



Conceptual Skills in Leading Change: A Competence Approach to Public Sector Leadership

المهارات المفاهيمية في قيادة التغيير: منهج الكفاءة في قيادة القطاع الحكومي

by

ARIF FADHEL AHMED JASIM

**A thesis submitted in fulfilment
of the requirements for the degree of
DOCTOR OF PHILOSOPHY IN BUSINESS MANAGEMENT
at
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Abstract

A substantial amount of advice is available on how top management should lead, but less is known about how leaders conceptualise their leadership of change. This study concentrates specifically on conceptual skills involved in leading change in public sector organisations. Leaders' capacity to think about abstract and complex ideas has long been acknowledged as essential to leadership tasks such as planning and analysis; however, because conceptualisation is often ambiguous and difficult to understand, many frameworks of leadership and change lack clarity on the actual significance of leaders' conceptual skills when leading change.

The challenges of the twenty-first century require public sector leaders to be dynamic and flexible in their thinking, particularly when dealing with strategic change. In this context, the thesis examines four salient areas of public sector leadership competence which are likely to be high priority areas for leadership competence development: these are self-regulation, sensemaking, integrative leadership and innovative leadership.

Self-determination Theory (SDT) asserts that autonomy, competence, and relatedness are essential to leaders' capacity for self-regulation and enhanced performance, persistence, and creativity. Leaders' experiences of these psychological needs will be influenced by how they conceptualise them. Consistent with humanist thought and positive psychology, leaders who are fully self-functioning and authentic are more likely to make sound choices and decisions. Authentic leaders are people who are very aware of how they think and behave, and also are considered to be so by others. They are more likely to conceptualise public sector change in ways that are sincere and that inspire thoughts that are confident, hopeful, optimistic, resilient, and of high moral character.

When dealing with dynamic public sector environments, leaders have to interpret and communicate the change in ways that are meaningful for other employees and government stakeholders. Sensemaking and sensegiving are interpretive cognitive acts that emerge from contexts that possess conceptual complexity. Leaders' sensemaking involves engaging in the retrospective understanding of events and sharing meanings and emotions to create plausible accounts of what is happening. Sensegiving is required where leaders influence others' meaning constructions by working productively with them in establishing and verifying a map of the way forward. These interpretive cognitive acts of meaning construction by leaders and followers include significant elements of conceptual thinking and explanation.

The public sector consists of numerous organisations addressing diverse communities of multiple stakeholders. Integrative leadership is an emerging approach designed to encourage collective action across many boundaries in governments. Integrative approaches argue that leadership is central to the creation and maintenance of cross-sector collaborations that advance the common good. Integrative public leaders work across sector boundaries to develop the relationships and flow of resources necessary to achieve multiple sectoral goals. The thesis argues that leaders' conceptual skills support their capacity to act on opportunities arising from the integration of divergent practices and structures. They also assist with solving problems based on partially conflicting processes and systems of governance.

Innovation in public management has been categorised into three main types: political leadership during crisis, organisational turnaround, and bottom-up leadership. Research on facilitating innovation in these contexts has found that it involves the reconciliation of conflicting interests among senior team members and achieving organisational ambidexterity through exploring new capabilities while exploiting existing ones. The author's line of

argument is that conceptual skills are likely to play a significant role in ambidexterity leadership for innovation.

This thesis examines conceptual skills in leading public sector change through interviews and focus groups with a sample of 123 participants based around 18 focal leaders who were all top managers of government organisations in the United Arab Emirates (UAE). These qualitative research methods are supported by field observations of public leaders at work and primary and secondary documents on public sector change and organisational and individual performance, in addition to a wide range of qualitative methods, totalling 12 distinct forms of data collection. The thesis concludes on the significance of individuals' conceptual skills in leading public sector change by presenting a framework of conceptual skills relevant to four areas of leadership: self-regulation, sensemaking, integrative leadership and innovative leadership.

The results from this phenomenographical research and its qualitative methods indicate that leaders' conceptual skills influence the quality and extent of productive, self-regulation, sensemaking, integrative leadership, and innovative leadership in the public sector. The research results suggest that these leaders employ high-level conceptual skills in leading public sector change and can be categorised into three levels of utilising conceptual skills. These skills influence the four areas of leadership competence and are ranked in descending order, from the most advanced to the least developed. The top level consists of Expert leaders adopting conceptual skills in a unique and distinct manner, and effectively using these skills in leading change. The second level is the Proficient level including leaders adopting a similar set of conceptual skills, however, they are not consistently clear about the leadership of change or their role in attaining results. In addition to making more conceptual errors than the

Expert group, there is insufficient evidence for some specific and elaborated conceptual skills. Finally, the rest of the leaders are categorised as in the Developing level where they adopt some conceptual skills, but several are notably missing. In addition, due to some erroneous ways of conceptual thinking the effectiveness of these skills and their role in change management is reduced. These three levels are distinguished by three principal criteria, skill's uniqueness, skill's role in leading change, and conceptual errors.

This study presents a model for adopting conceptual skills, which states that the highest level of leading change in the government sector requires a set of conceptual skills that are essential to achieving the desired change. Then, the middle level group of leaders have a lower set of conceptual skills, and progressively fewer skills still at the third level. The highest level of leaders makes fewer conceptual errors, and these errors increase as the levels decrease. Furthermore, just as there are essential conceptual skills to lead change, there are also misconceptions. Erroneous adoption of conceptual skill by change leaders may prevent and inhibit desired change.

Keywords: Conceptual skills, leader's conceptual skills, leadership in the public sector, self-regulation, sensemaking, integrative leadership, and innovative leadership.

ملخص

على الرغم من توفر القدر الكبير من النصائح حول طرق القيادة بالنسبة للإدارة العليا، إلا أنه لا يُعرف الكثير عن كيفية تبني القادة لمفهوم وتصور قيادتهم للتغيير. تركز هذه الدراسة بشكل خاص على المهارات المفاهيمية في قيادة التغيير في مؤسسات القطاع الحكومي.

لطالما تم التسليم بقدرة القادة على التفكير في الأفكار المجردة والمعقدة باعتبارها ضرورية للمهام القيادية مثل التخطيط والتحليل؛ ومع ذلك، نظراً لأن المفاهيم غالباً ما تكون غامضةً ويصعب فهمها، فإن العديد من أطر القيادة والتغيير تفقر إلى الوضوح بشأن الأهمية الفعلية لمهارات القادة المفاهيمية أثناء قيادة التغيير.

تتطلب تحديات القرن الحادي والعشرين أن يكون قادة القطاع العام متفاعلون ومرنون في تفكيرهم، خاصة عند التعامل مع التغيير الاستراتيجي. وفي هذا السياق، تبحث الأطروحة في أربعة مجالات بارزة من كفاءات قادة الحكومة والتي يحتمل أن تكون مجالات ذات أولوية عالية لتطوير الكفاءة القيادية: وهي التنظيم الذاتي، وصناعة الرأي، والقيادة التكاملية والقيادة الابتكارية.

تؤكد نظرية الحزم الذاتي وحرية الإرادة (SDT) أن الاستقلالية والكفاءة والارتباط ضرورية لقدرة القادة على التنظيم الذاتي وتحسين الأداء والمثابرة والإبداع. كما أن ممارسة القادة لهذه الاحتياجات النفسية تتأثر بكيفية تصورهم لها. وتماشياً مع الفكر الإنساني وعلم النفس الإيجابي، فمن المرجح أن يتخذ القادة أصحاب الفعالية الذاتية والمصادقية خيارات وقرارات سديدة. حيث أن القادة الحقيقيون هم أشخاص يدركون تماماً طريقة تفكيرهم وسلوكهم، كما يعتبرهم الآخرون كذلك. وهم أكثر قدرة على تصور التغيير في القطاع العام بطرق مخصصة تلهم أفكاراً تتسم بالثقة والأمل والتفاؤل والمرونة وتحمل طابعاً أخلاقياً رفيعاً.

عند التعامل مع بيئات القطاع العام الديناميكية، يتعين على القادة ترجمة التغيير ونقله لموظفي الحكومة الآخرين وأصحاب المصلحة بطرق ذات معنى. حيث يعد البيان والتبيين أفعالاً معرفية تفسيرية تنشأ من سياقات تنطوي على تعقيد مفاهيمي. إن مهارة صناعة الرأي لدى القادة تنطوي على الانخراط بأثر رجعي في فهم الأحداث وتبادل المعاني والأحاسيس لإنشاء حسابات عقلية وجبهة في فهم وتفسير الحدث. إن مهارة صناعة الرأي مطلوبة حيثما يكون للقادة تأثير على صناعة المعاني للآخرين، وذلك من خلال العمل المثمر معهم في إنشاء والتحقق من خريطة طريق تقود إلى المستقبل. وهذه الأعمال المعرفية التفسيرية لصناعة المعنى التي يقوم بها القادة والأتباع تشمل عناصر مهمة من التفكير والتوضيح المفاهيمي.

يتكون القطاع العام من العديد من المنظمات التي تتعامل مع مجتمعات متنوعة تضم أصحاب مصلحة متنوعين. *والقيادة التكاملية* هي نهج ناشئ مصمم لتشجيع العمل الجماعي في الحكومات عبر العديد من الحدود. حيث تناقش المقاربات التكاملية أهمية القيادة في إنشاء وصيانة التعاون بين القطاعات التي تعمل على تعزيز الصالح العام. ويعمل قادة الحكومة التكامليون عبر حدود القطاع العام لتطوير العلاقات وتدفق الموارد اللازمة لتحقيق أهداف قطاعية متعددة. تؤكد الأطروحة أن المهارات المفاهيمية تدعم قدرة القادة على العمل على صنع الفرص الناشئة عن تكامل الممارسات والتنظيمات المتباينة. كما أنها تساعد في حل المشكلات القائمة على عمليات وأنظمة الحوكمة المتعارضة جزئياً.

تم تصنيف الابتكار في الإدارة الحكومية إلى ثلاثة أنواع رئيسية: القيادة السياسية خلال الأزمة، والتحول التنظيمي، والقيادة من القاعدة إلى القمة. ومن خلال البحث عن تسهيل الابتكار في هذه السياقات تم التوصل إلى أن الابتكار في الحكومة ينطوي على التوفيق بين المصالح المتضاربة بين كبار أعضاء الفريق، وتحقيق البراعة التنظيمية من خلال استكشاف قدرات جديدة واستغلال القدرات الحالية في آن واحد. يبرهن الباحث هنا على أن المهارات المفاهيمية من المرجح أن تلعب دوراً مهماً في الابتكار لدى القيادة البارعة.

تدرس هذه الأطروحة المهارات المفاهيمية في قيادة التغيير في القطاع الحكومي من خلال المقابلات ومجموعات التركيز مع عينة من 123 مشاركاً من بينهم 18 قائداً محورياً من القيادات العليا، علماً بأن جميع المشاركين من المدراء في المؤسسات الحكومية في دولة الإمارات العربية المتحدة. وقد تم دعم هذه الأساليب البحثية النوعية بأدوات أخرى مثل الملاحظة الميدانية للقادة الحكوميين في العمل، ومراجعة الوثائق الأولية والثانوية حول التغيير في القطاع العام، والأداء التنظيمي والفردي للقادة. هذا بالإضافة إلى مجموعة واسعة من الطرق النوعية، والتي بلغ مجموعها 12 منهجاً متميزاً لجمع البيانات.

تخلص الدراسة إلى أهمية المهارات المفاهيمية لقادة الحكومة في إدارة التغيير وذلك من خلال تقديم إطار من المهارات المفاهيمية ذات الصلة بأربعة مجالات للمهارات القيادية وهي التنظيم الذاتي، وصناعة الرأي، والقيادة التكاملية والقيادة الابتكارية. وتشير نتائج هذا البحث والذي اعتمد على منهجية *دراسة الظواهر* والمناهج النوعية إلى أن المهارات المفاهيمية للقادة تؤثر على جودة ونطاق الإنتاجية في التنظيم الذاتي، وصناعة الرأي، والقيادة التكاملية، والقيادة الابتكارية في القطاع العام. وتؤكد النتائج على أن قادة الحكومة يوظفون مهارات مفاهيمية عالية المستوى في قيادة التغيير، ويمكن تصنيف هؤلاء القادة إلى ثلاثة مستويات في استخدام وتبني المهارات المفاهيمية والتي تؤثر بدورها على مجالات الكفاءات القيادية الأربعة، ويتم ترتيبها ترتيباً تنازلياً، من الأكثر إلى الأقل تطوراً. يتكون المستوى الأعلى من (القادة الخبراء) الذين يتبنون

المهارات المفاهيمية بطريقة فريدة ومميزة، ويستخدمون هذه المهارات بفعالية في قيادة التغيير. في حين يعتمد قادة المستوى الثاني وهو مستوى (القادة الأكفاء) على مجموعة مماثلة من المهارات المفاهيمية، لكنها ليست واضحة باستمرار أثناء قيادة التغيير، كما ولا يتضح دورها في تحقيق النتائج. هذا بالإضافة إلى ارتكاب "أخطاء مفاهيمية" أكثر من المستوى الأول، ولا توجد أدلة كافية على تمكن هذا المستوى من بعض المهارات المفاهيمية المحددة والمفصلة. أخيراً، يتم تصنيف بقية القادة على أنهم في مستوى (القيادة النامية)، حيث يتبنى قادة هذا المستوى بعض المهارات المفاهيمية، بينما يفتقدون العديد منها بشكل ملحوظ. بالإضافة إلى ذلك، نظراً لارتكاب بعض الطرق الخاطئة من التفكير المفاهيمي يتم تقليل فعالية المهارات المفاهيمية ودورها في إدارة التغيير.

إجمالاً يمكن تمييز هذه المستويات الثلاثة بثلاثة معايير رئيسية، تفرد المهارات المفاهيمية، ودور هذه المهارات في قيادة التغيير، والخلو من الأخطاء المفاهيمية. وتقدم هذه الدراسة نموذجاً لتبني المهارات المفاهيمية، ينص على أن أعلى مستوى من التغيير في القطاع الحكومي يتطلب مجموعة من المهارات المفاهيمية الضرورية لتحقيق التغيير المنشود. ثم، المستوى المتوسط والذي يمثل مجموعة من القادة بخبرات أقل من المهارات المفاهيمية، وهكذا لا تزال تقل هذه المهارات تدريجياً في المستوى الثالث. وفي المقابل يرتكب القادة في المستوى المتقدم عدداً أقل من الأخطاء المفاهيمية، وهذه الأخطاء تزداد كلما انخفضت مستويات تبني هذه المهارات. علاوة على ذلك، فمثلاً توجد مهارات مفاهيمية أساسية لقيادة التغيير، توجد هناك أيضاً أخطاء مفاهيمية. والتبني الخاطئ للمهارة المفاهيمية من قبل قادة التغيير قد يمنع ويعطل التغيير المطلوب.

الكلمات المفتاحية: المهارات المفاهيمية، المهارات القيادية المفاهيمية، القيادة في القطاع العام، التنظيم الذاتي، صناعة الرأي، القيادة التكاملية، القيادة المبتكرة.

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Abbreviations

Abbreviation	Meaning
CS	Conceptual Skills
Sub-skill	Abilities within conceptual skills
IMD	The leading annual report published by IMD since 1989, from the IMD World Competitiveness Center
SDT	Self-Determination Theory
CTT	Cognitive Transformation Theory
SOI	Structure of Intellect
NPM	New Public Management
RPD	Recognition Primed Decision
SREGSDT	Self-Regulation, Self-Determination
SREGAUTH	Self-Regulation, Authentic Leadership
SENSEMCTT	Sensemaking, Cognitive Transformation Theory
SENSEM	Sensemaking Theory
INTEG	Integrative leadership, Integrative Leadership Theory
INTEGSTRUCT	Structuration Theory
INNOVAMB	Innovative leadership, Ambidexterity Theory
INNOVSOI	Innovative leadership, Structure of Intellect Theory
SME	Subject Matter Expert
Ms.	Female
Mr.	Male
Dr.	Doctor
Eng.	Engineer
I, sub	Informal interview with subordinate
F, sub	Formal interview with subordinate

Introduction

1.0 Introduction

This chapter reviews the culture of public sector work in the UAE and discusses the significance of the study and the research problem statements. Next, the scope, aim, objectives and questions are listed. Finally, the chapter elaborates on the contribution to knowledge, presenting an overview of the line of argument of the thesis.

1.1 Cultural and political context in UAE

In the IMD World Competitiveness Yearbook 2019, the UAE Government has climbed to the 5th most competitive country globally. It is ranked 1st globally for business efficiency and management practices, and 2nd in government efficiency, international trade and infrastructure. And in the same year, the prime minister of the UAE government said on the Twitter platform after announcing these results that there is “No end to our ambitions”.

With a little reference to the reality of the culture of government work, it is possible to identify out several issues and developments. First, over the last decade, the UAE government has been keen to enter the global competitive race in various areas of government business. In order to achieve advanced positions, the United Arab Emirates’ Government launched in 2010 the UAE Vision 2021. The Vision aims to make the UAE among the best countries globally by the Golden Jubilee of the Union in 2021. This Vision’ pillars have been drawn into six national priorities, which signify the key focus sectors for government action in the period from 2010 until 2021. These six pillars are the competitive knowledge economy, safe public

and fair judiciary, cohesive society and preserved identity, first-rate education system, sustainable environment and infrastructure, and world-class healthcare.

Several government programmes and projects have also been launched, which have had a significant impact since 2010 on progressing into advanced positions in international competitiveness indices, and the overall improvement of government action. They include training of government leaders to lead change, launching excellence awards and programs, building comprehensive strategies, zero financial budgets, government services development programs and customers' happiness, innovation, and many other programmes of change and government development. One of the most critical programmes related to the work of human resources is the emphasis on performance and competencies as a key factor in the process of change. This crucial factor in the government's work has become the cornerstone in the government' people assessment and development across all functional levels.

Second, the vision of the UAE also provides the key themes for the social and economic development of the UAE, which is a shift towards a diversified and knowledge-based economy. Concerning the context, socioeconomic environments inside the UAE are no longer typical of the wider geographical region. The population of the UAE has multiplied over the past 47 years. Also, there is exceptional diversity within UAE: 200 nationalities; an extraordinarily high percentage of expatriates; and a local people of less than 20 per cent. UAE organisations have diversified workforces (Indian, Pakistani, Arab, East Asian, and Western). Much of this diversity extends prior to the establishment of the UAE federation in 1971.

The public sector in the UAE is continuing to diversify the economy and sources of income as an alternative to oil. As well, the government seeks to embrace a globalised society and

economy, which is expected to increase challenges to be encountered and opportunities to be explored. All this requires the leaders of change to have a high degree of educational qualifications. It is important to ensure that the local population are highly skilled and able to lead the government and semi-government organizations in ways that meet the challenges and opportunities of the global and regional economies. For example, Al-Ali et al. (2017) concluded that change-oriented leadership positively and meaningfully impacts emergent and planned change in government' entities in the UAE.

Behry and Paton (2008) explored culture, performance appraisal, and associated outcomes within the UAE. They conclude that for UAE organisations, they need to manage within a multi-cultural environment. Furthermore, workforce diversity should be positively regarded. These authors explain that a set of studies (e.g. Chatmar & Jehn, 1994; Elsass & Graves, 1997; Gregersen et al., 1996) all support the notion that diversity of the workforce is neutralising the impact of culture on organisational design. Further, they suggested that the UAE should seek to become a land for managerial researchers for the predictable future.

