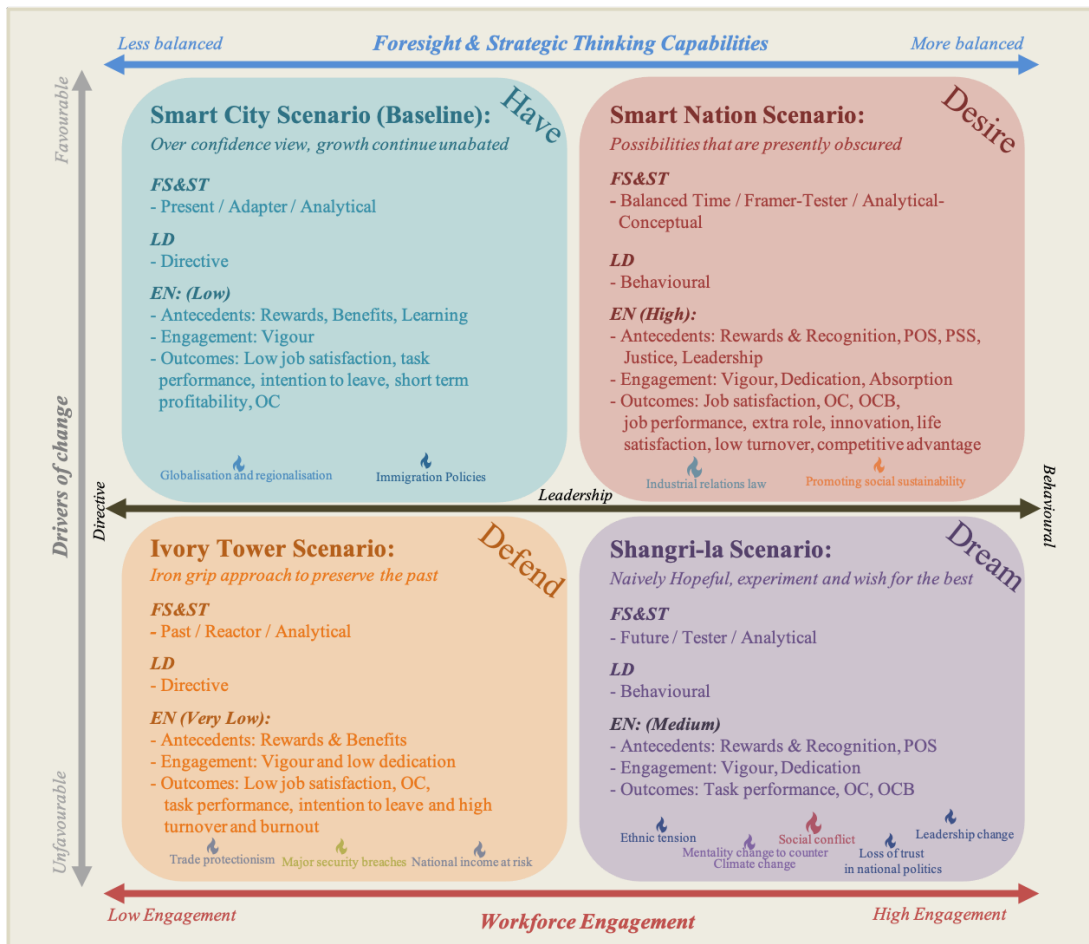
Source: Developed for this research

Scenario one: Smart City

The Smart City Scenario (Section 6.3) reflects the current identity of Singapore as specified by the government. It is the most probable future and reflects the current de facto position of Singapore. An authoritarian political system combines effective governance with a limited democratic rule while enforcing law and regulations. A system focused on the materialistic development of the country infrastructure and technological applications in government services, transportation, security, and financial system. Conversely, the same level of advancement did not catch up with social development, human rights, and human resources as a core asset for the nation. A sentiment of overconfidence that development and growth continue unabated resulted in a scenario focusing on maintaining what we **"HAVE"** as a nation.

The Smart City leaders are orientated towards the present and focused on getting things done. They adapt to future demands while balancing multiple challenges. They apply an analytical approach to solve problems and conduct a careful analysis to make

decisions. Leaders are directing their strategic focus towards tangible assets to enhance the city-state entrepot status and its position as a global financial centre, with less emphasis on human resources.

Work engagement is generally low. This is further associated with low productivity and has a negative economic impact. Employees may achieve task performance and a degree of organisation commitment but lack purpose and a sense of safety. In addition, the intention to leave for a better prospect and rewards leads to high skills turnover and is a national concern. As a result, organisational outcomes are reduced to task performance and short-term financial gains.