Regardless of the speed of socioeconomic improvement in the UAE over the course of recent decades, the culture of the UAE is still Bedouin on a fundamental level. This culture places outrageous significance on power and leadership, values and individual communication and accords extraordinary emphasis on knowing people's concerns and needs (Taher & Krotov, 2015). Researchers explain the difficulty is that the UAE social culture often conflicts with the organisational culture that is needed to achieve transformational change successfully. Several studies and reports have reached the conclusion that the UAE public sector is frequently encountering poor communication as one of the organisational obstacles to change. Several researchers have argued that leadership and communication are vital for applying the

change, particularly given the specific cultural conditions of the UAE. Also, it is frequently advocated that leaders should practice change with constant attention to communication. Moreover, Al-Yahya (2009) and Yaseen and Okour (2012) have pointed out that the social culture of the UAE may appear in the form of cumbersome bureaucracy, it being intensely inherent to some of the features of public sector processes. As Al-Khoury and Bal (2007) concluded, this lack of communication can cause inconsistent application and interpretation of task objectives.

In the subject of resistance to change, individuals often resist change because of the fear of losing power, which is one of the concerns frequently encountered in the UAE public sector. Power and decision-making authority are vital and sensitive areas in many UAE organisations. A number of researchers, such as Al-Yahya, 2009; Common, 2011; Yaseen and Okour, 2012, have all emphasised that decisions on political, social, and financial issues in a tribe remained controlled exclusively by the tribe leader. Despite the impressive socioeconomic growth during the past three decades, but this culture and conventions are still intensely engraved in the preoccupations of several people in the UAE public sector. Hesson (2007) and Silva and Backhouse (2003) see that losing any part of legitimacy, authority or respect, -even if the loss is minimal, is considered as a serious threat. Also, whether as a result or cause of this conviction, the culture of the UAE urges compliance with the vision of a leader (Barley, 1990).

1.2 Current issues of leadership – The public sector

Leadership has been a popular area for research over many decades. In an assessment of leadership styles, Dulewicz, Young and Dulewicz (2005) remarked that in 1999 alone more than 2,000 books were published on the topic. In one of the many attempts to summarise key

themes of leadership research in the modern era, Tseng (2010) reviewed publications during the period 1997 to 2007, using 2,322 source articles. He found four distinctive problem domains: the effectiveness of leadership style, leadership theory and development, leadership categorisation, and current issues in leadership research.

One of the current issues of leadership that they identified is leadership in the public sector. The public sector confronts frequent changes of economic situation, increasingly competitive conditions, and shortages in available resources for meeting new challenges. Tizard (2012) draws attention to contextual differences facing leadership in public, business and social sectors. In the public sector, political and executive leaders have to cope with frequently changing public policy agendas and official requests for restructuring services and reorganisation of government. In leading public sector change, there are numerous challenges created by the need for new paradigms and ways of working in organisations often characterised by bureaucracy, hierarchy and complex procedural systems. This thesis aims to investigate leaders' use of conceptual skills when leading change. It concentrates on four areas of leadership competence, commencing with issues of individual self-management and cognitive functioning within self-regulation and sensemaking, and then moves on to broader issues of ability to motivate and lead others through integrative and innovative forms of leadership.

1.3 Significance of the study

The potential significance of this research is that it will increase our knowledge and understanding of the role of public sector leaders' conceptual skills when leading change, from the perspective of four areas of leadership competence. The author intends to redress the imbalance noted in the literature whereby general concepts of business and change

management have predominated in the debates on public sector leadership. Rainey (2006) argues that conceptual skills show up with less consistency in public sector management studies, while entire journals address business concepts and general management (Berman and Wang, 2000; Brudney and Wright, 2002; Hood and Peters, 2004).

Second, this original research aims to contribute knowledge about leaders' conceptual skills by examining them situated within complex areas of leadership competence. The consensus in the leadership literature is that these four areas all contribute to effective leadership. Self-regulation, sensemaking, integrative leadership and innovative leadership are areas established in a variety of academic disciplines including psychology, information science, leadership, and business management. This study runs the risk of over-complexity that faces most multi-disciplinary research work and, therefore, a systematic framework has been developed that converges on a small set of theories identified in the literature as fundamental to each dimension. Inevitably, this approach is not exhaustive but has the advantage of anchoring to some of the known theoretical foundations of each of the four dimensions.

Third, numerous researchers assert that leading change is one of the most critical areas of leadership (Bass, 1990; Bass and Reggio, 2006; Herold et al., 2008). Therefore, it is important to understand what role conceptual skills play in leaders' consciousness, cognitive processes, mindsets, mindfulness, general reasoning, and methods of explanation.

Fourth, this research is intended to contribute to both academic and practitioner communities concerned about effective leadership. It is anticipated that through utilising a phenomenological research approach, in particular, *phenomenography*, a new perspective can be developed on leadership practice and leadership development. The study sample is based on federal and local government employees in the United Arab Emirates. It is admitted that it

will not be possible to generalise some of the findings from the empirical research context to some other government and country settings. However, it is hoped that much of the work on conceptual skills studied within the four areas of leadership competence will be appropriate for what case study researchers commonly refer to as analytic generalisation.

1.4 Contribution to knowledge

The thesis is based on the assumption that conceptual skills play a major role in leading change. Four areas of leadership competence have been chosen based on a review of the literature on leadership and change in the public sector. The empirical research for the thesis is based on well-established theories of self-regulation, sensemaking, integrative leadership and innovative leadership to increase the likelihood of developing a rigorous explanation of the role of conceptual skills. This research is keen to introduce greater parsimony into leadership research on competence in leading change, and conducts a thorough literature review (Meuser et al., 2016) before introducing new leadership theories. The research endeavour, therefore, intends to make both theoretical and practical contributions. The purpose of proposing a new model of conceptual skills in the leadership of change in the public sector is primarily to understand the contextual nature of the interaction between leadership, the public sector, and leading change. Also aims to identify factors that clarify the contextual boundaries of existing theories of leaders' conceptual skills. It is also envisaged that this model will inform the development of public sector leaders and increase their capability to lead change, and that the methodology used in this research will be of great value for future research. Meuser et al. (2016, pp. 1394-1395) argue that even if the proposed theory did not provide a completely new theoretical perspective, the research approach is useful.

Researchers must assess the degree to which the domain of the proposed theory overlaps with existing theory. In addition to literature reviews, the assessment process can be enhanced by engaging in the first steps of scale development: critical incident interviews and content analysis. If interview respondents and content experts do not provide support for a new theoretical perspective, the approach might be dropped.

The approach taken is to integrate and link various approaches within the framework to extend existing theory, not just a summary of several aspects of two or more theories. Meuser et al. (2016) cite van Knippenberg and Stitkin (2013) to argue that the field of leadership is often defined by specific methods. (e.g. transformational leadership research) with research problems, conceptual issues and contexts somewhat merged together across one precise measurement instrument and, when this occurs, measurement can describe the existing theory but often in ways that limit further theoretical expansion.

This inductive research emphasises integrating multiple approaches to leadership that will result in a more rigorous study approach and increase the validity of subsequent results. Locke (2007) indicates that the use of inductive methods to deal with theory building focuses on empirically analysing the phenomenon of intrigue and enables the theory to emerge as ideas about patterns and relationships are informed by experience. This research is more related to traits, skills/competencies, and transformational change theoretical perspectives, acknowledging that many leadership theories are conceptually related and in part overlap.

1.5 Overview of the line of argument of the thesis

There is extensive literature on leading change (Gilley, Gilley & McMillan, 2009; Kotter, 2012; Seo et al., 2013; Yukl, 2013; Kuipers et al., 2014) and a wide range of competencies have been identified that leaders need in order to self-regulate and innovate in thought and action (Mostovicz, Kakabadse & Kakabadse, 2009; Mumford, Watts & Partlow, 2015; Mumford et al., 2015). However, fewer research studies have examined the contribution of

leaders' conceptual skills in leading public sector change (Van Wart, 2003; 2013). The main aim of this thesis is to analyse the role of leaders' conceptual skills in leading change in the public sector. This research examines four salient areas of competence likely to include the exercise of high-level conceptual skills: self-regulation, sensemaking, integrative leadership and innovative leadership.

The primary research question is: *How do leaders employ high-level conceptual skills in leading change?* I examine in the research for this thesis individual leaders' use of conceptual skills in leading public sector change through data collection involving interviews, and focus groups with top managers of government organisations in the United Arab Emirates (UAE). These data are supported by field observations of public leaders at work and secondary documents on public sector change as well as field assessments of individual performance. This study adopts a phenomenological approach (Marton 1981; Richardson, 1999; Sandberg 2000; Sandberg & Pinnington, 2009) to collecting and analysing the data.

Based on Self-Determination Theory (SDT) it is assumed in the line of argument presented in this thesis that the three basic psychological needs of autonomy, competence, and relatedness are essential to leaders' capacity for self-regulation which enhances their performance, persistence, and creativity (Deci & Ryan, 2010; Deci et al., 2015). Leaders' experiences of these three basic psychological needs will be influenced by how they conceptualise them. Further, drawing on ideas from authentic leadership as an approach that is likely to be effective in self-regulation (Avolio & Gardner, 2005; Shamir & Eilam, 2005), authentic leaders who are deeply aware of how they think and behave, and are perceived so by others, are more likely to conceptualise public sector change in ways that are sincere. Consistent with humanist thought and positive psychology, leaders who are fully self-functioning and

authentic are more liable to make sound choices and decisions and inspire thoughts that are confident, hopeful, optimistic, resilient and of high moral character (Avolio & Gardner, 2005, pp. 319-320).

Acts of leadership involve giving meaning to experience. Sensemaking is a concept often attributed to researchers working in Xerox PARC during the 1970s; subsequently the concept was elaborated in the fields of communication and library and information science by Brenda Dervin (1983; 1998) and in organisational studies by Karl Weick (1988; 1993; 1995).

Sensemaking involves engaging in the retrospective understanding of events and sharing meanings and emotions to create plausible accounts (Weick, 1995, pp. 55-62) of what is happening. It also requires sensegiving (Maitlis & Sonenshein, 2010) where leaders influence others' meaning constructions, working productively with them in establishing and verifying a map of the way forward.

The public sector consists of numerous organisations addressing diverse communities of multiple stakeholders. Integrative leadership (Crosby & Bryson, 2010; Moynihan & Ingraham, 2004) is an emerging approach designed to encourage collective action across many boundaries within a government. Integrative leadership highlights that leadership work is central to the creation and maintenance of cross-sector collaborations that advance the common good. The argument of the thesis is that leaders' conceptual skills in integrative leadership enable them to act on and integrate the various opportunities arising from different practices and structures.

Supporting innovation in public management is becoming increasingly important for political leadership during crisis, organisational turnaround and bottom-up change (Berry, 1994; Altshuler & Behn, 2010). Facilitating innovation involves the reconciliation of conflicting

approaches to problem-solving (Sternberg & Detterman, 1993) as well as resolving different interests among the participants (Bridgstock et al., 2010). A large body of literature on organisational ambidexterity emphasises that innovative leadership requires both the exploring of new capabilities and the exploiting of existing ones (O'Reilly & Tushman 2011, 2013; Tushman & O'Reilly, 1996).

The thesis contributes to literature and practice in several ways. First, it contributes to the literature on public sector management and change leadership by investigating mainstream work on leadership competencies specifically in public sector management contexts. While many empirical studies are published on transactional and transformational leadership styles, including in the public sector (e.g. Pinnington, 2011), and frameworks are available on types of public sector change and reform, less is known about the critical role of leaders' conceptual skills in leading change. Second, the thesis contributes to the literature on change leadership by considering leaders' conceptual skills in leading change. Leaders' capacity to think about abstract and complex ideas has long been acknowledged to be essential to leadership tasks such as planning and analysis (Uhl-Bien, Marion, & McKelvey, 2007). However, a conceptual skill is often ambiguous and difficult to understand (Moon, Hoffman, Novak, & Canas, 2011) and, as a result, many frameworks of leadership and change lack clarity on the actual significance of leaders' conceptual skills. In the thesis, The researcher argue that conceptual skills are fundamental to public sector leaders' competencies in leading change and that the identification of critical conceptual skills in self-regulation, sensemaking, integrative leadership and innovative leadership provides a framework for leadership development in the public sector.

1.6 Research problem

Leaders need conceptual skills to be able to understand their entire organisation and the inter-relationships of its different parts with the overall environment. To be effective, their leadership of change must be based on a degree of shared knowledge and understanding. Some of the essential tasks of planning and implementing change that involve conceptual reasoning are inevitably part of the leader's responsibility. Leading change often necessitates thinking about strategic and operational challenges, where the leader has to work with different social and technical ideas and problems in ways that can generate successful action. Integrative and innovative acts of individual leadership are required to achieve change agendas and strategic goals and visions. The successful leadership of change, therefore, demands competence in a range of conceptual processes that inform thinking and action.

M. D. Mumford, Watts and Partlow (2015) argue that leaders' conceptual skills have not received sufficient attention in research. These authors criticise much of the literature in leadership studies for over-emphasising action and under-emphasising thinking. Bass and Bass (2009) and Yukl (2011) have similarly critiqued this deficiency in the literature. On the same point, T.V. Mumford et al. (2007) suggest that part of the explanation for this bias in the literature is the tendency of research and practice to over-rely on follower-focused perceptions of leaders' behaviour. Along similar lines, Dinh, Lord and Hoffman (2014), M. D. Mumford et al. (2015), and others have argued that leadership styles, such as leader-member exchange, transformational leadership, servant leadership, and ethical leadership, all represent behaviour-based theories of leadership. This research is different in that it aims to proceed by concentrating on conceptual skills in diverse contexts of individual leadership, regardless of follower-based or behaviour-based academic preferences.

While there has been massive growth in the literature on leadership in recent decades, there is still a shortage of high-quality research on public sector leadership. Moreover, there is a need for more knowledge about individual leaders' skills and competencies within this sector.

Alvesson and Sandberg (2013) propose that many of the problems in academic research relate to a lack of ambition and innovation in research design. They explain that the career pressure in the context of competitive publication is to reduce risk and increase the likelihood of acceptance by not venturing too far away from what is already known. By analogy, it can be argued that the practical, real-world domain of public sector leadership will not be well supported by encouraging leaders simply to follow protocols, rules and procedures. Instead, leaders will also have to be open to new paradigms and ways of thinking to be successful in leading major change. Krieger and Martinez (2012) have cautioned researchers and practitioners to remember that performance is not everything and urge them to inquire more carefully about how conceptual competencies underlie individual, experiential learning.

The scope of this research is limited to one important aspect of competence; the role of individual leaders' conceptual skills in leading change. This research adopts a phenomenographical perspective and approach to conceptual skills. It takes into consideration four areas of leadership competence, exploring their application and impact in leading change. The thesis argues that conceptual skills have been overlooked in many studies of leading change and, consequently, there is a lack of models in the literature on leadership and change explaining the contribution of conceptual skills. In short, it is assumed that the execution of leadership competencies involves complex cognitive knowledge, processes, and strategies (M. D. Mumford, 2016; Mumford, Medeiros, & Partlow, 2012; Mumford et al., 1991). Perhaps, due to their complexity and sometimes opaque qualities, the role of leaders' conceptual skills in leading change within the public sector has been under-acknowledged in leadership studies.

1.7 Research scope

Many leadership skills and competencies had been examined from the perspective of psychology and psychometrics, and many researchers have investigated the influence of leaders' skills in leading change. Moreover, scholars have distinguished between leader traits, competencies, styles, and personality and hence an extensive literature review was completed in this research to identify the most critical aspects of leaders who are successful in leading change. Therefore, the scope of this research concentrates on the following elements:

- Identifying the role of leaders' conceptual skills in leading change in public sector management.
- Seeking ideas and inspiration from the subject disciplines of Psychology, Cognitive Psychology, Sociology of Science, Sociology, Information Sciences, and Organisation Behaviour
- This research is targeted on the following related fields of scholarly study:

Public Management, Leadership, Leading Change, Business and Management, Skills and Competencies, Psychology, Cognitive Psychology, Sociology of Science, Sociology, Information Sciences, and Organisation Behaviour.

1.8 Research aims and objectives

The aim and objectives of the research are articulated to investigate the role of public leaders' conceptual skills in leading change. The researcher intends to examine how public sector leaders employ conceptual skills within four selected areas of competence: self-regulation, sensemaking, integrative leadership, and innovative leadership. The main aim is:

To analyse the role of leaders' conceptual skills in leading change in the public sector.

The purpose of this research is to construct a model of leadership that demonstrates how leaders implement conceptual skills in the areas of self-regulation, sensemaking, integrative leadership and innovative leadership. The objectives of the research for the thesis primarily concern the theoretical development of a new model of leadership competencies. This model is designed to increase scholars' and practitioners' understanding of the role of public sector leaders' conceptual skills in leading change. It is anticipated that the model will be useful for developing public sector leaders and will influence the design and implementation of existing competency frameworks (e.g. Järvalt & Veisson, 2005). The importance, implications and subsequent development of the theoretical model of the role of conceptual skills, inevitably, will be influenced by its perceived relevance for practice in the public sector. Consequently, the main contribution of this research depends on the significance of conceptual skills for the four selected areas of leadership competence. The empirical research is based in the context of UAE Government entities and is drawn from multiple qualitative research methods commonly employed in case studies. The objectives of the research are as follows:

1. Explore and describe the role of leaders' conceptual skills required for leading change in the public sector, within four areas of leadership competence: self-regulation, sensemaking, integrative leadership, and innovative leadership.
2. Understand how public leaders make sense of their experience of leading change and identify the extent to which they articulate and reflect on their use of conceptual skills.
3. Review theories of conceptual skills and competencies that are relevant to leadership roles particularly in contexts of leading change.
4. Empirically investigate leaders' approaches to leading change in the public sector using qualitative research methods in order to explore and understand leaders' roles, processes of thinking, and actions.

5. Explore the potential contribution of conceptual skills (identified through literature and empirical research) for leadership assessment and development, following an interpretive research approach.

1.9 Research questions

The main research question is:

RQ 1.0 How do leaders employ high-level conceptual skills in leading public sector change?

This research question is investigated based on an analysis of four areas of leadership competence where conceptual skills might influence leaders' success in leading change. The four sub-questions are:

RQ 1.1 (a-d) How do leaders' conceptual skills influence:

- a. Self-regulation?
- b. Sensemaking?
- c. Integrative leadership?
- d. Innovative leadership?

Literature Review – Leadership and Competencies

Literature review and theory development

This review of the literature addresses public sector leaders' conceptual skills in leading change. It concentrates on an area that is often not highlighted in many frameworks and models of leadership style, skills, and competencies. Conceptual skills are an extensive domain and, therefore, in this study, the researcher limits attention exclusively to just four areas of leadership competence (self-regulation, sensemaking, integrative, and innovative) where the thesis argues that leaders' conceptual abilities are likely to be influential.

2.1 Leadership concept and definition

There are many different theories of leadership available in the business and management literature. Yukl (2013) pointed out that it is better to consider several conceptions of leadership on what is evidently a highly complex, multifaceted phenomenon. Campbell (1977) has argued that, in research work, the operational definition of leadership relies to a significant extent on the motives of the researcher. As Bass and Stogdill (1990, p. 11) note in their whimsical remark: 'There are almost as many different definitions of leadership as there are persons who have attempted to define the concept'. To give just a few well-known examples of definitions of leadership; Smircich and Morgan (1982) characterise leadership as a social phenomenon, whereas Bennis (1995) defines leadership as influencing people to do what they will not do. Specifically, in the context of the public sector, Van Wart (2003, p. 221) describes it as including ends (getting things done), means (followers), and aligning the organisation with its environment and opportunities (substantive change) – in short,

leadership invariably requires public service commitment. Given the variety of theories and ideas of leadership, inevitably there are also many definitions of what essentially characterises leaders and their skills. Nevertheless, like many concepts in social science, the definition of leadership is subjective and arbitrary. Some definitions are more valuable than others; however, there is no single accurate definition that captures the complete substance of leadership (Yukl, 2013). In relation to this conclusion, Karmel (1978, p. 476) pointed out, ‘It is consequently very difficult to settle on a single definition of leadership that is general enough to accommodate these many meanings and specific enough to serve as an operationalization of the variable’. In his book titled *Leadership in Organizations*, Yukl (2013) uses the following definition of leadership:

Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives (p. 8).

Yukl explains that this definition consists of efforts not only to have an impact on and facilitate the contemporary work of the team or organisation but additionally to make sure that it can meet future challenges. These two forms of direct and indirect influence are constructed in different ways. One leader may be attributed as the main actor in the influence process, or it might involve many leaders. Also, Yukl (2013) lists a number of definitions of leadership as following:

Leadership is “the behavior of an individual . . . directing the activities of a group toward a shared goal” (Hemphill & Coons, 1957, p. 7). . . . “the influential increment over and above mechanical compliance with the routine directives of the organization” (Katz & Kahn, 1978, p. 528). . . . “the process of influencing the activities of an organized group toward goal achievement” (Rauch & Behling, 1984, p. 46). “Leadership is about articulating visions, embodying values, and creating the environment within which things can be accomplished” (Richards & Engle, 1986, p. 206). “Leadership is a process of giving purpose (meaningful direction) to collective effort, and causing willing effort to be expended to achieve purpose” (Jacobs & Jaques, 1990, p. 281). . . . “is the ability to step outside the culture . . . to start evolutionary change processes that are more adaptive” (Schein, 1992, p. 2). “Leadership is the process of making sense of what

people are doing together so that people will understand and be committed” (Drath & Palus, 1994, p. 4). ... “the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization . . . (House et al., 1999, p. 184) (Yukl, 2013, Table 1-1 p. 20).

In an article on multi-level approaches to leadership, Day and Harrison (2007, p. 361) explained that leadership could ‘take the form of team members working together collectively to set direction, build commitment, and create alignment’, referring to O'Connor and Quinn, (2004) and Van Velsor, McCauley and Ruderman (2010). They attributed the criticisms on leadership to a misunderstanding over the continuing development of leadership studies and theories. The authors proposed some refinements to several common definitions of leadership (see Figure 1 below). In the first column, they present the level of complexity and inclusivity of leadership ranging from basic to complex. The second column compares changes in definitions of leadership, advancing from solely role-based influence to leadership as a common property of a social system that incorporates the interdependencies of organisations, teams, and individuals. The third column of the table gives examples of typical theories and the remaining columns address the level of analysis, form of leadership development and leadership self-concept.

Table 1: Summary of the evolution of thinking about leadership.

(Source: Day and Harrison 2007, p. 361)

Level of complexity and inclusiveness	Definition of leadership	Illustrative theories of leadership	Levels-of-analysis addressed	Leadership development focus	Parallel level of self-concept and identity knowledge principle
Most basic, least complex and inclusive conceptualisation of leadership	<ul style="list-style-type: none"> Leadership is role-based authority 	<ul style="list-style-type: none"> Trait theory Leader behaviours 	<ul style="list-style-type: none"> Individual level Top-down influence of leader on followers 	<ul style="list-style-type: none"> Individual skills development 	<ul style="list-style-type: none"> Individual self-concept Personal dominance
Mid-level conceptualisation of leadership	<ul style="list-style-type: none"> Leadership is an influence process between individuals Roles are also important in shaping influence processes 	<ul style="list-style-type: none"> Leader-member exchange (LMX) 	<ul style="list-style-type: none"> Reciprocal dyadic influence Top-down influence of leader on follower as well as bottom-up effect of follower on leader 	<ul style="list-style-type: none"> Includes both: <ul style="list-style-type: none"> Individual skill development Relationship building 	<ul style="list-style-type: none"> Acknowledges both: <ul style="list-style-type: none"> Individual self-concept Relational self-concept Able to draw from: <ul style="list-style-type: none"> Personal dominance Interpersonal influence

Most advance, complex, and inclusive conceptualisation of leadership	<ul style="list-style-type: none"> • Leadership is a shared property of a social system including independencies among individuals, teams, and organisations. • Can also involve roles and influence processes depending upon situation. 	<ul style="list-style-type: none"> • Shared leadership • Collective leadership • Connective leadership 	<ul style="list-style-type: none"> • Multi-level approach (includes individual, team, and organisational level). • Includes both contextual influences on team and leadership emergence within a team • Also acknowledges dyadic and individual levels 	<ul style="list-style-type: none"> • Includes all: <ul style="list-style-type: none"> - Individual skill development - Relationship building - Empowerment - Collaboration - Working across boundaries 	<ul style="list-style-type: none"> • Acknowledges all: <ul style="list-style-type: none"> - Individual self-concept - Relational self-concept - Collective self-concept • Able to draw from: <ul style="list-style-type: none"> - Personal dominance - Interpersonal influence - Relational Dialogue
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The table shows how leadership and leadership development can be considered at multiple levels of complexity and conceptualisation. Day and Harrison's (2007) approach includes a wide range of issues relevant to this thesis, including individual skill development, relationship building, empowerment, collaboration, and working across boundaries.

2.2 Scope of leadership science

Hiller, DeChurch, Murase and Doty (2011) reviewed a total of 1,161 empirical studies over 25 years, covering micro- and macro-oriented perspectives. They aimed to answer six essential questions that design the scope of leadership science. They argue that:

By some metrics and perspectives, Jack Welch was a fantastic leader; by other metrics, he may have been less than fantastic. In leadership research, explicit and systematic attention to the criteria by which we understand leadership effects is vital. Choices about perspectives, sources, criteria types, time lags, leader level, and level of analysis set some of the boundary conditions for inferences about leadership (p. 1172).

Hiller and colleagues (2011) attempt to answer the question: From whose perspective should leadership be judged? Table 2 below presents their framework, and the six main questions addressed by the authors.

Hiller et al. (2011, pp. 1139-1140) explained that the concept of leadership may be measured from a variety of perspectives comprising subordinates, peers, self, superiors, or subject

matter specialists. However, all these different sources contain their own idiosyncrasies and these different leadership assessments might not assist us to understand the entire domain of leadership. Hiller and colleagues emphasise that ‘Different raters often have different opportunities to observe, may have different goals, and may be evaluating or weighting different factors in their assessment (Murphy & Cleveland, 1995)’ (p. 1140).

Table 2: Organising framework: Criterion issues in leadership research.

(Source: Hiller et al. 2011, Table 1, p. 1140)

Issues in Evaluating Leadership Criteria	Indicator Examined in the Current Review	Indicator Categorises in the Current Review
Question 1: From whole perspective is leadership judged (and linked to leadership criteria)?	Source of leadership measure	Self-report, superior, subordinate, peer, SME, manipulating
Question 2: Which type of leadership measure is used (method to collect data; which underpins relationship between leadership and criteria)?	Types of data	Survey, interview, observation, manipulating, database/company records
Question 3: On which criterion domains are leadership effects assessed?	Outcome categories	Effective, attitude, behaviour, cognitive
Question 4: At what time frame are leadership criteria being examined?	Temporal separation	Cross-sectional, short-term longitudinal, longitudinal
Question 5: At what level of analysis are leadership criteria being examined?	Level of Outcome variable	Individual, small group, unit, organization
Question 6: What is the organizational level at which leadership effects on criteria are being examined?	Organizational level of leader	Top management, midlevel management, lower level, mixed

Note: SME = Subject Matter Expert.

In the above table, the authors specify the indicators examined in the current review of each of the six questions as well as the indicator categories in their ongoing investigation. They recommended that attending to several perspectives can be useful in triangulating and differentiating the research findings. Also, they indicated the different types of leadership measurement methods more likely to be useful for specific types of data; for example, databases for gaining accounts of organisation performance and surveys for emotional results of leadership. Overall, triangulation from distinctive data sources enhances the understanding of leadership phenomena.

The third question addressed by Hiller et al. (2011) analyses the breadth and balance of leadership measures that have been inspected, which involve a category of leadership and its impact on the wide-ranging consequences of effectiveness, attitudes, behaviours, and cognition. The authors designed ten individual criteria included within these four common outcome domains, giving precise examples. Under the domain of *effectiveness* they considered tangible outcomes (e.g. profitability, bankruptcy, actual performance on a test) and they included general evaluations of leadership effectiveness and formal and informal scores of performances. The second domain comprises attitude, motivation, and emotion. Meanwhile, Hiller et al. (2011) cite several well-known studies (Bass & Avolio, 1994; Graen & Uhl-Bien, 1995; House & Aditya, 1997) that confirmed transformational, behavioural and Leader-Member Exchange (LMX) leadership theories. All propose that leadership affects the way people see themselves and relate to the organisation, the leader, and others within the organisation on areas such as satisfaction, commitment, cynicism, self-esteem, and identification. Under the second domain, *motivation*, the outcomes they specify include efficacy, general motivation, and empowerment.

Hiller et al. (2011) define the third domain of leadership under the *behavioural* heading containing authentic behaviours and reported processes of precise actions. Finally, the fourth measure of a domain that leadership may imitate is *cognition*. While attitudes may have a cognitive constituent to them, the authors define cognition as a separate category aiming to separate out the non-attitudinal and non-emotional effects that leaders may have on followers, groups, and organisations. They attribute that to ‘Perceptions of group climate (Salvaggio et al., 2007) and leadership prototypicality (van Knippenberg & van Knippenberg, 2005) as well as how one views oneself vis-à-vis the group (working self-concept; Lord & Brown, 2004) are examples of cognitive outcomes’ (p. 1141). The fourth question they study is the timeframe

over which leadership has been linked to criteria in historical research. Analyses were arranged into three time-based groups – cross-sectional, short-term longitudinal, and longitudinal. Their findings showed that 59% of the 25-year empirical record is based on cross-sectional data where leadership-outcome states are assessed that depend on measurements acquired at the same time; 12% have been done for short-term longitudinal studies, and 29% have been done using longitudinal examinations. However, they found that, over time, there has been a significant growth in the percentage and amount of results based on longitudinal designs extending from a low base of 21% in the first period (1985–1989) to a higher level of 33% in the latest period (2005–2009).

The fifth domain of examination reflects the level of analysis of leadership criteria. The authors considered four criterion levels: individual, team, unit, and organisational levels. The individual level was the main level of criterion (731 of 1,393 examinations), followed by the organisational level (431 reviews) and the team level (156 studies), with a few studies at the unit level (75). They found that at the individual level of analysis, 61% of findings are based on subordinate perspectives of leadership, 17% on leaders' self-report, and 12% on manipulations of leadership.

The sixth domain considers research studying the leader's level in the organisation - whether, top, middle, or lower. Hiller et al. (2011) explained that the much of the mainstream knowledge about leadership is at the middle and lower levels. They assert that the researchers should be able to identify and examine the level of CEO/president and people who report directly to the CEO. They mention that surveys of subordinates are our most common source of leadership knowledge. While survey data are often most convenient to collect and can be acknowledged readily in further empirical research for their practical consistency, the

understanding of rich and unique leadership phenomena at different levels could be improved through more use of interviews and field observations and this would also support more triangulation across current findings.

The study by Hiller et al. (2011) across the period 1985-2009 illustrates the following findings; in the area of the perspective on leadership, subordinate was at the top with 45%, then self-report, followed by database/company records, SME/researcher, manipulation, peer and superior. In the area of methods of data collection on leadership (1985 to 2009), survey is the first, then database/company records, manipulation, interview, and observation. The results of the criterion domain show that:

more than one third (39%) of findings relate leadership to effectiveness criteria; effectiveness includes tangible metrics (25%), formal and informal performance evaluations (6%), and leadership effectiveness metrics (7%). Smaller proportions of examinations linked leadership to the attitude domain (26% collectively), behavioral domain (14% collectively), and cognitive domain (22%). The four specific criteria of group process, motivation, OCB, and emotion criteria each accounted for less than 4% (Hiller et al., 2011, p. 1153).

The authors concluded that in leadership research, explicit and systematic consideration of the criteria by which researchers understand leadership effects is varied and energetic. Selections about ‘perspectives, sources, criteria types, time lags, leader level, and level of analysis’ (p. 1172) adjust some of the limiting situations for identifying the implications of leadership.

2.3 Leadership approaches and theories

Meuser et al. (2016) reviewed 864 articles in 10 top journals examining 49 leadership approaches and theories; these articles were published in the period 2000 to 2013. The authors adopted an inductive methodology and applied graphic network analysis as a means of making deductions about the status of leadership theory and its degree of integration. They considered the theories as follows:

Theories can be defined as a method for making sense of natural phenomena (Kaplan, 1964); they provide “a statement of relationships between units observed or approximated in the empirical world” (Bacharach, 1989: 498). Theories are useful to researchers because they provide a framework for organizing existing knowledge and offer tentative explanations for the processes through which constructs are related (Kaplan). The importance of theory can be observed easily within the organizational sciences and particularly within the leadership field, which has witnessed a proliferation of theories over the last decade (p.1375).

Meuser et al. (2013) discovered that six leadership approaches most often acting as the focal theory were ‘transformational leadership, charismatic leadership, strategic leadership, leadership and diversity, participative/shared leadership, and the trait method to leadership’ (p. 1374). Their results reveal that leadership scholars are following a diverse collection of topics in a relative way. However, their analyses disclosed insufficient articles integrating three or more theories within any one theory domain. The authors discovered that the leadership articles published in the top 10 journals included more than one theory (617; 71.41% of the articles in their data set) than focusing only on one theory (227).

They demonstrate the theories one by one in a comparative analysis. For example, they cite Avolio (2007) to explain the theory of leader-centric work, while under-appreciating the role of followers and context. Avolio argued that leadership theory should consider five core facets of leadership: ‘(a) cognitive elements, (b) individual and group behavior, (c) the historical context, (d) the proximal context, and (e) the distal context’ (p. 1378). Avolio also used the authentic leadership theory as an example to explain the inter-relationships between these facets of leadership and its impact on enhancing understanding of the leadership construct.

Dinh et al. (2014) identified 66 distinct theories in the available leadership literature published since 2000. Although these findings show the growing maturity of this area of study, these theories are predominantly describing the role of leaders and their influence within organisations. Meuser et al. (2016) indicated that many researchers have commented on the

lack of integration of leadership theories, as also have Avolio (2007) and many others (e.g. Dansereau, Seitz, Chiu, Shaughnessy, & Yammarino, 2013; Eberly, Johnson, Hernandez, & Avolio, 2013; Hernandez, Eberly, Avolio, & Johnson, 2011; Hoffman & Lord, 2013). The complexity and sophistication in the integration of leadership theories are partly due to the proliferation of distinct theories.

Many past research studies (e.g. Galton, 1869; Carlyle, 1840; Stogdill, 1948, 1963; Zaccaro, 1991) have concluded that the trait approach has failed to construct a ‘consistent set of traits that predicted leadership emergence and effectiveness, motivating subsequent studies into the behavioural approaches’ (Meuser et al. (2016, p. 1392). However, Dinh et al. (2014) indicate that, recently, researchers have shown renewed interest in leader traits as a result of better character evaluation and meta-analytic research tools; leader’s trait research has once more returned to a forefront role in the activities of groups of researchers. Meuser et al. (2016, p. 1392) explain that:

Researchers have conducted meta-analytic investigations of traits and leadership (e.g., Eagly et al., 2003; Judge et al.), as well as meta-analytic integrations of traits and behavioral approaches (DeRue et al., 2011), transformational and transactional leadership (Bono & Judge, 2004), and leader-member exchange (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012).

Meuser et al. (2016) also emphasise that trait theory is associated most predominantly with ‘cognitions, and clusters with transformational and charismatic leadership, suggesting that researchers have viewed these commonly researched leadership styles similarly when exploring their relations to leader traits’ (p. 1392). Also, the noticeable studies of contextual and relational leadership disclose that scholars are interested in integrating these approaches with trait theories; hence, trait research aims not just to find “one best set” of traits. Instead, it has advanced towards a more holistic contextual approach integrating situational variables. This new perspective is likewise presented in the skill approach by Mumford et al. (2000)

who argue for an integration of *who the leader is* with *what the leader can and has learned*.

They emphasised that leaders emerge from traits but also through skills pertinent to the situation. These ideas prompt Meuser et al. (2016) to ask the question, ‘How many leadership approaches are needed to cover the full domain of leadership?’ and their answer was that it is unlikely that 49 approaches (which were reviewed and examined by them) are necessary.

2.4 Indicators of leadership effectiveness

Most scholars examine leadership effectiveness in terms of the consequences that impact on a single individual, group, or organisation. The consequences could be on the extent to which the performance of the team or organisation is enhanced. Subordinates’ attitudes and perceptions of the leader are other common indicators of leadership effectiveness. Also, leader effectiveness is sometimes determined in terms of the leader’s impact on the superiority of group processes, as revealed through subordinates or by other observers. Finally, the leader’s effectiveness could be assessed by the extent to which an individual has a thriving business as a leader (Yukl, 2013). It is likely that these criteria are also influenced more by essential events such as the prevailing political, economic or government policies. Hence, the end-result criteria may be less useful for examining leadership effectiveness when these other factors and events are highly influential.

Leadership style is one of the essential factors impacting on the effectiveness of leaders (Bruno & Lay, 2006; Hogg et al., 2005; Hur et al., 2011). Many research studies in different settings have shown that a notable statistical relationship arises between leadership effectiveness and the different extent of transformational and transactional types of leadership (Bass & Yammarino 1991; Erkutlu, 2008; Kirby et al., 1991; Lowe et al., 1996; Sadeghi & Pihie, 2012). Katz (1955; 1974; 2009) has investigated the links between skills and

effectiveness, asserting that effective leadership depends on three fundamental personal skills – technical, human and conceptual. He explained that the relative importance of these three skills seems to vary with the level of management role and responsibility. At higher levels, the leader's effectiveness depends mostly on conceptual skills. At the middle levels, human and conceptual skills become the most important for successful leadership. At the lower levels, the primary need is for technical and human skills.

Also, Yukl (2013) indicated that a large number of theories about effective leadership revolve around behaviours that influence direct subordinates, and other individuals within the organisation, as well as peers, bosses and employees who do not report directly to the leader. Various scholars (e.g. Hunt, 1991; Lord & Maher, 1991; Yammarino, 1994) have found differences between direct and indirect types of leadership that help to explain how a leader influences employees when there are no direct dealings with them.

2.5 Public sector leadership

Researchers and practitioners in the areas of public administration/management distinguish public sector leadership from private sector leadership primarily according to sectoral differences. It is often asserted that the private sector is predominantly concerned with economic goals while the public sector has to concentrate on a broader range of social and economic goals. However, taken at face value, Van Wart's (2003) generic model of organisational leadership, emphasises the commonalities across the sectors in leadership inputs, processes, and outcomes. His practitioner model could readily be applied to either the private sector or the public sector with minimal modification.