Scenario two: Ivory Tower

The Ivory Tower Scenario (Section 6.4) reflects the potential for the global economy to stall, and leaders refuse to accept; instead, they apply an iron grip to preserve the national wealth and shield the past success against the forces of change. A dystopian outlook of the future. The government use strict controls while enforcing the rule of law, provide minimum social services, which doesn't address the welfare of the people. Leaders want to preserve the past, which resulted in a scenario that focuses on *"DEFEND" what we had*

Leaders are risk-averse and reactive in dealing with current events. They apply careful analysis to make decisions, leading to paralysis by analysis syndrome. The leaders' approach is highly autocratic, with a clear separation between the leader and subordinates. Leaders continue their focus on tangible resources while talent is becoming mobile and finding its way to where it can flourish.

Work engagement is low, so is productivity which has a significant negative economic impact. Subsequently, intention to leave, mental health issues, wellbeing, and physical health may result in adverse outcomes. In the meantime, organisational outcomes may be reduced and lead to lower performance, lower profitability and reduced competitive advantage.

Scenario three: Shangri La

Shangri-La Scenario (Section 6.5) is a product of a long cycle of prosperity, under an autocratic regime, with less emphasis on human rights, employee rights and democracy. It results in ethnic tension, social conflict, and loss of trust in national politics leading to an unplanned transition from authoritarianism to democracy.

Utopian outlook of being hopeful but without results, an illusion of activity and productivity muddled together without a clear vision or goals, a permanently happy land, isolated from the world. Leaders are primarily focused on people, open to ideas and maintain a high level of optimism in their decision-making approach. A sentiment of being naively hopeful, where leaders experiment and wish for the best, resulted in a scenario that focuses on **"DERAM"** *that tomorrow will be better.*

Leaders remain orientated towards the future and focused on people's aspirations. They are open to short-term opportunities and the initiation of new ventures and encourage people to experiment.

Work engagement at Shangri la is typified by a high level of energy and mental resilience. Consequently, employees can achieve task performance, OC, OCB, health, and wellbeing. In the meantime, organisational outcomes may be increased and result in team performance, organisational outcomes, financial returns. But, on the other hand, the participatory, bottom-up driven ideas/initiatives, and the increased engagement, accompanied by a sense of complacency on the leadership end to guide a clear vision, may lead to an engaged workforce, highly active and not productive.

Scenario four: Smart Nation

The Smart Nation Scenario (Section 6.6) has a shared identity where all the participants (citizens, corporations, government) come together under a unified and shared vision that they subscribe to and accept. This is primarily due to shared values of equity and equality that started to take place in society. The Smart Nation is a sentiment of exploring the images of futures worth realising and possibilities that are presently obscured resulted in a scenario that focuses on what we **"DESIRE"** *to be.*

The Smart Nation realise that the foundation of economic and environmental sustainability is social sustainability. The government vision for Singapore to be a nation where people live all citizens are experiencing meaningful and fulfilled lives.

Leaders balance past learning, present needs, and future aspirations. They define future alternatives and embrace new trends while testing new solutions and innovations to address long-term challenges. Leaders embrace a disciplined and holistic task of analysis and creative thinking of to maintain clear and purposeful direction.

Employees in the Smart Nation experience unprecedented levels of work engagement. Consequently, employees can achieve task performance, OC, OCB, health, and wellbeing because they have a sense of possessing the physical, emotional, and psychological resources necessary to invest themselves in their jobs. In the meantime, organisational outcomes may be increased and result in team performance, organisational outcomes, innovation, competitive advantage, financial returns, growth, and development.

A quantum leap for a nation, but not without trouble. Freedom of speech and association comes with responsibility and accountability. The government efforts to promote equity and equality means a cultural change, a slow process that requires education to promote tolerance, compassion, and inclusiveness.

7.2.8 Summary conclusions to research questions

This study examines the interplay between strategic leadership and organisational outcomes with work engagement as the mediating variable and drivers of change as the moderating variables. The research aimed to *investigate the possible futures of work engagement in Singapore, by 2030, based on the strategic leadership theory and work engagement theory association.* The objectives of this study are:

1. To investigate the links between strategic leadership theory and work engagement theory in defining the constructs relevant to the study.

2. To develop a conceptual framework that integrates strategic leadership, work engagement and organisational outcomes to inform the research methodology.

3. To specify a rigorous research design and informing a structured scenario development process.

4. To identify the environmental drivers for change pertained to work engagement in Singapore by 2030.

5. To apply empirical measurements of strategic leadership capabilities (foresight and strategic thinking) associated with work engagement and individual and organisational outcomes.

This was achieved using a literature review, PESTEEL analysis, leaders' profile survey, Delphi study and scenario development process. A summary of the propositions and their perspective results are presented accordingly in Table 7-2.

Table 7-2 Summary of research propositions and results

Research Question	Research Propositions	Evidence	Results
RQ1: Is strategic leadership associated with work engagement?	*P1: Strategic leadership is associated with work engagement*	Literature review	Supported
RQ2: What are the drivers of change that impact the futures of work engagement in Singapore?	*P2: Environmental drivers of change are associated with the futures of engagement in Singapore and can be defined*	PESTEEL analysis, validated and triangulated by Delphi panel	Supported
RQ3: What are the foresight and strategic thinking capabilities of strategic leaders in Singapore?	*P3: Foresight and strategic thinking capabilities of strategic leaders in Singapore are validated using the TimeStyle Inventory, Foresight Styles Assessment and Decision Style Inventory*	Survey results, validated and triangulated by Delphi panel	Supported
RQ4: Are foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement?	*P4: Time Orientation style of strategic leaders is associated with work engagement* *P5: Foresight style of strategic leaders is associated with work engagement* *P6: Strategic thinking style strategic leaders is associated with work engagement*	Literature review Delphi panel	Conditionally Supported
RQ5: What are the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery style of Singaporean leaders?	*P7: Work engagement is associated with individual outcomes* P8: Work engagement is associated with organisational outcomes *P9: Foresight, strategic thinking, leadership delivery style are associated with engagement dimensions and outcomes in Singapore*	Literature review Delphi panel	Conditionally Supported

Source: Developed for this research

7.3   UPDATED CONCEPTUALISATION

The purpose of the study was to develop and validate a conceptual framework to inform the research methodology. The conceptual framework was developed and

presented in section 2.11.3. It was based on the assumptions of the initial conceptual framework (Figure 1.1). A review of the extant literature was able to provide theoretical support for the constructs based on the study theoretical framework (Figure 2-24). The study conceptualised strategic leadership in terms of strategy and leadership practice, specifically key capabilities of foresight and strategic thinking, in addition to the psychological conditions and antecedents responsible for work engagement to define the various links between the two theories. The theoretical framework provided the necessary support to develop the conceptualisation and operationalisation of this study. The convergent-parallel mixed method was used to validate the relationships implied by the research propositions, as illustrated in the updated conceptualisation framework (Figure 7-6).

Figure 7-6 Updated Conceptualisation framework
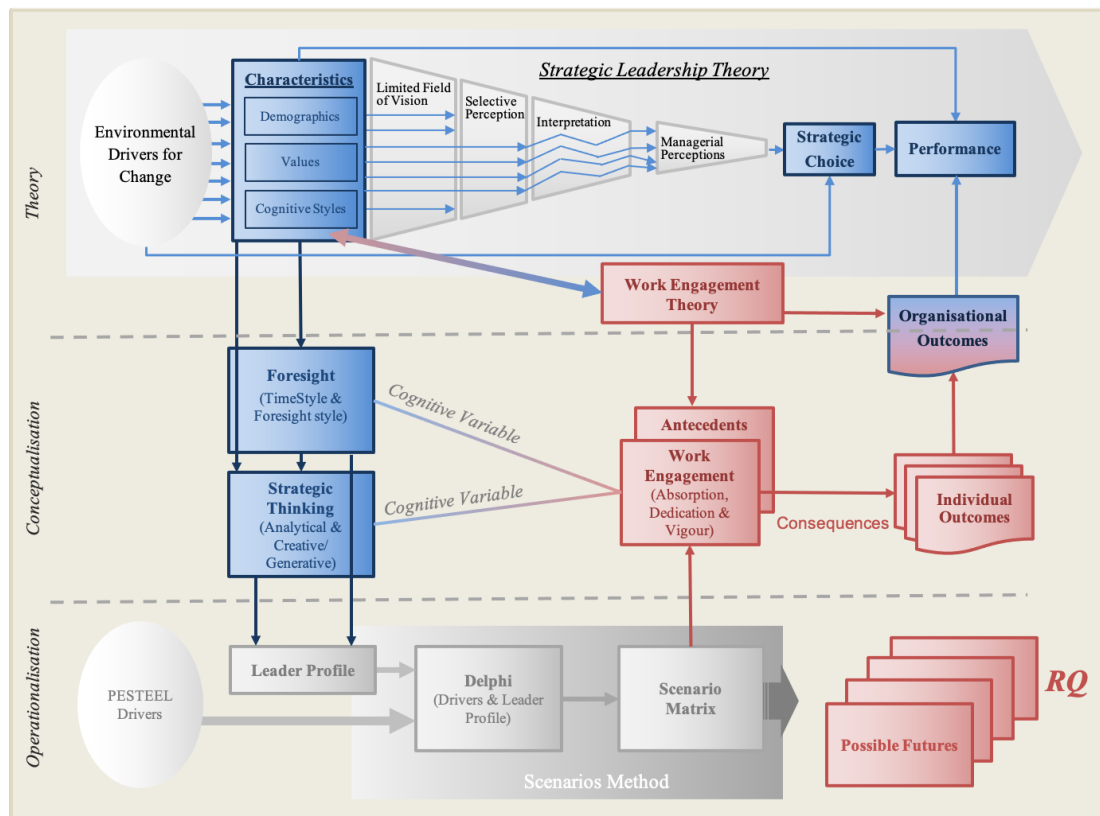
Source: Developed for this research

The framework highlights the links between the foresight and strategic thinking constructs and work engagement as a mediating variable to individual and organisational outcomes.