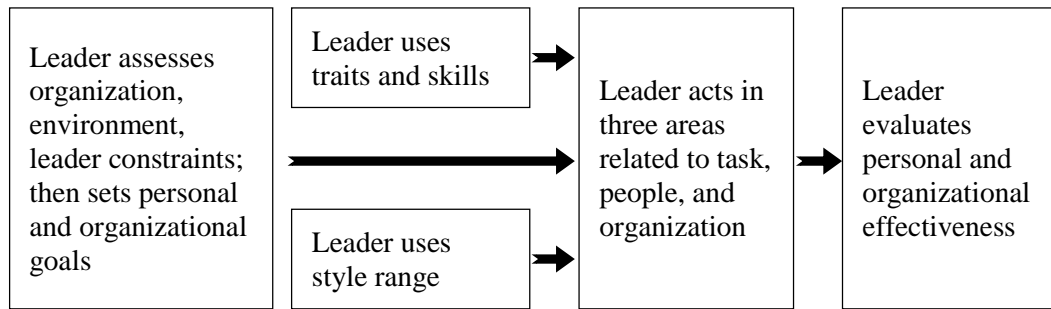


Figure 1: A generic practitioner model of organisational leadership.

(Source: Van Wart 2003, p. 216)

As Van Wart (2003; 2013) reflects, although there has been an increase over the last few years in articles published on public sector leadership, there is still much more research needed to understand leadership within the administrative settings of government. Van Wart (2013, p. 521) defines administrative leadership as:

.. the people (at all levels) and the accompanying processes and networks that lead, manage, and guide government and nonprofit agencies; it focuses on civil service and appointed leaders rather than political leaders, and focuses primarily, but not exclusively, on implementation and the technical aspects of policy development over policy advocacy.

Wart (2003) draws attention to the value of both transactional and transformational skills and argues that public sector leaders must be capable of addressing legitimate public critique as well as able to persuade people of the virtues of the public sector. For transactional skills, Van Wart gives examples of providing support, consideration, and empowerment, and for transformational skills, he mentions inspiration and vision (e.g. sensemaking and shared purpose). He argues that one of the inevitable effects of the changing context of leadership is that the expectations for public sector leaders are continually evolving. Historical, cultural, economic and political change in many societies across the world has influenced how public sector leadership is understood and what expectations people have about it. He discusses how popular sentiment about the importance of good public leadership varies with historical context, and observes that over the last sixty or so years, public leadership has had to deal

with complex problems arising from market-based global economic changes and cultural conflicts. Van Wart traces the rise in popularity of transformational leadership as encouraged by energy issues and organisational restructuring during the 1980s, and attributes many of the political issues facing public leaders to the increasing globalisation of commerce and corporations.

Within the context of leadership development, Pinnington (2011) reports the results of an empirical survey undertaken in the UK and argues that it provides some evidence for sectoral differences. In the public and not-for-profit sectors, leadership was found to be understood and practiced with a greater emphasis placed on normative, ethical considerations than was reported to be the case in the private sector. Pinnington suggests that leadership development in the private sector is more strongly motivated by instrumental economic concerns. To some extent, therefore, superficially, private sector models of leadership development appeared to be adequate in so far as they shared substantial commonality with the public and not-for-profit sectors in their development practices. However, the survey participants 'from the public and not-for-profit sectors are less convinced by the importance of some of the private sector's approaches and its dominant values such as preparedness to facilitate the leaders' confidence and power to create effective leadership' (Pinnington, 2011, pp. 335-336).

One implication of sectoral differences in leadership relevant to this research is that private and public sector environments present different contexts for practicing leadership. Kempster (2009) reports a longitudinal cross-sectoral case study research on the development of leadership practices and concludes that intrapersonal and interpersonal influences vary widely by context. When explaining some of the differences between private and public sector managers, Kempster (2009, p. 193) gives the following examples:

... in the public sector group, managers frequently commented on the influence and salience of organisational purpose and on the ethos of public service. Combined with these influences was the affect of public scrutiny, use of public money and associated bureaucracy ensuring public access to information, policy and performance measurement. Such embedded practices and associated relationships create contexts that are distinctive from the private sector. For the public sector leader, these influences appear to limit freedom of action, autonomy and restrict personal use of power. Rather, power was more associated with position in the hierarchy.

In a similar vein, Pagon, Banutai and Bizjak (2008, pp. 3-4) emphasise dissimilarities in leadership competencies that are likely to occur between the different sectors:

It is necessary to distinguish between leadership competencies in profit organizations and public (as well as not-for-profit) organizations. Nature of activity, context, orientation of work and the budget, to name only a few areas, cause certain distinctions in leadership competencies between these two groups. There is a lack of studies comparing leadership factors and skills relevant to profit, public, and not-for-profit organizations.

Allison (1986) reviewed the discussion and concluded that one influential part of the evidence in the argument between those who underline similarities and those who emphasise differences is the somewhat obvious conclusion relating to individuals who have been general managers in both business and government. The author noted that all of those leaders judge public management to be different from private management, and more challenging. Allison mentions a group of them, born in the nineteen twenties or thirties, as including George Shultz (an economist, businessman and Republican statesman) Donald Rumsfeld (Businessman and Secretary of Defense for two terms of office), and Michael Blumenthal (economist, business leader and US Secretary of the Treasury). Allison (1986) reported “Three orthogonal lists of differences” between public and private sectors. These three lists concur that the differences lie in several points:

Time perspective and duration, Measurement of performance, Personnel constraints, Equity and efficiency, Role of press and media, Persuasion and direction, Legislative and judicial impact, Degree of market exposure (reliance reduction, operating), Coerciveness (coercive, monopolistic, unavoidable nature of many government activities), Complexity of objectives, evaluation and decision criteria (pp. 219-226).

As is evident from the literature on public management, there are substantive differences between the private and public sectors in areas such as politics, leadership perspectives, processes, and contexts. Hence, it is reasonable to assume that this may lead in turn to variations in the role of particular conceptual competencies when leading public sector change.

2.6 Leading change

Leadership is central to the literature on organisational change and change management (Eisenbach, Watson & Pillai, 1999; Van der Voet, 2014; Van der Voet, Groeneveld & Kuipers, 2014; Van der Voet, Kuipers & Groeneveld, 2016). Leading change demands that leaders are proficient across a wide range of leadership competencies (Gilley, Gilley, & McMillan, 2009; Higgs & Rowland, 2000; Kotter 2012; Kuipers et al., 2014).

Yukl (2013) listed a variety of kinds of change in organisations in which a variety of types of changes can be made by leaders; and some kinds are more difficult than others. The centre of attention of a change effort can also encapsulate roles, attitudes, technology, strategy, economics, or human beings. What distinguishes between change in attitudes and change in roles, structure, and strategies that attitude-centred method includes changing values and attitudes with training and a culture change programme. The central notion is that new attitudes and skills will trigger behaviour that is beneficial to change. However, the role-centred method includes changing work roles through identifying the workflow, reforming jobs with a different responsibility, changing authority relationships, and implementing reward systems. The idea is that people will change their attitudes to be consistent with the new behaviour according to the modified work role. Another type of change is in the technology used in work and change is in the competitive strategy for achieving the major

objectives of the team or organisation.

Change can increase the extent of ambiguity, resistance, confusion over role expectations, and incompatibilities between the concept of self and actual experience. Glesson (2016) advocates that major change should be led by senior people at the top of the organisation. He recommends three critical skills for leaders; (1) leading the change, (2) responding to feedback, and (3) having a facilitative communication style. Anderson and Anderson (2010, p. 34) propose that leaders should attend to both the internal and external dynamics of change, and Fullan (2014) observes that this will require them to be open minded, collaborative, and willing to show empathy towards others.

Ferry (2017) suggests that there is a general lack of confidence in leaders' capability to bring about strategic change. He found a significant gap between the actual competencies of leaders and the abilities required to lead strategic change. His investigation of 7,500 global leaders in 107 nations concluded that the priority for leadership development is to develop leaders' competency in leading change. In Ferry's study, it was found that only 17% of participants were completely confident that their organisations had the leaders to deliver on their strategic business plans. The top three priorities for leadership development indicated by these global leaders in Ferry's (2017) survey were: 1) Developing leaders to drive strategic change, 2) Filling gaps in your leadership pipeline, and 3) Driving culture change.

One of the early models of leading change by Kurt Lewin (1947) described it as requiring individual psychological and behavioural change. 'His approach assumes people naturally resist change but can be persuaded to change when the causes of their resistance are dealt with appropriately' (Pinnington & Edwards, 2000, p. 223). His popular three-step approach

inevitably requires exercise of conceptual thinking for leaders and followers to be able to “unfreeze, change, and refreeze.”

John Kotter (2014) is also very well-known for his work on leading change. His eight steps to transforming the organisation are interesting from the perspective of this thesis insofar as several of his steps probably involve the exercise of conceptual skills by leaders and followers. To establish a sense of urgency (step 1) people have to see the need for change. To communicate the change vision (step 4) the leader must be able to explain the change and answer questions. To consolidate gains and produce more change (step 7) leaders and followers must continue to develop their conceptual knowledge and understanding of the reasons for the change and adoption of new behaviours.

Today any company that isn't rethinking its direction at least every few years—as well as constantly adjusting to changing contexts—and then quickly making significant operational changes is putting itself at risk (Kotter, 2014, p. 4).

Morgan (1988, 2013) claims that change is never simple and advises managers to “Change before you need to”. Similarly, Ketterling (2012) titled his book *Change before you have to*, a phrase commonly used by former CEO of General Electric, Jack Welch. In any case, change and interruption are often challenging for people, particularly when confronted with unforeseen or unwelcome change. Morgan (2013) emphasises the need for a proactive mindset and to approach change actively rather than passively. His overview of managerial competencies in ‘Riding the waves of change’ (1988) contains a broad range of leadership behaviours, challenges, and attitudes likely to require the exercise of conceptual skills.

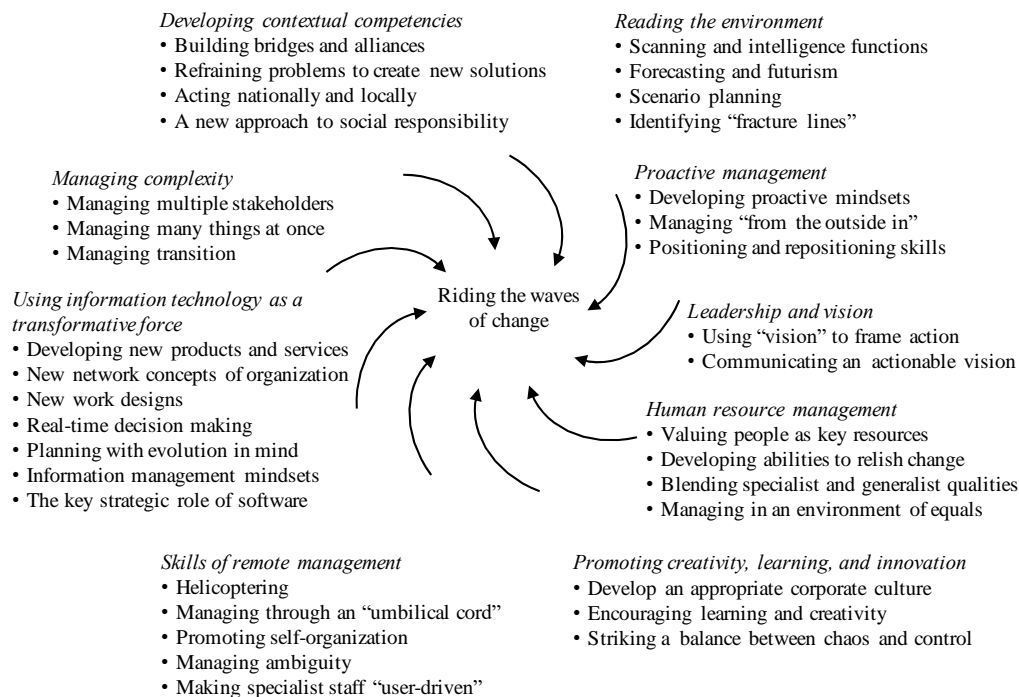


Figure 2: An overview of some emerging managerial competencies.

(Adaptation based on: Morgan 2013, p. 3)

While Morgan's emerging competence titled 'Using information technology as a transformative force' necessarily involves technical skills in IT concepts, many of the other competencies depend on cognitive skills and quality processes of conceptual reasoning; for example, 'Reading the environment' and 'Promoting creativity, learning, and innovation'.

2.7 Leading change in the public sector

Public sector leaders need to follow approaches relevant to their sector's context based on the available resources. Even in public-private sector partnerships and outsourced relationships, the perspectives of leaders in public and private sector organisations often differ. These dissimilarities in policy, strategy and culture have implications for leadership development in the two sectors. Kempster's (2009) study comparing owner managers from private sector organisations with public sector leaders found different leadership identities and images,

dissimilar career pathways, and different organisational cultures and attitudes, including gender. Pinnington (2011) concluded from his study that what is seen as valid in the private sector does not necessarily fit the public sector, and Van Wart (2013) agrees that their distinctiveness is relevant to the future development of public sector leadership theory. There need to be more studies comparing and contrasting leadership elements and abilities between private, public and non-profit organisations, as Pagon (2008) pointed out.

It is important to distinguish between the skills required for leading change in private and public sector organisations (Pagon, Banutai, & Bizjak, 2008). For example, the context, orientation of work, nature of the activity, and the budget all combine to draw distinctions in leadership skills between these two sectors. Academic journals on general management contain a high volume of articles on leading change, and organisational change is frequently a central theme. In contrast, this topic is less comprehensively covered in the journals on public sector management. Nevertheless, there are some worthwhile theories available on change in public sector organisations.

Fernandez, Rainy and Lowman (2006) argue that public sector leaders play a critical role in leading change. Their overview of the literature identifies a substantial amount of published research on leadership and organisational change in the public sector (e.g. Abramson and Lawrence, 2001; Bingham and Wise, 1996; Borins, 2000; Doig and Hargrove, 1990; Hennessey, 1998; Kemp, Funk, and Eadie, 1993). In the literature on managing change, Lorenzi and Riley (2000) classified change into four types: operational, strategic, cultural, and political. *Operational* change concerns influencing the methods of conducting continuous operations. *Strategic* change arises whenever there is a change in the strategic business direction. *Cultural* change involves changing fundamental organisational philosophies, values

and behaviours, and *political* change usually refers to staffing changes made principally for political reasons; this more often occurs in government organisations.

Change in organisations and its management is often subdivided into several types of change based on characteristics such as the urgency, pace and scale of change, and whether it is planned or emergent, proactive or reactive, and incremental or transformational.

Organisational change occurs in many different settings and is prompted by an enormous variety of factors. Change can happen in financial, political, social and managerial domains and includes thoughts regarding opportunities, problems, and solutions (Melchor, 2008).

Change very often does not go according to plan and frequently fails to achieve all of its objectives, even in instances where they might be quite modest projects or reforms for their context. For example, a new IT system may be introduced in an organisation to simplify processes and reduce costs, but some of the intended implementation may be resisted by users (Andersson, Aspenberg & Kjellberg, 2008; Gichoya, 2005).

The introduction of principles and practices of New Public Management (NPM) has led to major change initiatives in public service organisations across the world. The OECD represents this approach as a cultural transformation in government, necessitating movement from traditional values to the adoption of new cultural values. According to Melchor (2008, p. 15), change management in the public sector has been influential for several decades, and OECD member and non-member countries have instituted policies and practices to consolidate NPM-inspired reforms. The cultural transformation of traditional government structures and procedures to new organisations characterised by values such as accountability, transparency, efficiency and a managerial culture is, in many ways, a process of continuous change requiring skilful leadership to be optimally effective.

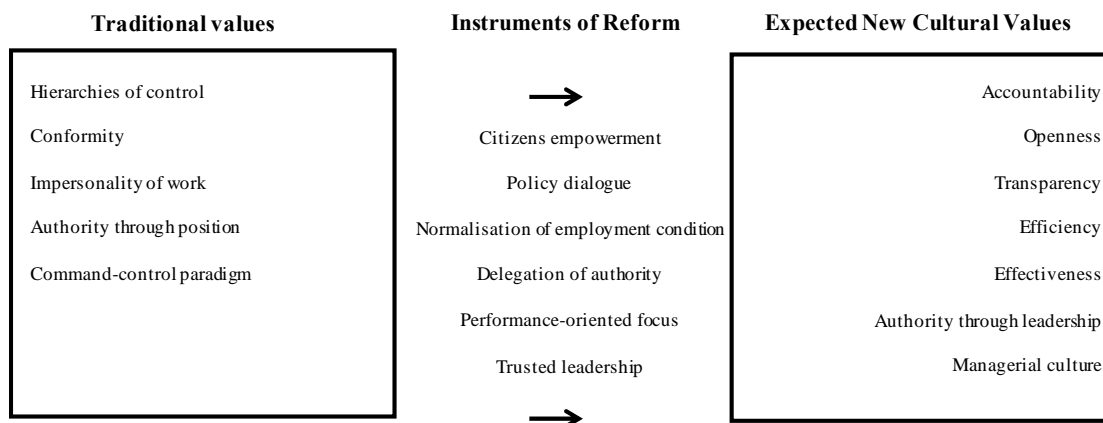


Figure 3: Cultural transformation in government.

(Adaptation based on: Melchor 2008, p. 15)

A report published for the Slovenian Presidency of the EU (2008) on ‘Leadership competencies for successful change management’ lists a number of change outcome indicators that are relevant across sectors, except perhaps for the final one (agency satisfaction). Pagon, Banutai and Bizjak (2008, p. 10) list these indicators as: ‘Productivity, Relationship quality, Number of conflicts, Level of cooperation, Organisational culture and climate, Organisational learning curve, Goal attainment, Change implementation, Employee satisfaction, Motivation, Adaptability, Customer satisfaction, and Superior agency’s satisfaction’. These authors conclude that the leadership competencies required for attaining these outcomes are: ‘Multicultural skills, Understanding, innovating and changing the organisation, Emotional intelligence and self-control, and People skills’ (Pagon, et al., 2008, p. 27), while ‘Planning and decision-making skills were associated with traditional values and with fear and resistance to change’ (p 27). They argue that implementing new cultural standards in the public sector is achievable when managers adopt the ‘proper mindset’ by which they mean high internal locus of control and sense of achievement.

Reforming the public sector is often acknowledged to be a complicated matter, and

governments are facing growing challenges to create and embed change. The 2017 OECD report urges OECD member and non-member countries to go beyond innovative changes in response to social demands from multiple stakeholders. The report observes that many governments are poorly prepared to cope with the complexity of many policy problems. Also, other researchers such as Colecchia and Schreyer (2002) emphasise particular challenges of change related to ICT investment and use. Public sector organisations and their leaders need to be able to manage complexity and deal with uncertainty through resilient systems and adaptive structures. Complexity is described in the Foreword to the OECD (2017, pp. 5-6) report as necessitating systems thinking and systemic change based on, for example, integrated interventions and stakeholder engagement.

Al-Ali et al. (2017) conclude that change-oriented public leaders have an active and significant direct effect on planned change. Inevitably, the effectiveness of public sector leaders in leading change is influenced by many complex factors. Ostroff (2006) discussed these challenges in the context of change management in government and assessed the preparedness of public leaders in achieving effective change. He identifies four exceptional difficulties that public leaders face.

In the first place, public leaders are often not selected based on their competence; rather, they are conventionally picked in light of their sense of duty to initiate change or because they have a reputation for driving broad-scale change endeavours. Sometimes, they are selected based on their technical and policy knowledge of the organisation's work or due to political relations.