7.4 LIMITATIONS

The theory has a central role in this study (Section 2.11.1), yet the study is highly exploratory. The aim of this work-based research study was to conduct a rigorous futures study to investigate the possible futures of work engagement in Singapore by 2030. The outcome of the study included theoretical evidence from the extant literature (Chapter 2), identifying and validating environmental drivers of change and wild cards (Chapter 4 and 5), identifying the likely engagement dimensions, individual outcomes, and organisational outcomes associated with the foresight and strategic thinking capabilities, and the leadership delivery styles of Singaporean leaders (Chapter 2 and 5), and culminating in the development of scenarios (Chapter 6).

This exploratory study was underpinned by a convergent parallel mixed methods research design in order to present an evidence-based outlook of the possible futures of work engagement in Singapore by 2030. This research is conditioned by the limitations of the data sources obtained for this research, the methods applied in data analysis, and the findings from the study.

Theory

The study aimed to address the gap in the literature regarding whether foresight and strategic thinking capabilities of strategic leaders in Singapore an indicator of work engagement. In that regard, the study propositions are conditionally supported since theoretical conclusions could not be derived from the study due to a lack of generalisability. As such, while the study is justifiably exploratory, further research is required to confirm the finding as justification for theoretical advancement

Sample

The results of the leader's survey (Section 5.2) were obtained from a secondary dataset sample (n=330) using self-report scales. The most recognised limitation of the secondary data approach is that the data were collected for some other purpose, and the process of data collection may not be known to the researcher. Therefore, the conclusions drawn from this study may not be representative of the entire population of Singaporean leaders. However, the findings from this study remain significant as a valuable comparison to similar research conducted in other parts of the world.

Bias

The study relies on self-report scales. The literature identified potential problems derived from response bias and social desirability bias associated with impression management and self-deception (Zikmund 2003) which may lead to inaccurate self-reports and erroneous study conclusions (Latkin et al., 2017). Such limitations take place in both qualitative and quantitative methods.

For this reason, the survey design included questions that allowed the researcher to triangulate the responses and indicate obvious anomalies. However, the full impact of this bias resulting from self-reported data only cannot be eliminated (Leedy & Ormrod 2005).

Insider Researcher

The researcher is regarded as an "industry insider" in Singapore. The most significant advantage of insider research was the unique perspective of the research issue that enables a deep level of understanding and interpretation, which objective approaches may not be able to uncover. In addition, the researcher has access to participants and industry experts to draw on their understanding and experience that assists in the analysis and interpretation of data. Nevertheless, preconceived ideas, potential biases, the desire for positive outcomes are limitations that the researcher acknowledges. Furthermore, tacit patterns and regularities were not taken for granted to achieve rigour and trustworthy research.

PESTEEL

The results of the environmental scanning (PESTEEL analysis) were obtained from a desktop analysis by the researcher. Environmental scanning comprises information recognition and scanning, creating meaning, forecasting drivers of change that will impact work engagement. According to the literature review, limitations of the environmental scanning concerning the researcher overconfidence and risk underestimation can lead to forecast biases (Borges & Janissek-Muniz, 2018). Therefore, understanding and interpreting the answers from the environment may become biased if it is done by an individual. As such, the PESTEEL analysis formed a wide net of all the drivers of change detected in the scanning process. Which included sources from the scholarly literature, practitioner literature, government, and

international associations. The drivers of change were presented to the Delphi panel to triangulate and validate the findings.

Delphi

The study noted that the Delphi method has always been unconventional, for some not reliable (G. Rowe et al., 1991; Sackman, 1975), and for others valid and reliable (Afshari, 2019; Bañuls & Turoff, 2011; Hasson et al., 2000; Hasson & Keeney, 2011; Skaarup et al., 2017). The Delphi method has four sources of limitations: panel selection, questionnaire development, data analysis, and researcher bias. There are two main methods to overcome the limitations of the Delphi method. First, to validate the Delphi result's by means of triangulation, meaning complementing the Delphi with another research approach. Second, engage the knowledge and experience of subject matter experts (Afshari, 2019; Hasson & Keeney, 2011; McPherson et al., 2018). Section 3.5.5 outlined the strategy adopted to preserve acceptable levels of validity in the Delphi study and mitigate these limitations' effects.

Delphi study may record anomalies that do not stand the test of time (Franklin & Hart, 2007). Replicating a Delphi across different time frames and settings was not the purpose of this study. Instead, this research used the Delphi method to explore scenarios and ideas to enhance decision making and inform policymakers in Singapore based on the identifiable drivers of change. The expert panel is most suited to make comments about that change to provide the researcher with authenticity to his research that is not possible with other research methods (Franklin & Hart, 2007).

Qualitative research studies acknowledge social desirability bias as a limitation that may obscure the interpretation of findings (Larson, 2019), which was captured in the study with few responses that demonstrated excessively and repeated praise of the government initiatives despite the majority consensus to the contrary. The researcher acknowledges the reality of social responsibility bias and takes measures to account for it to strengthen the rigour and transparency of the qualitative research (Bergen & Labonté, 2020).

Replicating a Delphi across different time frames and settings was not the purpose of this study. Instead, this research used the method to explore scenarios and ideas to enhance decision making and inform policymakers in Singapore.

Regardless of the resources needed to complete a Delphi study, the method's benefits simply outweigh the costs and disadvantages if the researcher is studying a complex organisational phenomenon and require a structure to understand the phenomenon from an expert's input. Futures studies, by their very nature, are speculative and have no facts. However, constructivists interpretations of how the future may evolve, especially when based on empirical indicators, are a valid form of academic enquiry (Creswell & Poth, 2018; McPherson et al., 2018).

Futures Studies

By their very nature, studies concerned with the future are speculative and have no facts. They include speculative methods that rely on subjective views. This is not a normative inquiry. There are drivers of change about the possible futures of work engagement, but they require constant corrections as new data come to light. As such, the possible futures presented in Chapter 6 seek not to predict the future but rather to represent alternative possibilities based on empirical evidence from the past and present. Nonetheless, constructivists interpretations of how the future may evolve, especially when based on empirical indicators, are a valid form of academic enquiry (Creswell & Poth, 2018; McPherson et al., 2018).

7.5 CONTRIBUTIONS

Work engagement is declining, which is determined to have a negative socio-economic impact on organisational outcomes and national performance. The study engaged real-world "strategic leaders" in Singapore to conceptualise and operationalise this practical predicament. The study is primarily exploratory and partly descriptive. The contributions of the study are considered to advance current knowledge in the fields of futures studies, strategic leadership, and work engagement. They are categorised as contributions to practice, scholarship, and researcher. The following sections discuss the implications of the findings as they relate to gaps in the literature:

1. The relationship between strategic leadership and work engagement from a strategic leadership theory perspective.

2. The use of leader capabilities as proxies for predicting work engagement.

3. The use of strategic leadership theory to compliment futures research in developing scenarios of possible futures.

4. Research specific to the futures of work engagement in Singapore.

This study adopted a practitioner-engaged scholarship perspective (Narayanan & Zane, 2009). It sought to contribute to the practice and scholarship discourse related to strategic leadership and work engagement in informing the development of scenarios of work engagement. The study contributes to futures studies concerning foresight and strategic thinking capability and its impact on the futures of work engagement. The study also makes methodological contributions associated with the foresight process of developing scenarios by including strategic leadership theory as an empirical input. The study included strategic leadership theory and its related fields of strategy and leadership and the leaders' foresight and strategic thinking capabilities.

Strategic leadership theory (Finkelstein et al., 2009; Hambrick & Mason, 1984) has served as a catalyst for examining how executive's characteristics shape their perceptions and impact organisational outcomes. This study sought to gain a deeper understanding of the interaction effects between strategic leadership and organisational outcomes in exploring the "black box" of leadership effects (Wang et al., 2012), to study strategic leaders cognitions using validated psychometric measures rather than demographic proxies in understanding how they affect engagement processes (Abatecola & Cristofaro, 2018), to integrate conceptual approaches from related research streams in an inter-disciplinary framework in gaining a holistic understanding of the cognitions of strategic leaders in relation to engagement (Neely et al., 2020), and to explore the factors that influence employee reactions to executive actions (Hambrick & Lovelace, 2018). As a result, the study provides a better understanding of how strategic leadership is associated with work engagement and organisational outcomes.

7.5.1 Contribution to professional practice

Futures studies is a practice-orientated discipline. Its purpose is to broaden the scope of future possibilities by developing a range of feasible alternative futures that can inform decision-making, policy development, and a range of other actions in the present. As such, this study is principally concerned with contributing to practice related to the problem of declining work engagement in Singapore and likely more

broadly. The study enhanced the rigour of the research methodology by including more empirical evidence that is also predictive in nature (i.e., this study incorporated strategic leadership theory to complement futures research in the development of scenarios of possible futures). In addition, the scenario planning process incorporated the cognitive capabilities of foresight and strategic thinking as variables to complement the inputs to the foresight process in developing plausible scenarios. Consequently, the study produced the only known mixed-method research that explores the futures of work engagement in Singapore by 2030.