Second, it has been known for many years that public leaders are often given short timescales to achieve the goals of the change. For example, the politicians driving these initiatives are

frequently in office for a relatively short duration such as four years in some countries, and the average residence of political nominees is less than this – often around 18 months to two years. These short timeframes for major change initiatives can entice leaders to focus on only those strategic policy changes that can be instituted rapidly, rather than attend to areas that are likely to require longer periods of time to produce evidence of success.

Third, public sector leaders often concentrate on avoiding failure rather than taking risks needed to achieve extraordinary outcomes. The main reason for their preference is that public failure is often punished more swiftly than exceptional performance is rewarded. In short, the public sector work environment often contains many policies, rules, systems and procedures to avoid public misrepresentation or wrongdoing. However, it often has the effect of creating a risk-averse organisational culture, which can be a source of resistance to change.

Fourth, in democratic public sector systems, everyone has a legitimate stake in the organisation's activities. Consequently, much of the day-to-day business and operations of the public sector are matters of public interest and hence are always open to criticism from many different individuals, groups and organisations. This public accountability can make leading change all the more difficult since practically every activity is likely to meet with objections from someone in the community of interested stakeholders.

2.8 Leadership skills

Skills are central to leaders' 'ability and willingness to perform a task' (Burgoyne, 1989, p. 57) and the specific knowledge and skills used to perform task activities are emphasised in many models and frameworks of work-based and leadership competencies (Sandberg, 2000). Precisely what underlies a leader's capability to execute different leadership roles is often a

complex phenomenon, and a variety of meta-models have been published to assist our understanding of leaders' skills and performance (M.D. Mumford, 2016; Yukl, 2011).

The influential psychologist and theorist Robert Katz (1955) identified three types of leadership skills; conceptual, human, and technical. Technical skill is the capability, given particular knowledge, in a specific range of work. To have technical skill implies that a leader is able and educated for the activities specific to an organisation, its guidelines, and work processes. In contrast to technical skills, human skills (interpersonal) are a capability in working with individuals in the light of a leader's learning about people and how they act, how they work in teams, how to discuss issues successfully with them, and understanding their thought processes, characters, and emotions. These skills empower the leader to motivate group members to cooperate to fulfil their organisation's vision and objectives. A leader with excellent human skills can adjust his or her particular thoughts to other individuals' beliefs and thus influence group members. A leader with excellent human skills is more compassionate about what exactly persuades others, creates an environment of trust for subordinates, and takes people's needs and aspirations into account when choosing what to do to accomplish the organisational vision (Moore & Rudd, 2005; P.G. Northouse, 2018; Peterson & Van Fleet, 2004).

In the business and management literature, as well as in some leadership studies, the objectives behind the exercise of skills in management and leadership are often emphasised. Consequently, frameworks such as Boyatzis's (1982) "high performing managerial competencies" have been highly influential on a group of scholars interested in outcomes and outputs rather than exclusively inputs. Boyatzis (1982) defined competency as having the right skills that can deliver effective performance. He claims that there 'are three clusters of

competencies differentiating outstanding from average performers,' namely, cognitive, emotional and social intelligence (Boyatzis, 2008, p. 7). While the logical place for conceptual skills lies within the cognitive cluster of skills, the argument of this section is that they also often inform leadership behaviours in emotional and social intelligence domains.

Different leadership skills have been represented in multivariate studies of leadership performance using dependent variables such as leaders' performance and problem resolution. Connelly et al. (2000, p. 66) examined leaders' capabilities and found that 'complex problem-solving skills, social judgment, and leader knowledge partially mediate the relationship of cognitive abilities, motivation and personality to leader effectiveness'. Qualitative research studies on global leadership dealing with diverse contexts have also identified important skills in conceptual thinking. Cseh, Davis and Khilji (2013) propose that leading in the global environment involves a variety of conceptual skills such as transcendence, the plasticity of mind, mindfulness, curiosity, and humility. So, in both quantitative and qualitative research studies, conceptual skills have frequently been found to underpin effective performance in leadership and management.

Overall, there are numerous ways of representing leadership and the skills and competencies supporting successful performance, many of which have been debated in the literature (Mumford, Zaccaro, Harding, Jacobs & Fleishman, 2000). Zaccaro (2014) argues that four meta-models have typically been used in many of the investigations on leadership. There is the *leader as teacher* meta-model which appears in many studies of transformational leadership and leader-follower exchange (Bass, 1990). Then, there is the *leader as politician* meta-model apparent in investigations of charismatic leadership (House, 1976) which tends to be strong on interpersonal analyses (Shondrick, Dinh, & Lord, 2010). The *leader as warrior*

meta-model has been prominent in research on championing and leaders' moral advocacy (Markham, 2007; De Hoogh & Den Hartog, 2008). Lastly, the *leader as problem solver* meta-model is apparent in studies of where the leader is seen to be initiating structure (Fleishman, 1953) or imparting wisdom (Sternberg, 2013). Some scholars emphasise the importance of heredity; for example, Gottfredson (2004) argues that intelligence is a competence powerfully induced by heredity. Interestingly, for the purpose of this research on conceptual skills, the leader as a problem solver has received less attention than the other three mentioned academic approaches to understanding leadership.

In her review of several competency frameworks (Boyatzis, 1982; Viitala, 2005; Su-Chine et al., 2012), Jamil (2015) notes that ethical competency is often under-acknowledged, presumably due to concentration on the idea of effectiveness as principally related to successfully attaining the profit goals of the organisation. Jamil (2015) identifies two major limitations in these competency approaches to leadership. She argues that the frameworks tend to be limited and biased towards organisational economic performance, and claims that they ignore the complexity of managerial work by adopting a positivist viewpoint. Jamil recommends that researchers should pursue broader epistemological and ideological approaches when examining leadership competency and effectiveness. Various questionnaires and instruments have been created to measure leadership competence and effectiveness. Dulewicz and Higgs (2005) propose that the assessment of leadership style requires consideration of different dimensions of leadership such as organisational context, follower commitment, and leader performance. In this research, the scope is limited primarily to individual leaders, their leadership competencies, and the role of conceptual skills when leading change in the public sector.

Literature Review - Leaders' conceptual skills

Leaders' conceptual skills

3.1 Justification for the focus on conceptual skills in relation to the changes.

By following the definitions of multiple conceptual skills, these definitions are closely related to the handling and managing of change. Any change that does not consider the leader's conceptual skills in leading change may not achieve a clear result in the desired change. The Business Dictionary (2017) defines conceptual skills as an 'ability to think creatively about, analyse and understand complicated and abstract ideas', where change is the essence of a complex abstract set of interrelated concepts. Also, Mann (1965) defined it as 'the ability of the supervisor to think and act in terms of the total system within which he operates', where systems thinking is a fundamental part of the conceptual skills. Furthermore, leading change requires thinking based on reasoning, which is what Kreiger and Martinez (2012) refer to in their definition of conceptual skills where they state that 'Experts do not simply perform well. They must also reason well'. While Noble (2000) state that conceptual skills are based on learning "how to think", Zsombok (1997) said that change needs a leader to build mental models, which in turn requires understanding situations and performing simulations.

These previous definitions and others justify the focus of this thesis on conceptual skills in relation to the changes. The work of change management depends on how this change is perceived and conceptualised and its various linkages with all parties covered by the change. Hence the inevitable relationship between the two sides; change management and conceptual skills are inextricably linked.

Some researchers in the field of change leadership emphasise the close relationship between the success of change and conceptual skills, for example, Katz (2009) stated that success of decisions depends on the conceptual skill of the one who is going to make the decision and who is going to apply it. Hence, the change plan needs to conceptualise and consider the effects of all policies and decisions on the whole processes of production, control, finance, human resource, stakeholders, and persons involved in this plan.

Furthermore, it remains basic directly down to the higher authority of the leader who should apply the new approach. In the event that every leader perceives the overall relationships and consequences of the change, he is practically sure to be progressively effective in leading it. Thus the odds for succeeding are incredibly expanded (Katz, 2009).

Pare and Jutras (2004) examined success in leading change in IT, where they went on to conclude that successful IT change frequently necessitates significant disturbances in organisational structure and processes which are often encountered with resistance as well as modifications to reward systems, changes in responsibility or authority forms, or power changes. Klenke (1993) explained that for IT leaders, the role of the change manager is almost built into their job descriptions. Such a role emphasises the significance of conceptual skills for IT leaders. So, they should be able to assure collaboration and need to be adept at participating and overcoming resistance to change in processes and the authority structure.

Glesson (2016) advocates that major change should be led by senior people at the top of the organisation. Yukl (2013) listed a variety of kinds of change in organisations in which a variety of types of changes can be made by leaders; and some kinds are more complicated than others, where they require special conceptual skills. Fullan (2014) observes that given the need to attend to both the internal and external dynamics of change, leaders are

required to be open-minded, collaborative, and willing to show empathy towards others. Also, Ferry (2017) suggests -in his review of self-regulation- that there is a general lack of confidence in leaders' capability to bring about strategic change.

Morgan (2013) emphasises the need for a proactive mindset and to approach change actively rather than passively. T. V. Mumford et al.'s (2007) Strataplex model lists a group of conceptual skills in the strategic skills category, which is the area most critical to leadership at the senior level and therefore to those who are responsible for the change. T. V. Mumford et al.'s (2007) category of strategic skills lists 'problem identification' skills, where leaders often have the critical role of evaluating alternative courses of action to solve organisational problems. M.D. Mumford et al. (2000) referred to these problem identification skills as objective evaluation and solution appraisal skills.

Leaders, therefore, are often likely to use their conceptual skills when persuading and influencing others to achieve organisational change objectives (Bennis & Nanus, 1985; Katz, 2009, 1974; Mintzberg, 1973; Yukl, 1989). The overall conclusion from their study was that cognition influences leader emergence and leader performance, which is further supported in many previous studies on leadership skills (Cox & Cooper, 1988; Kanungo & Misra, 1992; M.D. Mumford et al., 2000; Yukl, 1989; Zaccaro 2001; Jacobs & Jaques, 1987; Jacobs & Lewis, 1992). Recent research on leadership (e.g. Balogun, 2016 4th ed; Gilley, 2005; Morgan, 2013; Pagon, 2008; Posner, 2012 5th ed; Schwab, 2016; Weir, 2015) reveals that conceptual skills are frequently found to be critical when managing and leading change. These skills are often mentioned indirectly through the use of such terms as 'analytical skills', 'challenge the process', 'persistently innovate', 'divergent intelligence', 'promote learning', and 'problem solver'.

The literature review focused on various studies and finds that since the 1970s scholars have discussed the prominence of conceptual skills in leadership and their impact on the effectiveness of change and the future of organisations. Conceptual skills are becoming even more essential in the context of increasing diversity and rapidity of change where the results of interventions are becoming more unpredictable. Therefore, a basic assumption made in this thesis is that individual effectiveness in leading change essentially depends upon conceptual skills.

3.2 Models of conceptual skills

In well-known models and frameworks of leadership and management skills, conceptual skills are less often represented at the top level where general categories of broad domains of skill behaviour and competence are more prevalent. There are a number of academic studies that argue conceptual skills and competencies are paramount in administration, management, and leadership. Strand (1981) reviewed 'community leadership competencies' and conducted a survey in six states in the US with 679 community residents as participants. The study subdivided competencies into three types; conceptual, human, and technical. Although leaders at all management levels require some competence in each of the three skills, conceptual competencies were identified as most important ('problem delineation, organisation, management of change, etc.'), then human ('demeanor, empathy, attitudes') and then technical ('budgeting, supervision, and needs assessment'). In earlier studies, Katz (1955), and Hicks (1975), as well as other researchers more recently (e.g. Moore & Rudd, 2005) have all concluded that conceptual skills or competencies are most critical.

Conceptual skills enable leaders to perceive the critical components in any circumstance and increase their capacity to act in a way that advances the organisation. Conceptual skills

therefore enable a leader to picture the whole organisation and visualise the relationships among abstract concepts. Katz (1955) defined conceptual skills as including the capacity to see the organisation in general; to perceive how the different elements of the functions rely on each other; and to comprehend how changes in one part influence all of the others. Highly developed conceptual skills increase the leader's capacity to imagine and judge the relationships pertaining to the focal organisation and its activities (Katz uses the example of business) and the whole field including the community, political, social, and financial powers of the country.

Katz (1974) outlined the conceptual skills as akin to the ability to work with thoughts and ideas. Leaders who possess and use relevant conceptual skills are more likely to have the 'ability to think creatively about, analyse and understand complicated and abstract ideas' (BusinessDictionary.com, 2017). Also, Tonidandel, Braddy and Fleenor (2012, p. 652) quoted Katz's definition of conceptual skills as follows:

Conceptual skill involves the ability to see the enterprise as a whole, it includes recognizing how the various functions of the organization depend on one another, and how changes in one part affect all the others, and it extends to visualizing the relationship of the individual business to the industry, community, and the political, social, and economic forces of the nation as a whole (Katz, 1974).

In his retrospective considerations, Katz (2009) explained that 'conceptual skills depends entirely on a specific way of thinking about an enterprise' (Katz, 2009, p. 64). Conceptual skill is the capacity to imagine the whole picture of the organisation depending on concepts and relationships between ideas and considering different thoughts about possibilities and problems. Leaders must understand the complexities and complications of their organisation and its contexts.

Mann's (1965) three-skill typology contains administrative, human-relations and technical

competencies to designate the critical functions of a manager. While it is reasonable to argue that conceptual skills underlie dimensions of all three competencies, it is probable that conceptual abilities will often be more apparent in the execution of technical and administrative skills. In particular, it is worth noting that Mann's (1965) definition of administrative skills has subsequently been considered by some academics to be equivalent to ideas about conceptual skill. For example, Tonidandel, Braddy and Fleenor (2012) explained that Mann (1965) defines administrative skills as 'the ability of the supervisor to think and act in terms of the total system within which he operates ...' (p. 652).

Within leadership studies, a consistent stream of research for over 50 years incorporates conceptual skills when considering leaders' abilities, behaviours and performance. Drawing from Scullen, Mount and Judge's (2003) four lower-order factors (Technical, Administrative and Human Skills, and Citizenship Behaviours), Tonidandel et al. (2012) conducted a factor analysis and found that all four skill areas were significant predictors of managerial effectiveness. Their study concluded that administrative skills were most valuable overall followed by human skills. Given that Tonidandel et al. (2012, p. 652) decided to use the terms 'administrative skill' and 'conceptual skill' interchangeably, these findings do not contest the importance of conceptual skills as a fundamental input to successful performance. Tonidandel and colleagues considered that Mann's (1965) definition of administrative skills and Katz's (1955) definition of conceptual skills both referred to the same underlying construct. They argue that the definitions and contents are almost identical and in effect synthesise the two approaches.

Other studies are more positive about the contribution of cognitive processes and conceptual skills to managerial effectiveness. As Kreiger and Martinez (2012, p. 253) assert, in the

context of experiential learning and conceptual competence, ‘Experts do not simply perform well. They must also reason well’, These authors argue that current research on skills and individuals’ work practices shows that it is more important to understand cognitive skills in specialist performance than simply the performance outcome itself. Despite the importance of conceptual skills, however, out of all of the skills identified in leadership and management research models and frameworks, conceptual skill development appears to have been given the minimum amount of emphasis (Noble & Fallesen, 2000).

Conceptual skills as the focus of this research relate to the kinds of competence that assist individuals in being flexible and innovative in their leadership practice and decision making. Noble (2000) has explored the process of developing leaders for the US Army which defines ‘conceptual skill’ as based on learning “how to think”. Working in different, complex contexts requires capabilities in conceptual skills, such as innovative and critical thinking, experience categorisation, common sense, and the ability to construct concepts.

Noble (2000) developed his framework of conceptual skills informed by the work of Zsombok (1997) who proposed that building mental models requires understanding situations and performing simulations. Noble and Fallesen (2000) explained the importance of these two factors in supporting decision making in realistic conditions. He commented that situation understanding and simulation are the two central components of Klein’s (1997, 1999) model of decision making which he called Recognition Primed Decision (RPD). Noble (2000) developed a cognitive model constituting three primary competencies – self-regulation, simulation, and situation understanding – which he called the “S3 Model”. He explained that situation understanding and simulation are the traditional conceptual skills acquired over time through previous work experience. In their S3 Model, Noble and Fallesen list some of the key

skill attributes based on these primary categories. As shown in Table 3 below, the model subdivides into three columns with seven processes under situation understanding, and ten respectively under simulation and self-regulation:

Table 3: Model of conceptual skills, S3 Model.

(Source: Adopted from Noble 2000, p. 9)

Situation Understanding	Simulation	Self-Regulation
Pattern Matching	Mental Wargaming	Metacognition
Intuition	Battlefield Visualisation	Decentring
Situation Awareness	Prediction	Question Asking
Detecting Solvability	Discriminating Cues	Story Building
Problem Detection	Information Assimilation	Adversarial Reasoning
Sensemaking	Analogical Reasoning	Self-understanding
Recognising Typicality	Conceptualisation	Introspection
	Exploration	Concentration of Thought
	Diagnosis	Dominance Structuring
	Dynamic/Systems Thinking	Finding Hidden Assumptions

Noble (2000) argued that ‘simulation’ is a more deliberate process of situation understanding that depends on demonstrative knowledge and finding relationships between thoughts, ideas, and items. Self-regulation is a paradigm that has been widely reviewed within psychology and includes conceptual skills such as metacognition, decentring and question asking. Self-regulation is important to leaders who need to identify compelling approaches by which they can adapt to changing environments, process an exorbitant amount of information, and maintain an acceptable level of control of themselves, the system and the situation (Noble & Fallesen, 2000).

Morgeson et al. (2007) and T.V. Mumford (2007) investigated previous research on leadership skills (e.g. Katz & Kahn, 1978; Mahoney, Jerdee, & Carroll 1965; Mintzberg, 1973; Lau & Pavett, 1980; Kanungo & Misra, 1992; Hooijberg, Hunt, & Dodge, 1997;

Connely et al., 2000; M.D. Mumford et al., 2000; Zaccaro, 2001) and, based on these theories, concluded that scholars have concentrated on four general categories of leadership skill: cognitive, interpersonal, business, and strategic. Based on these skills, T. V. Mumford et al. (2007) proposed a model of 'leadership skills requirements' (see Figure 4) that represents the skills as layers (strata) and distinct units (plex) according to the level of seniority of leadership (junior, mid, senior). In essence, cognitive skills are represented as more prevalent for junior leaders than senior ones because they are foundational. By contrast, they portray strategic skills as particularly important for senior leaders occupying top management levels.

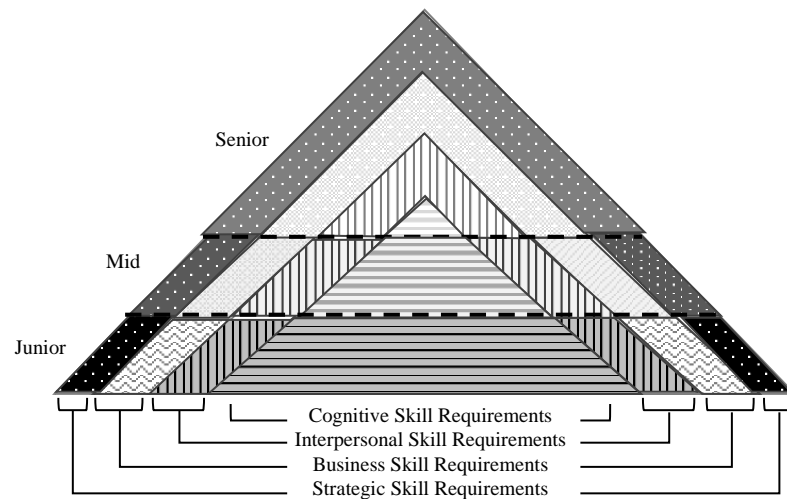


Figure 4: The leadership skill requirements Strataplex.

(Adaptation based on: T.V. Mumford, Campion & Morgeson 2007, p. 156)

The authors drew a comparison between their leadership Strataplex and previous research on leadership skills. Interestingly, their review of relevant literature reveals a much greater frequency of mention of conceptual skills or skills related to thinking and cognitive processes than is evident in their Strataplex model. In their analysis of some common concepts of leadership available in the literature they categorise skills under the headings of cognitive, interpersonal, business and strategic:

Table 4: The relationship between the leadership Strataplex and previous conceptualisations of leadership skill requirements.

(Adaptation based on: T.V. Mumford, Campion and Morgeson 2007, p. 155)

Leadership	Cognitive	Interpersonal	Business	Strategic
Mahoney et al. (1965)	• Investigating	• Supervisory	• Coordination	• Planning
Mintzberg (1973)		• Negotiating	• Staffing	• Evaluating
	• Monitor	• Leader		• Figurehead
	• Disseminator	• Negotiator	• Resource allocator	• Spokesperson
Katz & Kahn (1978)		• Disturbance handler		• Liaison
Lau & Pavett (1980)	• Information gathering & dissemination	• Human relations	• Technical know-how	• System perspective
		• Supervision	• Allocating resources	• Decision making
Kanungo & Misra (1992)		• People orientation		• Problem-solving
Hooijberg, Hunt & Dodge(1997)		• Social complexity		• Intellectual competence
Connelly et al. (2000)	• General cognitive capacities	• Social judgment		• Cognitive complexity
Mumford, Marks, et al. (2000)		• Social judgment		• Problem-solving skills
Zaccaro (2001)	• Basic cognitive capacities	• Social capacities	• Functional expertise	• Problem-solving
				• Higher cognitive skills

T. V. Mumford et al.'s (2007) Strataplex model lists a group of conceptual skills in the strategic skills category, which is the area most critical to leadership at the senior level.

Conceptual skills also are evident in the other three categories of the Strataplex model. This implies that the ability to think and reason conceptually does not diminish in importance as one advances from junior to middle to senior levels. The importance of conceptual skills is therefore different from the span of influence of cognitive skills (more evident in the lower level) and strategic skills (more evident in the senior level) in T. V. Mumford et al.'s (2007) Strataplex.

A high degree of conceptual skill is evident in several strategic skill requirements for the purpose of grasping systems' standpoints, understanding unpredictability, managing ambiguity, and leader's influence on the organisation. Within strategic skill, there is the 'visioning' requirement and its necessary planning-related skills. Also, there is a need for perceptual capability in 'systems' to imagine more clearly how a system should function, and decide when critical changes have happened or will occur. Moreover, skills in the 'identification' of major causes and consequences are clearly related to a leader's conceptual

skills. The extent of the leader's knowledge and understanding of causal relationships in the environment and capacity to create causal maps that characterise important events, elements and relationships are important leadership requirements and conceptual skills. Finally, T. V. Mumford et al.'s (2007) category of strategic skills lists 'problem identification' skills, where leaders often have the critical role of evaluating alternative courses of action to solve organisational problems. M.D. Mumford et al. (2000) referred to these problem identification skills as objective evaluation and solution appraisal skills.

Within the cognitive skills category of Strataplex, there is a group of conceptual skills related to aspects of managing information, such as collecting, processing and disseminating information. All of these skills are important for leaders to ensure effective communication (Akgün, Lynn & Byrne, 2003; Brown & Brudney, 2003; Carroll & Gillen, 1987; Graham, 1995; Kalargyrou, Pescosolido & Kalargiros, 2012; Lau & Pavett, 1980; Luthans, Welsh, & Taylor, 1988; Mintzberg, 1973; Reiter-Palmon & Illies, 2004; Ricksecker, 2012; Shipper & Dillard, 2000; Wright, 1996; Yukl, 1989; Zaccaro, 2001).

T. V. Mumford et al. (2007) refer to the interpersonal skills category as a leader's 'social capacities', and it is probable that conceptual skills will sometimes be part of interpersonal skills whenever they are executed as exercising social judgment, dealing with social complexity, and differentiating between groups. Also, social perceptiveness is likely to have a conceptual component whenever a leader is engaged in processes of understanding others' reactions and coordinating his or her actions with those of others. Leaders, therefore, are often likely to use their conceptual skills when persuading and influencing others to achieve organisational objectives (Bennis & Nanus, 1985; Katz, 2009, 1974; Mintzberg, 1973; Yukl, 1989). T.V. Mumford et al.'s (2007) Strataplex model presents a compelling representation of

leaders' conceptual skills and their relevance to a wide range of leadership requirements and skills categories. While this model makes a significant contribution to our understanding of leaders' skills, it appears that a number of relevant conceptual skills and processes are omitted or under-acknowledged.

3.3 Recent studies of skills and competencies in leading change

A recent study by M. D. Mumford et al. (2017) presents nine critical skills in cognition and leadership performance. Those are problem definition, cause/goal analysis, constraint analysis, planning, forecasting, creative thinking, idea evaluation, wisdom, and sensemaking/visioning. The authors identified that individual and situational contingencies shape the effective application of these skills and that a leader's thinking abilities, in turn, need to be measured more accurately since they influence a leader's appraisal and development. In an earlier study using critical incident methods, M. D. Mumford et al. (2007) found that the skills of creative thinking were more linked to the execution of leadership skills than was intelligence. The key skills identified contributing to effective performance were problem definition, conceptual combination, idea generation, and idea evaluation. The overall conclusion from their study was that cognition influences leader emergence and leader performance, which is further supported in many previous studies on leadership skills (Cox & Cooper, 1988; Kanungo & Misra, 1992; M.D. Mumford et al., 2000; Yukl, 1989; Zaccaro 2001; Jacobs & Jaques, 1987; Jacobs & Lewis, 1992).

Recent research on leadership reveals that conceptual skills are frequently found to be critical when managing and leading change. These skills are often mentioned indirectly through the use of such terms as 'analytical skills', 'challenge the process', 'persistently innovate', 'divergent intelligence', 'promote learning', and 'problem solver'.

Table 5: Recent studies of skills and competence

Authors	Interpreted conceptual skills
Balogun (2016 4th ed)	Analytical skills for analysing change contexts, and judgmental and critical thinking skills
Weir (2015)	Vision: lead today for tomorrow's future, have an ambitious appetite, develop future leaders today
Posner (2012 5th ed)	Model the way, inspire a shared vision, challenge the process
Schwab (2016)	Contextual skills, understand the change context, challenge the expectations of their working groups, and continuously and persistently innovate
Pagon (2008)	Divergent intelligence, critical, intelligent, creativity, problem- solving, strategic intelligent, investigative abilities, and arithmetical skills
Morgan (2013)	Promote creativity, learning, and innovation, using information technology, managing complexity, and developing contextual competencies
Gilley (2005)	Visionary, inspired, supporter, problem solver and change leader

The role played by conceptual skills in the context of public sector leadership is likely to be complex and sometimes opaque or hidden. Adroitly used, conceptual skills can assist leaders with “how to behave”, how to think and make sense of, how to integrate, and how to innovate. The next section analyses in more detail the role of leaders’ conceptual skills in leading change, concentrating on four areas of leadership competence.

3.4 Conceptual skills in leading change

3.4.0 Introduction to the four areas of leadership competence and the importance of conceptual skills

A review of the literature on leading change reveals that there has been a consensus among researchers for over 50 years on the importance of conceptual skills. There is, however, only a limited amount of quality data on how public sector leaders think during the leadership of change and how their conceptual skills impact on their role performance and effectiveness. Moreover, it is not altogether clear in what ways conceptual skills are a necessary element of leadership competence, in contexts of leading change. The primary emphasis in the literature is to link conceptual skills with cognitive processes, not least because in this field of study

their potential relevance for conceptual thinking and problem-solving is self-evident.

Researchers have not often examined areas where conceptual skills are less obvious such as in the soft skills of interpersonal communication and emotional intelligence, and in intrapersonal processes such as individual self-regulation.

This research aims to provide a comprehensive theoretical framework and model of the role of conceptual skills in leading change. The identification and selection of just four out of the numerous areas of leadership competence is based on a substantial review of the extensive literature on leading change and related areas in business, public sector management, leadership information and communication sciences, psychology, human intelligence, sociology and sociology of science, and organisational behaviour. Researchers have advocated that all four areas chosen for this research are essential to change leadership.

Rahschulte (2010) argues that self-regulation is a necessary individual capacity to manage one's self and others, particularly in times of change. Similarly, Goleman (2017) indicates that truly effective leaders are distinguished by a high degree of self-regulation. Gioia and Chittipeddi (1991) propose that leaders can provide the vision for change to others via meaning-making processes such as sensemaking and sensegiving. These capabilities arise from leaders being able to understand and characterise others' needs. Several researchers (e.g. Gioia & Chittipeddi, 1991; Higgs, 2003) have emphasised that leaders' sensemaking is often an integral component of the processes of change.

In the context of change in the public sector, Moynihan and Ingraham (2004) conclude that integrative leadership has been central to government reforms during recent years. They propose that leaders 'choose, promote, institutionalise, and use public management systems' (p. 427) actively in their decision making to achieve performance results. Gill's (2002)

proposed integrative model of leadership highlights the contribution of the cognitive dimension, among other dimensions (spiritual, emotional and behavioural), to well-managed change. Also, Vurdelja (2011) advances the importance of integrative thinking in leading change and asserts that it is mandatory for leading complex, large-scale change.

... the literature offers substantial evidence that future leaders must demonstrate an ability to deal with a high level of complexity and they should do this by engaging in integrative thinking (Martin, 2007b) (Vurdelja, 2011, p. 9).

Martin (2007) is one of the scholars who introduced the concept of integrative leadership and emphasised the importance of the integrative leader in welcoming the challenges of the change. He argued that:

To steer the proverbial raft requires a kind of leadership that exhibits the deeper learning and integrative thinking that emerges from a higher level of complexity (Martin, 2007a) (Vurdelja, 2011, p. 54).

Martin (2007) further added:

In this information-saturated age, where each new bit of data complicates a picture that is already staggeringly complex, integrative thinking may be a necessity if we are ever to find our way past the multiple binds in which we find ourselves. Certainly the business world seems ripe for a new approach to problem solving (Martin, 2007, p. 8).

Vurdelja (2011, p. 62) explained Day et al.'s (2009) claim about the need for an integrative approach as critical:

Because the human organism is a complex system that cannot be understood adequately by looking at only one part of an interdependent system. ... No single approach can address the full complexity and richness of the leader developmental process (p. 4).

Horth and Buchner (2009) state that what leaders need nowadays is innovation leadership.

They refer to innovative thinking as a critical requirement for change, for future sustainability, and for what is new and better:

What Leaders Need Now Is Innovation Leadership. They need it for themselves as they

learn to operate in challenging, unpredictable circumstances. They also need to create a climate for innovation within organizations. Innovative systems, tools, and thinking are essential for organizational health and future viability (Horth & Buchner, 2009, p. 2).

Leaders and senior executives need to understand their changing context, challenge the expectations of their working groups, and continuously and persistently innovate. Pieterse et al. (2009) argued that transformational leadership is positively related to innovative behaviour in the context of high psychological empowerment, whereas transactional leadership is negatively associated with innovative behaviour under the same conditions.

To reiterate, the four selected areas of leadership competence in the thesis are: self-regulation, sensemaking, integrative leadership, and innovative leadership. Within each of these dimensions, the researcher concentrates exclusively on conceptual skills. Based on a review of the literature, it was decided to compile a selection from the large number of relevant theories. First, for self-regulation, the main theoretical focus is on Self-Determination Theory (Deci & Ryan, 2010) and authentic leadership (Avolio & Gardner, 2005). Second, for sensemaking, ideas developed by Dervin (1998) and Weick (1995) were drawn from. Third, for integrative leadership, based on the suggestions for future research by Crosby and Bryson (2010), the scope is broad and includes integrative leadership (Monyihan & Ingraham, 2004) and structuration theory (Giddens, 1994). Several authors, including Crosby and Bryson (2014) also recommend future research using Actor-Network Theory (Latour, 2005); however, this area is not examined here due to the incompatibility of actor networks with the more traditional, psychological and cognitive, individual levels of analysis employed in this thesis. Fourth, for innovative leadership, ideas are drawn from ambidexterity theory (O'Reilly & Tushman, 1996, 2011), Structure of Intellect Theory (Guilford, 1963, 1988) and Practical Intelligence Theory (Sternberg, 1986).

3.4.1 Four areas of leadership competence and the leader's conceptual skills

The four areas of competence are central to leadership in the public sector and are critical in leading change. Many scholars have contributed to the selected theories, and so the list of key thinkers is inevitably broader than the few landmark publications mentioned in the previous section. Works on self-regulation include Deci (2010), Gagné and Deci (2005), and Vonasch et al. (2015). Work on authentic leadership is also considered where it has relevance for leaders' self-regulation – this is explained in greater depth in section 4.2.3. The sensemaking/sensegiving theorists selected are Agarwal (2012), Gioia (1996), Gioia and Chittipeddi (1991), Maitlis and Christianson (2014) and Smerek (2011). For integrative public leadership theorists, some of the principal authors and publications are Crosby (2014), Huxham and Vangen (2000), Silvia and McGuire (2010) and Wart (2003), and for innovative leadership, researchers such as Elenkov (2005) and Jung, Chow and Wu (2003) are referred to.

Some of the prominent pioneers of psychometric measurement approaches – Eysenck (1963); Thurstone (1927) and Thorndike (1920) – are also considered in this thesis, in addition to holistic, human intelligence theorists, such as Guilford and Sternberg, along with occupational psychologists known for their psychometric research studies (e.g. Cattell, 2014; Dulewicz & Higgs, 2000). Lastly, psychologists with a reputation for research on human development and problem-solving are included Piaget (1952) perhaps being the most notable.

3.5 Self-regulation leadership competence

3.5.1 Self-Regulation Theory

A leader's self-regulation is one of the areas of competence central to leadership in the public

sector and is critical in leading change. Based on work by Kanfer et al. (2008) and Vancouver (2005, 2008), Lord et al. (2010, p. 544) explain that self-regulation is a dynamic process where individuals allocate ‘volitional, cognitive, and affective resources across multiple tasks.’ These authors describe self-regulation in the context of individuals taking self-corrective actions.

Self-regulation includes “processes involved in attaining and maintain (i.e., keeping regular) goals, where goals are internally represented (i.e., within the self) desired states” (Vancouver & Day 2005, p.158). Thus, at the center of most theories of self-regulation are the ideas that individuals set goals, compare their progress against the goals, and make modifications to their behaviors or cognitions if there is a discrepancy between a goal and the current state (Karoly 1993) (Lord et al., 2010, p. 545).

Carver (1979) and Carver and Scheier (1981, 1982) propose three main ingredients of self-regulation; first, *standards*, which is about ideals, goals, or other conceptions of possible states. The second is *monitoring* which concerns comparing the present state of the self to the standard, and the third is *operate* – a process which is set in action to change the current state. Baumeister and Heatherton (1996, p. 13) offer a useful definition of self-regulation as viewed from the perspective of failure:

Self-regulation a complex mechanism that can breakdown in many different ways. Underregulation occurs because people lack stable, clear, consistent standards, because they fail to monitor their actions, or because they lack the strength to override the responses they wish to control. Misregulation occurs because they operate on the basis of false assumptions about themselves and about the world, because they try to control things that cannot be directly controlled, or because they give priority to emotions while neglecting more important and fundamental problem.

Meanwhile, Heatherton and Baumeister (1996) defined self-regulation from a more positive perspective as a ‘process by which people initiate, adjust, interpret, terminate, or otherwise alter actions to promote attainment of personal goals plans or standards’ (p. 91).

The use of the term self-regulation is broader than just self-control, as discussed and defined by Carver and Scheier:

When we use the term self-regulation, we intend to convey the sense of purposive processes, the sense that self-corrective adjustments are taking place as needed to stay on track for the purpose being served (whether this entails over-riding another impulse or simply reacting to perturbations from other sources), and the sense that the corrective adjustments originate within the person. These points converge in the view that behavior is a continual process of moving toward (and sometimes away from) goal representations.

... We describe a viewpoint on the structure of behavior that accommodates diverse ways of thinking about what qualities of behavior matter and why' (Carver & Sheier, 2011, p.3).

General models of self-regulation subdivide the process into several components. For example, Markus and Wurf (1987) categorise self-regulation into three processes: (1) Goal selection, (2) Preparation for action, and (3) A cybernetic cycle of behaviour.

Self-regulation Theory (Mithaug, 1993) explains how people make adjustments to achieve optimal gains, concerning what they want from the situations that they experience. Mithaug (1993) indicated that self-regulation is an adaptation to change. Moreover, Carver and Scheier (1996) explained that self-regulation includes the logic of goal directedness and the utilisation of response loops to guide processes of changing behaviour.

Topics related to self-regulation have been extensively researched; these include high autonomy and creativity (Amabile, 1983), conceptual learning score and active engagement with environment (Benware & Deci, 1984), control versus autonomy and intrinsic motivation (Deci et al., 1981), and choice and personal responsibility (Langer & Rodin, 1976). More recently, a number of papers have been published on areas related to self-regulation such as: self and identity (Kashima, Foddy & Platow, 2002), motivation, goal-directed behaviours, and volitional processes (Gagné & Deci, 2005), self-concordance, goal attainment, and the pursuit of happiness (Sheldon & Houser-Marko 2001), mindfulness (Ostafin, Robinson & Meier, 2015), self-awareness, self-regulation, and self-transcendence (Vago & Silbersweig, 2012),

and self-regulation narratives and intrapersonal emotional reactions (Girgždė, Keturakis & Sondaitė, 2014).

Vohs, Baumeister and Ciarocco (2005) argue that presentation of the self requires intrapsychic self-regulation involving solitary, inner acts to produce changes in self-presentation, which subsequently results in self-presentation and behaviour that leads to and communicates a changed impression by others. The authors explain that these two primary purposes are frequently linked, insofar as the individual, inner performances of self-regulation are able to generate significant modifications in the way that the individual presents himself or herself to others. Inner acts of self-regulation can support leaders' effectiveness in dealing with their environment.

The prevalence of the concept of self-regulation in many social science disciplines has encouraged academics in recent years to study the relationship between self-regulation and different applied settings. For example, Boekaerts, Pintrich and Zeidner (2005) analyse ways whereby self-regulation is one of the essential functions of the executive system, which affects dynamic capabilities of the self, involving decision making, problem-solving, and planning, as well as logical and intelligent thought. However, the relationship of self-regulation to leaders' conceptual skills remains a puzzle in many theories, particularly in psychology and leadership.