The principal contribution of this study is that while strategic leadership may be seen in the practice in Singapore, its effect is limited to traditional strategic planning, which is still predominantly controlled and formulated by the dominant coalition and typified by a rational strategy-making process. The study sample results indicate a predominantly top-down approach to strategy formulation. Such a classical approach to strategy making is confronted with environmental changes and increasing malleability and unpredictability on the global stage. Understanding the likely foresight and strategic thinking capabilities of leaders in Singapore represents a key opportunity for practitioners to enhance decision making, identify leader development foci, enable greater futures-orientation, and better inform public and private sector strategy making.

Professional Practice

- The PESTEEL analysis and the Delphi study of the work engagement environment in Singapore have not been conclusively reported before. The rigour of the environmental scanning process and triangulation with strategic leaders' perspectives in Singapore provides an unprecedented source of information upon which organisations and policymakers can inform their professional practice and future direction

- The modified scenario development process and scenario matrix (Figure 7-5) has not been reported before. The rigour in the development process to ensure internal consistency of the scenarios and the use of four variables on traditional two by two scenario matrix provide an additional resource that can inform the professional practice

- The theoretical and conceptual frameworks presented by this study have not been conclusively reported before; they highlight the theoretical links, the conceptualisation and operationalisation of this research and can inform the professional practice and future direction

Decision making and Policymakers

At both the organisational level and national level, the results of the leadership profile provide a benchmark. In addition, the profiles suggest certain focused areas of leader capability development that would enable greater engagement futures and organisational outcomes, while subject to limitations discussed in Section 7.4. This has the potential to inform business leaders and senior government leaders.

The PESTEEL analysis and Delphi study of Singapore in relation to work engagement have not been conclusively reported before. The rigour of the environmental scanning process and triangulation with strategic leaders in Singapore provides an unprecedented source of information upon which organisation (i.e., public, private and not for profit) can inform its professional practice and future direction.

The set of scenarios describing the possible futures of engagement in Singapore is arguably a valuable toolkit for strategic leaders and human resources functions. The evidence-based mapping of what leader capabilities are needed for the desired engagement state and favourable organisational outcomes can arguably inform strategic decisions at both organisation and national levels.

Consulting and Coaching practice

Being a work-based research study, the usefulness of this research is on transforming the research, academic, and theoretical contributions into usable, practical, and applied solutions to real-world problems. This study was borne out of the need to provide evidence-based insights into the possible futures of work engagement in Singapore compared to its current state and socio-economic effects.

Whilst many recommendations by practitioners have been made to reduce the declining work engagement in Singapore and the cost to the economy, the problem persists. This current research addresses recommendations to include a more rigorous and holistic focus on strategic leadership capabilities of foresight and strategic thinking in consulting and coaching advisory services. The study sought to inform practitioners of the identified capabilities of foresight and strategic thinking as engagement

antecedents, which are linked to engagement enabling behaviours. As an insider researcher and senior consulting executive in Singapore, the researcher was well-positioned to conduct this research and contribute to decision-making, policymakers, and professional practitioners.

Leadership recruitment and development

The study results provide evidence of the gaps between the idealised profiles and the current profile of foresight and strategic thinking of leaders in Singapore, representing an opportunity to inform futures leadership recruitment and development in organisations.

First, the identified measures that have been tested for validity and reliability could inform decision making in relation to the recruitment and development of senior leaders. Second, leadership development programs can be complemented with the insights gained from the study in developing the foresight and strategic thinking capabilities of leaders.

Engagement interventions

A key finding of this study was the influence of a selection of strategic leadership characteristics (foresight and strategic thinking capability) and leadership delivery style on work engagement (i.e., vigour, dedication, and absorption) that inform likely individual and organisational outcomes. Based on the study's findings, practitioners could develop interventions at the organisation level to further imbue the engagement psychological conditions through strategic leadership styles that foster work them. In addition, the study linked the different foresight and strategic thinking styles to employee attitudes and behaviours, including conditions of meaningfulness, safety, and availability (Table 2-12, Table 2-17, Table 7-1).

7.5.2 Contribution to scholarship

This work-based research is pragmatic in nature. The Doctor of Professional Studies (DPRS) programme is focused on making an original contribution to knowledge addressing real-world problems. The research presented evidence in the literature to support the conceptual relationships proposed by the study

The findings of this research tentatively support the theoretical framework (Figure 2-24). Furthermore, the study is the only known research investigating the indirect influence of strategic leadership on organisational outcomes by incorporating

external environmental factors and work engagement as moderating and mediating variables, respectively. This section highlights the study key theoretical contributions to the scholarly literature.

Integration of theories

This study integrated the strategic leadership theory and the work engagement theory based on two cognitive characteristics: foresight and strategic thinking. The study produced a summary of all the prominent studies in Table 2-17. This study adopted Saks (2006, 2019) findings that work engagement (i.e., dedication, vigour, and absorption) partially or fully mediated the relationships between antecedents' variables and the individual outcomes. Furthermore, the study adopted the organisational outcomes suggested by Albrecht et al. (2015), as they relate to individual outcomes, as part of the underpinning theoretical links between the engagement theory and organisation outcomes (Figure 2-21).