Review of the concept of self-regulation in the literature on leadership reveals that self-regulation is considered to be central to leadership and developing leadership capacity. Day and Harrison (2007) argue that the self-concept or identity is one particular focal point for adopting multilevel viewpoints on leadership. They characterise identity as a multidimensional and complex combination of individual's values, experiences, and self-

perceptions. The authors argue that understanding identity in leadership requires that researchers pay attention to individual, relational, collective and inclusive levels of identity construction. They also suggest that the concept of self is fundamental to sensemaking:

We believe that an exciting frontier in leadership development is an integrated one linking leader development (at the individual and relational levels) with leadership development at more collective and inclusive levels using identity construction. Research has demonstrated that the self is a key organizing principle in human sensemaking (Day & Harrison, 2007, p. 371).

Ent, Baumeister and Vonasch (2012) emphasise that power is connected to both self-regulatory success and failure. Power, they argue, typically supports self-control of job performance by encouraging individuals to be goal-oriented and motivated. Nonetheless, because individuals' self-regulation resources are constrained, as capable individuals exert themselves to perform their main tasks, they may neglect to self-regulate in different contexts. This kind of goal bias may prompt greater desire in leaders to seek control over others. Using power to settle on making decisions and driving subordinates can exhaust individuals' resources for self-regulation, and difficulties may arise from the ineffective exercise of self-control.

In Day's (2000) well-known summary of leader and leadership development, he emphasised the significance of individual-based human capital (i.e. leadership-related skills, knowledge, and abilities) while also arguing that social capital must be considered. Day and Harrison (2007, p. 368) propose that 'leadership development operates at a more collective level in terms of addressing the social capital of teams and organisations (i.e., the resources embedded in the connections or relationships between individuals'. Acquired skills in the form of individual human capital enable leaders to think and act in new ways. Day and Harrison differentiate between individual identity and collective identity. They describe individuals as

having varied concepts of the self and note the value of intrapersonal skills in managing and developing one's self-concept. In the contexts of leader development, the authors include processes such as self-awareness (including emotional awareness), self-confidence, accurate self-image, self-regulation (e.g. self-control, trustworthiness, personal responsibility, and adaptability) and self-motivation (e.g. commitment, initiative, optimism).

Furthermore, many scholars include emotional intelligence as one of the areas that leaders must exhibit to be effective in self-regulation and achievement of their purposes (e.g. Caruso, Mayer & Salovey, 2002; George, 2000; Goleman, 2003; Goleman, Boyatzis & McKee, 2013; Palmer et al., 2002; Prati, et al., 2003).

Failure in self-regulation can happen for many reasons (Baumeister & Heatherton, 1996).

This failure can stem from the

absence of standards, from a lack of attention to the correspondence between one's actions and one's intentions, from the attempt to regulate a variable that cannot be regulated, and from the attempt to regulate with respect to a standard that ultimately is not relevant to one's overall goal (Carver & Scheier, 1996, p. 2: citing Baumeister & Heatherton, 1996).

In their model of the Self-Regulation Questionnaire Brown, Miller and Lawendowski (1999) argue that behavioural self-regulation may encounter a shortfall in any of the seven steps. The steps in the seven-step model are: 'Receiving relevant information; Evaluating the information and comparing it to norms; Triggering change; Searching for options; Formulating a plan; Implementing the plan; and Assessing the plan's effectiveness' (Brown, Miller & Lawendowski, 1999, p. 1).

Based on a group of concepts and definitions of self-regulation (e.g. Carver & Scheier, 1996; Baumeister & Heatherton, 1996; Day & Harrison, 2007; Vohs, Baumeister & Ciarocco, 2005), self-regulation is considered as a rationale for goal directedness and the use of the

internal system feedback to guide and adjust behaviour. It is proposed that effective self-regulation that, in some situations, will require exercise of high-level conceptual skills, should include:

- Factors that characterise the leader's preferred conditions (e.g. Goal/Standard/Reference/Value) and internal feedback that contrasts those standards and system conditions (Noble, 2000, p. 24);
- Response systems that have the ability to change internal (system) and external (environmental) events (Noble, 2000, p. 24);
- Propose and accept workable interpretations in activities reviewing organisational reality.

3.5.2 Self-Determination Theory (SDT)

Self-determination theory developed primarily by Edward L. Deci and Richard M. Ryan, concerns issues of human motivation, personality, and optimal functioning. define it thus:

As a motivational theory, it addresses what energizes people's behavior and moves them into action, as well as how their behavior is regulated in the various domains of their lives. SDT's explanations are focused at the psychological level (rather than the sociological or physiological levels), thus using human perceptions, cognitions, emotions, and needs as predictors of regulatory, behavioral, developmental, and experiential outcomes (Deci & Ryan, 2015, p. 486).

Deci and Ryan's ideas on self-determination build on Vroom's (1964) theory of motivation and Porter and Lawler's (1968) elaboration of expectancy theory. Deci (1971, 1976) and Deci and Ryan (1980) focus on both extrinsic and intrinsic forms of motivation. Gagne et al. (2010) explain the differences between the two concepts asserting that, with *intrinsic* motivation, individuals are motivated to act from the time they derive interest from the action itself, while *extrinsic* motivation requires an instrumentality between the action and some visible outcomes, as tangible or verbal rewards; thus, satisfaction is derived not from the action itself, but the outward results.

Additivity of the two concepts of motivation is theoretically problematic, as Deci (1971) found that tangible rewards damage intrinsic motivation. However, intangible, verbal rewards improve it. Therefore, intrinsic and extrinsic motivators may function together shared positively and negatively shared, rather than in an additive manner. Based on their early studies, Deci (1976) and Deci and Ryan (1980) proposed additional explanation regarding the impact of extrinsic motivators on intrinsic motivation.

Further studies have since shown that feelings of autonomy and competence, as well as challenging activities and positive feedback are significant for intrinsic motivation (Deci & Ryan, 1985a). In short, cognitive evaluation theory (Deci & Ryan, 1985a) proposes that some external factors tend to reduce feelings of autonomy and undermine intrinsic motivation. However, some external factors (such as providing a choice of tasks) tend to enhance autonomy and increase intrinsic motivation.

The essence of SDT lies in understanding the difference between autonomous motivation and controlled motivation. Intrinsic motivation supports autonomous motivation and involves acting with a sense of having to act. Ryan and Deci recommend that behaviours should be described regarding to what extent they are autonomous versus controlled. However, both autonomous and controlled behaviours are intentional and distinct from “amotivation” which refers to an absence of intention and motivation (Ryan & Deci, 2000, p. 61).

Ryan (2000) and Gagne et al. (2010) explain how autonomous motivation is more strongly associated with the performance than controlled motivation is. They propose that the differential effect of autonomous and controlled motivation on performance is largest when tasks and challenges are cognitively complex, difficult, or voluntary. Whenever individuals are being controlled, they encounter pressure to think, feel, or follow specific goals, whereas

with self-determination they are more capable of thinking and using their cognitive skills freely in their work. Ryan and Deci (2008) draw from previous literature on cognitive consistency (Lecky, 1945; Heider, 1946; Festinger, 1957) as important for self-determination.

Gagne and Deci (2005) represent motivation as a continuum involving amotivation (i.e. zero self-determination), extrinsic motivation and intrinsic motivation.

[The figure shows] ... amotivation, which is wholly lacking in self-determination; the types of extrinsic motivation, which vary in their degree of self-determination; and intrinsic motivation, which is invariantly self-determined. Also shown are the nature of the regulation for each and its placement along the continuum indexing the degree to which each represents autonomous motivation (Gagne & Deci, 2005, p. 336).

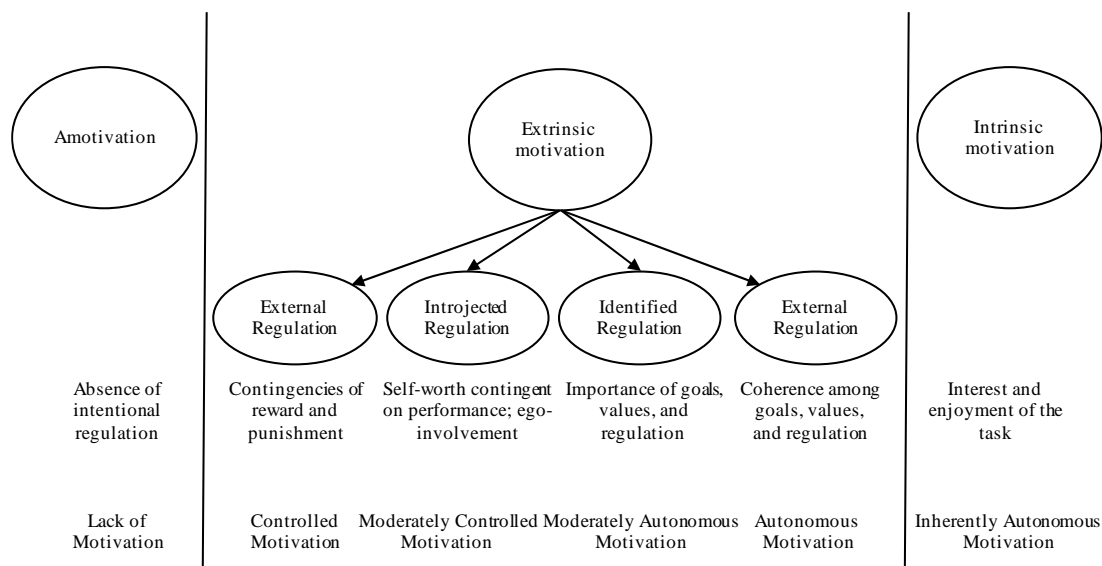


Figure 5: The Self-determination Continuum.

(Adaptation based on: Gagne and Deci 2005, p. 336)

Gagne and Deci conclude that '... extrinsic motivation can become autonomous, and ... that intrinsic motivation (based in interest) and autonomous extrinsic motivation (based in importance) are both related to performance, satisfaction, trust, and well-being in the workplace' (2005, p. 356).

Thus, in summary, SDT shows how leaders can affect the motivation of others through self-presentation and self-determination involving extrinsic and intrinsic factors. From the perspective of the thesis, a leader's self-regulation is critical to the successful leadership of change, and its links with the leader's conceptual skills require more research. Leaders' exercise of effective self-regulation influences others and can be predicted to impact positively on organisational change. This research examines leaders' self-regulation in terms of attributes, actions, and processes where underlying conceptual skills might be essential.

Therefore, based on several theories and key landmark authors on self-regulation (such as Deci and Ryan (2010), Gagne and Deci (2005), Vohs, Baumeister and Ciarocco (2005, and Vonasch et al. (2015)), it is proposed that autonomy and relatedness are important elements of leadership style and behaviour. *Autonomy* is the ability to control the course of life, and *relatedness* is the ability to have close, affectionate relationships with others. Also, autonomous motivation involves experiencing positive affect, flexibility, concurrency, and choice, inherently elaborating the self and integrating new experiences. Besides, autonomous leadership stimulates integration, hedonic well-being, intrinsic aspirations, goals and plans, and the ability to express an opinion or a belief freely, expressing disagreement, and giving suggestions.

At present, researchers do not know enough about the possible influences of conceptual skills and their contribution to leaders' ability to be effective in dealing with the environment and achieving intrinsic aspirations, goals, and plans. The SDT predicts that the attributes, actions and processes where underlying conceptual skills might be found to be essential will include:

- Competence: The leader's ability to be effective in dealing with the environment;
- Formulating intrinsic aspirations, goals and plans, and achieving them.

3.5.3 Authentic leadership

In his book titled *Authentic Leadership*, George (2003) explains that the authentic leader is someone who is genuine; not a reproduction or duplicate or impersonation of a leader. He argues that leaders who embody their actual selves in their leadership positions, create their individual ‘managing compass’ (p. 20) by drawing on their own qualities, convictions, and ethics. George (2003: cited in George et al., 2007, p. 9) stated that:

Rediscovering the Secrets to Creating Lasting Value, challenged a new generation to lead authentically. Authentic leaders demonstrate a passion for their purpose, practice their values consistently, and lead with their hearts as well as their heads. They establish long-term, meaningful relationships and have the self-discipline to get results. They know who they are (George et al., 2007, p. 9).

George (2007) characterises authentic leaders as exhibiting an energy for their motivation, using their values reliably, and practicing ‘soul and head’ leadership. They know their identity and create long-term, significant associations. They have the self-discipline to achieve results and know themselves well enough to understand where they can practice their leadership skills.

George (2003, p. xv) proposes that: ‘we need leaders who lead with purpose, values, and integrity; leaders who construct persevering associations, persuade employees to serve customers superiorly and add value to shareholders’. Concepts of authenticity and inauthenticity have been discussed in numerous domains (such as religious studies, philosophy, and literature) for over 100 years. Avolio and Gardner (2005) describe how Hoy and Henderson (1983) revived Seeman’s (1960) construct of inauthenticity and revised his scale; they defined the leader as being ‘inauthentic’ when he is excessively agreeable with stereotypes and requests that are identified with the leader role. Avolio and Gardner (2005, p. 319) portray authentic leadership using the well-known quotation from Shakespeare’s Hamlet,

“To thine own self be true” (p. 319), observing that the concept of authenticity is derived from Greek philosophy.

Avolio et al. (2004) define authentic leaders as individuals who are profoundly mindful of how they think and are seen by others as monitoring their own and others', values and moral viewpoints, knowledge, and qualities. They are aware of their operational context and are positive, confident, hopeful, flexible, and of high moral character.

Avolio and Gardner (2005) criticise Shamir and Eilam (2005) for recommending an overly narrow definition of the authentic leader. Shamir and Eilam define the authentic leader as someone who is (1) consistent with himself (rather than fitting in with the desires of others); (2) motivated by individual feelings, as opposed to accomplishing status, respect, or other individual advantages; (3) an original, not a copy, and who leads from his perspective; and (4) acts and depends on his own values. While they concur with these qualities, Avolio and Gardner (2005, p. 322) insist that the essence of authentic leaders is that they encompass ‘a positive moral perspective’. For this thesis, the author assumes that some of the qualities likely to be influential about conceptual skills are the leader’s consistent expression of values, and ability to lead with heart and head. Avolio and Gardner (2005, Table 1, p. 323) list the leader’s self-awareness as composed of values, cognitions and emotions, and this thesis also assumes that it will have conceptual components. In the combined contexts of self-regulation and authentic leadership, Avolio and Gardner’s (2005, Table 1, p. 323) definition of leader self-regulation lists four components: internalised, balanced processing, relational transparency, and authentic behaviour. These components are areas where conceptual skills and processes of thinking are likely to be evident in authentic leaders’ behaviour and work.

Authentic leadership predicts that the attributes, actions and processes where underlying conceptual skills might be found essential will include situations where

- Leaders' practices follow their values consistently, and they lead with their "hearts and heads" (George, Sims, McLean & Mayer, 2007, p. 1); and
- Leaders demonstrate self-awareness (values, cognition, emotions) (see Table 1, in Avolio and Gardner (2005, p. 323)).

3.6 Sensemaking leadership competence

Sensemaking as a concept refers to the ways that we understand issues or events that are novel, uncertain, or unclear, or which in some other ways disrupt expectations (Maitlis & Christianson, 2014, p. 58). Moore (2011, p. x) defines sensemaking as the 'process of separating something into its constituent elements'. Sensemaking is one of the important subjects in the study of organisations that examines how individuals interpret environmental cues in situations involving ambiguity and uncertainty. In an article on leadership, Mangelsdorf (2012) argued that the ability to make sense of what is going on in a complex and uncertain environment is a particularly significant predictor of leadership effectiveness.

3.6.1 Cognitive Transformation Theory (CTT)

Jean Piaget is one of the best well-known thinkers and clinical psychologists who has contributed to many of the sub-disciplines of psychology such as Developmental Psychology, Learning Theory and Cognitive Psychology. His theories are often categorised within the school of thought known as 'structuralism'. The structuralist paradigm known as CTT asserts three basic properties of cognitive skills: 1) *Wholeness* which is the defining characteristic of structures is classified into two differentiated groups, unities and composites. Composites are shaped by components that are free of the block they come in; 2) *Transformations* which

involve substantial structural change and reorganisation, and 3) *Self-regulation*.

The process of obtaining and developing cognitive skills is conceptualised in CCT as connected closely to mental models. Klein (2006) argue that researchers need to know more about how individuals realise improved mental models to attain deeper understanding of incidents and know how to deal with them. They emphasise that learning in CTT is seen as much as about how people ‘unlearn’ sets of ideas and obsolete beliefs in order to adopt new ideas. They propose that sensemaking is the main way that people learn new cognitive skills and CTT is therefore a more important area for research than are theories that focus predominantly on the store of knowledge. Klein and Baxter (2006, p. 6) assert:

We are primarily interested in how people learn better mental models to achieve a stronger understanding of what has been happening and what to do about it. In contrast to a storehouse metaphor of adding more and more knowledge, we offer the notion of cognitive transformation—that progress in cognitive skills depends on successively shedding outmoded sets of beliefs and adopting new beliefs, ...

CTT is one of the available theories that concentrates on issues of information exchange and processing structure that are important elements of sensemaking. CCT addresses information fields and cognitive domains likely to involve the exercise of conceptual skills. CTT predicts that the attributes, actions and processes where underlying conceptual skills might be found to be essential will include:

- mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change.

3.6.2 Initial definitions of sensemaking and its relevance for Knowledge Management (KM)

Dervin (1998) developed an approach to understand and serve the needs of users when designing systems. Dervin's approach concentrates on users' sensemaking and sense unmaking, the aim being to assess the implications for knowledge management in the fields of communication and library and information sciences. The author characterised knowledge management as an area on the brink of confusion and recommended pursuing ideas and methods that highlight variety, complexity and individuals over issues of centrality, effortlessness and technology. The author's initial definition of sensemaking described it as a 'methodology disciplining the cacophony of diversity and complexity without homogenizing it' (p. 36).

Dervin (1998) explains that her approach to studying human sensemaking is based on knowledge and information conceptualised as a *verb* rather than a *noun*. In sensemaking, Dervin claims, there is no difference between knowledge and information – rather, it refers 'to the making and unmaking of sense' (p. 36) whereby information/knowledge is both an input and a product for 'sense making and sense unmaking' (p. 36). Dervin defines knowledge, as 'the sense made at a particular point in time-space by someone' (p. 36).

Sometimes, it gets shared and codified; sometimes a number of people agree upon it; sometimes it enters a formalized discourse and gets published, sometimes it gets tested in other times and spaces and takes on the status of facts. Sometimes, it is fleeting and unexpressed. Sometimes it is hidden and suppressed. Sometimes, it gets imprimated and becomes unjust law; sometimes it takes on the status of dogma. Sometimes, it requires reconceptualizing a world. Sometimes it involves contest and resistance. Sometimes it involves danger and death (Dervin, 1998, p. 36).

Dervin (1998) concluded that applications of sensemaking, for the purposes of communication, information and knowledge management systems, require ways of

conceptualising knowledge that facilitate sensemaking for facing and dealing with the realities of human situations. This necessitates paying attention to ways of controlling and managing the impacts of power which constrains humans from sharing and collaborative problem-solving.

Based on research in various scientific disciplines (information systems, information science, business strategy, and organisation science), Malhotra (2001) critiques Dervin's (1998) elaboration of the concept of sensemaking. Malhotra argued that sensemaking is a fundamental construct in understanding how humans turn information into action, and accordingly, performance. Malhotra claims that human sensemaking can complement machine learning capabilities, and therefore it is important to understand the paradigms the design of both human and machine-based (e.g. AI and expert systems) knowledge management systems that have to work in uncertain environments.