The study suggests a relationship between leaders' cognitive abilities of foresight and strategic thinking and work engagement dimensions of dedication, vigour, and absorption (Table 7-1). In the context of this study, Table 7-1 presented an integrated view of the cognitive styles of FS and ST as antecedents for work engagement in conjunction with individual and organisational outcomes, which was validated and updated by the Delphi panel.

This contribution is subject to the study's limitations, requires further peer review and future research to establish empirical evidence of the relationship beyond the qualitative nature of the evidence produced by this study.

Advancing futures research

This study is a futures research study. It adopted an overarching foresight methodological process and followed a traditional scenario development approach, including a PESTEEL analysis and Delphi study. The study identified foresight and strategic thinking as new work engagement antecedents.

The study contributes to the futures studies methodology by including strategic leadership theory based on its predictive value. The study further validated van der Laan's (2010) operationalisation and measurement of foresight and strategic thinking capabilities that provide an empirical input into the foresight process and research design. It is suggested that this is a unique contribution to futures studies methodology.

Further, the study expanded the traditional PESTEL analysis framework to include an Ethics dimension, thus referring to the framework as a PESTEEL analysis. Other than similar doctoral studies at USQ, this is suggested to be a unique contribution

Work engagement futures

The study is the first known study investigating work engagement futures. Specifically, no known work engagement futures research was identified for Singapore. It may be possible that historical work engagement data has been modelled using statistical forecasting techniques, but these were not identified

Work Engagement as an organisational capability

This study contends that improved organisational outcomes are related to the strategic leadership characteristics of foresight and strategic thinking capability as it relates to work engagement (i.e., vigour, dedication, and absorption). Accordingly, the study makes the tentative conclusion that Organisational Work Engagement (OWE) can be strategically developed as a capability (Figure 7-7).

Figure 7-7 Organisational Work Engagement
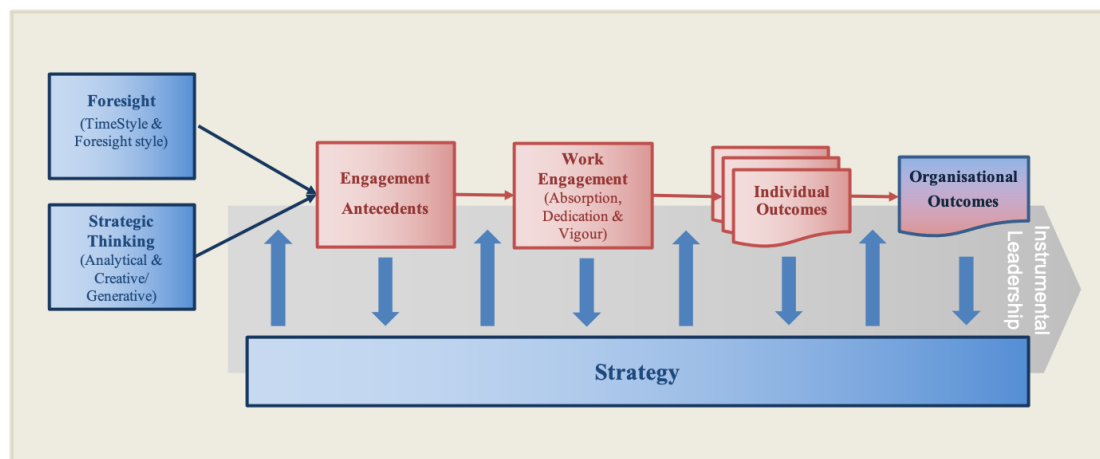
Source: Developed for this research

7.5.3 Contribution to researcher

The study presented a developmental learning opportunity for the researcher towards developing a scholarly and holistic practitioner and individual through acquiring skills and knowledge related to his line of practice. The contribution to the researcher included the following areas

1. Communication skills (written and spoken): are the most developed skills during the DPRS journey. The amount of reading and writing required to complete the thesis provided a learning opportunity to enhance such skills.

2. Research skills: find and assess the usefulness and robustness of the relevant literature from academic and practitioner resources.

3. Research methods and design: learn and assess the different research methodologies and methods for both quantitative and qualitative approaches

4. Intellectual capabilities: curiously explore, learn and connect the different concepts across disciplines, and analyse the interconnectedness and relatedness between them.

5. Environmental scanning skills: develop a deep understanding of the drivers of change that can influence the subject under investigations.

6. Futures studies skills and techniques: The paradox of creativity while maintaining consistency in the scenario development process.

7. Planning skills: plan and manage time, resources and tasks related to complex projects (i.e., thesis), along with other business demands, was invaluable.

8. Social learning skills: enabled by the regular interactions with the academic staff at USQ and the DPRS community crowned the learning journey with a sense of growth and development.

9. Professional skills: learn foresight and strategic thinking competences, processes, and methods.

The knowledge covered in this research involved strategic leadership theory and engagement theory. As a result, the researcher gained a deep understating of the academic and practitioner literature, including associated practices of strategy and leadership, specifically key capabilities of foresight and strategic thinking. Furthermore, the researcher acquired a deep understating of the engagement theory, including engagement antecedents and outcomes. Moreover, futures studies offered a new field of knowledge that the researcher has not explored beforehand.

In summary, the study provides an opening for the researcher to develop a greater understanding of the strategic leadership theory related to environmental drivers of change, future studies and the skills required to help develop strategic leaders. The study provides enhanced theoretical knowledge, enhanced analytical skills, improved research skills, in addition to a broader opportunity to collaborate and

develop professional networks in academia and industry. The study helped to augment the professional status and expertise in the field of leadership development and coaching.

7.6 RECOMMENDATIONS FOR FUTURE RESEARCH

The study's findings include the limitations outlined above. It is proposed that future research includes addressing these limitations when addressing explanatory or confirmatory studies associated with this study. These may include the perspectives of a broader range of stakeholders, testing the results of the leadership survey, triangulating the environmental scan and Delphi results, and adopting the position of the researcher as an 'outsider researcher'. While these limitations do affect the findings presented by the thesis, it is proposed that certain compelling contributions have been made.

This study delimited the scope by focusing on foresight and strategic thinking capabilities to distinguish from other demographics and characteristics suggested by the strategic leadership theory as proxies reflecting organisational outcomes. Based upon the findings of this study and having taken its limitations and purpose into account, the following recommendations for future research are proposed:

1. Studies testing the conceptual framework (Figure 7-4) to broaden generalisability. Future research may focus on a cross-section of industries, nationally and internationally. Work engagement can operate differently across multiple settings and cultures. Furthermore, empirical research is invited to validate the presented framework that integrated the research findings on the links between strategic leadership and work engagement. More Specifically, although the theoretical framework (Figure 2-24) and the conceptual framework (Figure 2-26) synthesised the findings from the studies reviewed, it is insufficient to postulate that the integrated frameworks are empirically valid because neither of them has been tested as a whole. Empirical studies that apply measures of work engagement alongside the foresight and strategic thinking that this study used would provide deeper insights as means of understanding the empirical interplay and practical significance of the two areas.

2. Studies testing the moderation effect of the environmental factors as they moderate the work engagement dimensions. A certain FS and ST profile may have an

interaction (positive or negative) with a specific driver of change than others when it comes to work engagement.

3. Studies testing the organisational work engagement (OWE) in figure 7-7 as a shared concept among the workforce regarding engagement, it is also important to note that engagement is an individual experience. Therefore, any inference regarding causality in the model relies largely on the identified theoretical links rather than empirical results. Future research using quantitative methods would test these relationships.

4. Studies utilising the methodology adopted by this study in other industry and organisational contexts.

Work engagement cannot be manipulated or managed. Thus, and as previously discussed, although there may be a direct connection between strategic leadership and work engagement, it is overly simplistic to assume a direct causal relationship that can be triggered to generate work engagement. Instead, practitioners should identify and influence drivers and variables that resonate with employee needs from an organisational work engagement perspective.

7.7   CONCLUSION

The overarching research issue of the thesis revolved around the lack of understanding of how strategic leadership impact work engagement in Singapore and the subsequent impact on organisational outcomes. Therefore, the purpose of this futures study was to investigate the possible futures of work engagement in Singapore, by 2030, based on the strategic leadership theory and work engagement theory association.

This study thought to identify a theoretical framework representing the association of the strategic leadership theory and the engagement theory as the theoretical foundation of this research. Furthermore, the study conceptualised strategic leadership in terms of strategy and leadership practice, specifically key capabilities of foresight and strategic thinking, in addition to the psychological conditions and antecedents responsible for work engagement to define the various links between the two constructs. Finally, the study operationalized the conceptual model in a mixed methods research design that comprised a convergent parallel method of QUAN and QUAL strands. The data were validated and triangulated in a Delphi study to develop

future scenarios. This chapter discussed the research findings by answering the research questions. In addition, the study presented an updated research conceptualization, limitations of the study, contributions, and recommendations for future research.

This work-based research was inspired by the researcher involved in strategic leadership development and has forty years of learning and observations of how strategic leaders' success or failure is portrayed based on organisational outcomes and exogenous drivers, and rarely based on their cognitions and relationships within the organisations.

This study assumed a strategic leadership perspective to analyse its impact on workforce engagement. The study responded to calls to focus on the mediators and moderators between strategic leadership and organisational outcomes to explore the "black box" of leadership effects, addressing both the cognitive and relationship aspects. The study also responded to calls for exploring new antecedents for work engagement. The study findings supported the conceptualization of foresight and strategic thinking as engagement antecedents that directly link to individual and organisational outcomes.

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Appendices (Volume II)