From the perspective of organisational creativity, Borghini (2005) develops a theoretical framework to interpret sensemaking as a process of situated and distributed cognition. The framework aims to assist our knowledge and understanding of how, in the creative, situated and distributed processes of individuals, groups and organisations, sensemaking contributes essential processes of learning and unlearning in sub-systems and sub-cultures, leading to a common vision. Borghini (2005, p. 23) concluded that, 'To understand the creative process of firms, it is important to consider the knowledge of the organisation'. She discussed the importance of individual and organisational knowledge and the intertwining of meanings that occurs with the preservation and crystallisation of knowledge applied in operations and processes. Sensemaking, Borghini argues, is critical in integrating cultures, developing shared mental models, expressing organisational knowledge and the core competencies of the

organisation.

In his early research on the concept of sensemaking, Weick (1988) addressed work crisis conditions. He argued that sensemaking in crisis events is made more troublesome in light of the fact that action that is instrumental to understanding how the emergency in fact frequently escalates the problem. Weick illustrated three actions that affect sensemaking in crisis and serious emergencies; commitment, capacity, and expectations. Weick recommended that practical knowledge and understanding of the concept of enactment may provide a philosophy of action that decreases the probability of the occurrence or escalation of a crisis. Enactment, in Weick's terms, is characterised by self-affirming perceptions of control and opportunities for control that reduces stress and its negative influence. Weick (1988, p. 315) proposes that sensemaking and enactment have the capability to reduce crisis intensity to lower levels.

Over 20 years after Weick's (1988) article, Maitlis and Sonenshein (2010) proposed an elaboration of sensemaking (in crisis and change) inspired by his ideas and insights. They contend that sensemaking in crisis conditions involves 'shared meanings and emotion' (p. 551) and present an argument on the probability of these enabling adaptive sensemaking. Interestingly, Maitlis and Sonenshein characterise adaptive sensemaking as based on thinking and learning to see things differently.

Weick, Sutcliffe and Obstfeld (2005) argued that, combined, the seven properties of sensemaking incorporate transforming conditions into a circumstance that is appreciated expressly in words and becomes a springboard into action:

To shape hearts and minds is to influence at least seven dimensions of sensemaking: the social relations that are encouraged and discouraged, the identities that are valued or derogated, the retrospective meanings that are accepted or discredited, the cues that are highlighted or suppressed, the updating that is encouraged or discouraged, the

standard of accuracy or plausibility to which conjectures are held, and the approval of proactive or reactive action as the preferred mode of coping (p. 418).

It is important to remember for the purpose of the argument of this thesis that the first use of sensemaking in organisation studies emphasised cognitive action in framing experienced situations as meaningful. The contribution of Karl E. Weick (Weick, 1979, 1988, 1993; Weick et al., 2005) on sensemaking in organisations is the predominant influence in the field of organisation studies. Weick's (1995) seven properties of sensemaking have established a concept of the processes of understanding, interpretation, and attribution: '1) Grounded in identity construction, 2) Retrospective, 3) Enactive of sensible environment, 4) Social, 5) Ongoing, 6) Focused on and by extracted cues, and 7) Driven by plausibility rather than accuracy' (p. 17). Each of these seven properties interrelates as individuals, groups and organisations interpret and respond to events. Their interpretations are expressed in both written and spoken stories which convey the sense that they have made of incidents.

3.6.3 Leaders, sensemaking and leading change

Gioia and Chittipeddi's (1991) interpretive approach proposed that the essential role of top management leaders in 'instigating the strategic change process might best be understood in terms of the emergent concepts of 'sensemaking' and 'sensegiving'' (p. 433). The role of the leader in the critical early phases of the process of leading change includes the construction and application of strategies. Top leaders engaged in major change programmes are often expected to influence and even dominate the context and activities of the design and execution phases. Organisations' leaders and employees understand any proposed change in ways that make sense for them through explanatory structures and schemes of meaning.

From the perspective of 'sensemaking', leaders will often have to start by building up a sense

of the organisation's environment which actually characterises and produces an amended conception of the organisation. Through 'sensegiving', following interpretive work created or motivated by leaders and other influential participants (such as a top management teams), a dynamic 'vision' of the changed organisation develops and is communicated and distributed to stakeholders.



Figure 6: The sequential and reciprocal cycle of sensemaking and sensegiving to expanding audiences.

(Adaptation based on: Gioia and Chittipeddi 1991, p. 443)

Since the early phase of change is about values and sensemaking, the significant role of leaders is to make sense of the need to change. Top management and members of the organisation understand the need for change through sensemaking, both independently and in relation to processes of sensegiving by others. Consequently, the sensegiving process is a key skill for top leaders, particularly during the initial phase of change. The authors identify four significant conceptual skills that contribute to competence in 'sensemaking'. These are envisioning, signalling, revisioning, and energising.

Gioia and Chittipeddi (1991) discussed the importance of 'sensegiving' within the context of strategic change in higher education, and identify it as a way of attempting to influence the

sensemaking and sense creation of others to a new preferred meaning and view of change. Sensegiving, they argue, is a significant leadership skill within the processes of sensemaking and, through ‘issue selling’, middle-level managers learn more about senior-level managers’ concerns and goals in ways that can impact on organisational development and change. The authors argued that making sense of, and giving a sense about, a new vision is a characteristic attribute of the leadership of strategic change.

The initiation of the change effort can be distinctively conceptualized in terms of processes involving sensemaking-for-self and sensegiving-for-others. The sensemaking/sensegiving labels emphasize fundamental processes involved in managed organizational change and thus provide an alternative way of viewing the initiation of strategic change (Gioia & Chittipeddi, 1991, pp. 446-447).

Gioia (1996) describes the context of sensemaking as including two primary schemes – ‘strategy’ and ‘information processing structure’ – that both influence organisational interpretation of strategic and political issues:

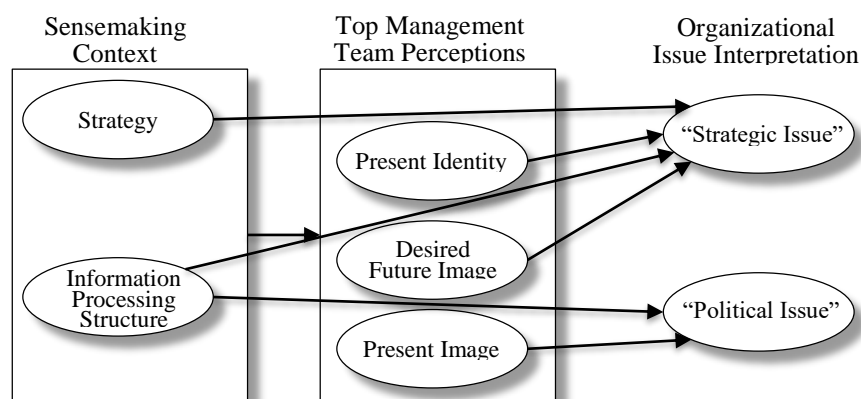


Figure 7: Emergent model of sensemaking in academic administration.

(Adaptation based on: Gioia and Thomas 1996, p. 386)

Based on empirical research on three British symphony orchestras, Maitlis (2005) produced a broad classification of leaders’ sensemaking, and the social processes of organisational sensemaking. The author proposes that organisational sensemaking as a critical leadership

skill can be subdivided and explained in four distinctive approaches: ‘guided, fragmented, restricted, and minimal’ (p. 21). ‘These forms result from the degree to which leaders and stakeholders engage in “sensegiving”—attempts to influence others’ understandings of an issue’ (p. 21). Also, in the same empirical case study research context, Maitlis and Lawrence (2007) conclude that:

Issues are not objectively defined and do not appear in the same form to all organization members at the same time: issues are noticed, shaped, interpreted, and sold by some members to others (Dutton et al., 2002), with important organizational consequences (Maitlis, 2005). Identifying conditions that trigger and enable sensegiving by leaders and stakeholders in organizations fills an important gap in understanding this process and points to interesting areas for future research (p. 82).

3.6.4 Leaders’ sensemaking and conceptual skills in leading change

Klein and Baxter (2006) argued that learning in the case of cognitive skills requires sensemaking and changing or adapting mental models (Weick, 1995). They note that in Bloom’s (1956) taxonomy of knowledge, the component called ‘synthesis’ involves building a structure out of various components and constructing diverse elements to form a whole, thus creating new meaning. Klein and Baxter propose that Bloom’s concept of synthesis is similar to sensemaking. They explain sensemaking activity as composed of four components – these are diagnosis, learning objectives, practices, and feedback.

Teaching cognitive skills requires the diagnosis of the problem in terms of flaws in existing mental models, not gaps in knowledge. It requires learning objectives that are linked to the person’s current mental models. It requires practice regimens that may have to result in “unlearning” that enables the person to abandon the current, flawed mental models. It requires feedback regimens that may have to result in “unlearning” that enables the person to abandon the current, flawed mental models (Klein & Baxter, 2006, p. 1).

Conceptual skills and sensemaking are closely interrelated because sensemaking concerns intellectual transformation and changes in cognitive skills. Tucker, Hendy and Barlow (2015)

explain that change leaders collectively make sense of work roles in their own way, drawing on their personal experiences and views as well as from cues derived from other organisational members.

Conceptual skills arise in the concept of sensemaking in a wide variety of ways. Sensemaking is a set of ideas derived from the discipline of the cognitive sciences and examines ways that our mental models and cognitive skills change or remain the same. Gioia and Chittipedd's (1991) concept of 'sensegiving' considers conceptual skills as central to the leadership of strategic change. Gioia and Thomas's (1996) schemes, 'strategy' and 'information processing structure', require the organisation and use of cognitive skills to effect changes in the interpretation of organisational issues., while Dervin's programme of research studies on individual sensemaking has developed theories that seek to explain how individuals make sense of observed data when experiencing cognitive puzzles and gaps in meaning. Weick's (1995, p. 17) seven properties of sensemaking were intended as a set of 'distinguishing characteristics' that separated the concept from other perspectives on the process of thinking, understanding, and interpretation:

To identify and determine underlying conceptual skills in leaders' sensemaking, the emphasis of this research is on attributes, actions and processes of sensemaking that extend beyond the leader's feelings, behavioural skills and technical skills.

Weick (1995) describes sensemaking as a matter of identity; our understanding of ourselves and our relationship to the world around us. Sensemaking consists of ideas, interpretations, and actions that are enactive of sensible environments. Sensemaking is typically a retrospective activity that involves noticing patterns that are meaningful to us and based on our experience. It sees patterns and interprets information, expanding on cues extracted from

uncertain or ambiguous contexts, and understands the potential outcomes of imagined realities and alternatives (McNamara, 2015).

Our sensemaking depends on our socialisation (upbringing, education, culture and social norms) as well as the people we are currently interacting with who have a considerable influence on our interpretations of the world. Sensemaking is ongoing, and our environment, relationships, and understandings of the world are fluid and continuously transforming. McNamara (2015) describes sensemaking as “perpetually emergent meaning and awareness”. Sensemaking builds on extracted cues that we sense, apprehend and perceive. Cognition is the meaningful internal embellishment of extracted cues which we articulate ‘through speaking and writing – the “what I say” part of Weick’s’ (McNamara, 2015) seven properties of sensemaking. ‘In doing so, we reify and reinforce cues and their meaning, and add to our repertoire of retrospective experience’ (McNamara, 2015).

Also, sensemaking is less a matter of accuracy and completeness and more about plausibility and sufficiency. ‘Our limited cognitive and perceptual resources make it impossible to know or understand anything fully so’ (McNamara, 2015) our processes of sensemaking are limited to what works for us in specific contexts ‘in order to take action. If we attempt to know the facts and the reality exhaustively, we will’ (McNamara, 2015) become ‘stuck in a never-ending analysis instead of progress’ (McNamara, 2015).

This research proposes that high-level conceptual skills will often be required and exercised in a leader’s sensemaking that is forcefully – either positively or negatively – retrospective. Further, based on the review of the literature on sensemaking, this research design asserts that conceptual skills will be influential in the immediate and reflective focus on, and extraction of, cues from the context. Moreover, a leader will utilise conceptual skills when determining

whether an idea or phenomenon or course of action holds plausibility and sufficiency.

From an information systems perspective on responsive systems, effective sensemaking reconciles apparent differences and polarities without erasing differences. Rather it puts them into a productive dialogue with each other. ‘People are helped by others who see the situation as they do, but also by those who see the situation differently’ (Foreman-Wernet, 2003, p. 7, cited in: Agarwal, 2012, p. 8). Productive communication through sensemaking focuses on creating meaning that is neither too complex or chaotic nor is too simple (e.g. homogenising difference).

The trick, Sense making assumes, is to find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a tower of babel nor imposes homogeneity, simplicity and completeness (Dervin, 1998, p. 39).

This thesis argues that effective sensemaking in leadership necessitates the leader using high-level conceptual skills, both as a sense-maker and sense-giver. The art of the leading change is to achieve an appropriate conceptual balance between simplicity and complexity of interpretation.

It is proposed that conceptual skills will often be found to be central to a leader’s sensemaking:

- ‘Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness’ (Dervin, 1998, p. 39).
- The ability to evaluate utilisation of an information system such as in finding direction, gaining a new way of looking at things, being connected to information, receiving companionship and support, avoiding a bad place, obtaining pleasure and joy, and arriving where they wanted to (Dervin, 2013).

- A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives (McNamara, 2015).
- Reconcile apparent differences and polarities without wishing away the differences. Manage difference by putting it in to dialogue, thus using it to assist with human sensemaking (Agarwal, 2012).
- Synthesis – in trying to reconcile apparent contradictions and differences, instead of seeing the world in the form of stereotypes (Agarwal, 2012).
- Coming up with a plausible understanding—a map—of a shifting world; testing this map with others through data collection, action, and conversation; and then refining, or abandoning, the map depending on how credible it is (Ancona, 2012, p. 3).
- ‘Structuring the unknown’ (Waterman, 1990, p. 41) by ‘placing stimuli into some kind of framework’ that enables us ‘to comprehend, understand, explain, attribute, extrapolate, and predict’ (Starbuck & Milliken, 1988, p. 51). (Ancona, 2012, p. 4).
- The activity that enables us to turn the ongoing complexity of the world into a ‘situation that is comprehended explicitly in words and that serves as a springboard into action’ (Weick, Sutcliffe, & Obstfeld, 2005, p. 409). (Ancona, 2012, p. 4).
- Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning (Weick et al., 2005). (Ancona, 2012, pp. 4-5).
- Exploring the wider system, creating a map of the current situation, and acting to change the system to learn more about it (Ancona, 2012, p. 7).

3.7 Integrative leadership competence

3.7.1 Integrative Leadership Theory

Martin and Austen (1999) explained that in the environment of continuous change and persistent competition, the leader should make robust choices. Such choices usually cannot be made from within unclear operational or functional boundaries and also require integration of

different contexts and perspectives. Modern leadership requires integrative thinking; a leader who, when faced with a vast array of interrelated variables and connected choices simultaneously, can efficiently deal with the enigmatic choices involved. Martin and Austin assert that 'Integrative thinkers embrace complexity, tolerate uncertainty, and manage tension in searching for creative solutions to problems' (1999, p. 2).

The concept of integrative public leadership presented by Crosby and Bryson (2010) aims to clarify the value of multi-sector collaborations in the public sector. Their integrative leadership framework explains how public value could be created through building and maintaining cross-sector collaborations. Crosby and Bryson (2010, p. 211) defined integrative leadership as '... bringing diverse groups and organisations together in semi-permanent ways – and typically across sector boundaries – to remedy complex public problems and achieve the common good'. The authors identified a number of challenges facing integrative public leadership; they mentioned the need for leaders to inspire, mobilise, and sustain their own agencies, but moreover to bring diverse groups into their problem-solving works.

The integrative approach to leadership concentrates on how leaders select, endorse, institutionalise and practice public management systems and improve them over time (Moynihan & Ingraham, 2004). Integrative leadership in the public sector is a relatively new perspective on how leaders can use management systems to improve performance. Nelson (2012) defined the term integrative leader as someone who engages the whole mind, system and environment, turning the weaknesses into strengths by synthesising the strengths of opposing perspectives into an imagined mutual benefit. Integrative leaders close the circle of learning through processes of experimentation and shared adaptation.

At present, there is an emerging concern that the public sector is not sufficiently organised and equipped to deal with unpredictable issues confronting global society – issues such as unemployment, social services, and environmental issues. These areas create financial problems or require government interventions and programmes, and there is a growing acknowledgment in recent years that these issues must be dealt with by integrative community leadership among government, non-benefit associations, and the business sector (Bono, 2010). Crosby and Bryson (2005) explained these issues as a stake which is owned by many individuals, and each of them has just a portion of the data, resources and power expected to solve the issue. These problems require cross-sectoral effort, integrity, and integrative leadership. Integrative leadership is characterised by people or organisations who encourage aggregate activity by numerous partners from different areas and who cooperate for the benefit of everyone.

Martin (2007) clarified the importance of integrative thinking for leadership and explained the definition of the integrative paradigm as

The ability to face constructively the tension of opposing ideas and, instead of choosing one at the expense of the other, generate a creative resolution of the tension in the form of a new idea that contains elements of the opposing ideas but is superior to each (Martin, 2007, p. 15).

Martin (2007) added:

Integrative thinking shows us a way past the binary limits of either-or. It shows us that there's a way to integrate the advantages of one solution without cancelling out the advantages of an alternative solution. Integrative thinking affords us, in the words of the poet Wallace Stevens, 'the choice not between, but of' (Martin, 2007, p. 9).

There are potentially many attributes, actions and processes within integrative leadership as a competence. Researchers writing on the subject of integrative leadership have suggested that integrative leadership is characterised by systems thinking (Senge, 1990; Senge, Smith,

Schley, & Laur, 2008; Luke, 1998; Bryson, 2004; Crosby & Bryson, 2010), roles of collaboration sponsors and champions, seeking sponsors of and champions for the change effort, interpersonal skills that build trust (Crosby & Bryson, 2010), openness to experience, and cultural sensitivity (Ang & Van Dyne, 2015, p. 118, 155), and ‘use of performance information in decision making and offer insights into how and when leadership matters (Moynihan & Ingraham, 2004, p. 427).

The author of the thesis assumes that, in integrative leadership, conceptual skills are often found to be central to a leader’s systems thinking and creation of integrative solutions:

- Systems thinking

.... in order to understand the turbulence as well as the driving and constraining forces (Crosby & Bryson, 2010, p. 218).

Systems thinking also involves seeing existing flows of information and other resources among relevant organizations, and noting where desirable flows are negatively constricted by intra-organizational, inter-organizational, and sector rules and boundaries. A sense of links and gaps can help leaders think about who and what must be integrated (and perhaps dis-integrated) (Crosby & Bryson, 2010, p. 218).

The systems thinker retains focus on the system as a whole (Reed, 2006, p. 11).

Systems thinking is a set of synergistic analytic skills used to improve the capability of identifying and understanding systems, predicting their behaviors, and devising modifications to them in order to produce desired effects. These skills work together as a system (Arnold & Wade, 2015, p. 7).

Following the result of empirical research, it can be concluded that development of systems thinking competence and retention of cognitive abilities can significantly improve both efficiency of leadership and efficiency of organization (Skaržauskienė, 2009, Systems Thinking as a Competence in the Leadership Paradigm (p. 103).

The ability to understand how an entire system works; how an action, change, or malfunction in one part of the system affects the rest of the system; adopting a “big picture” perspective on work (Houston, 2007). It includes judgment and decision making, systems analysis, and systems evaluation as well as abstract reasoning about how the different elements of a work process interact (Peterson et al., 1999). (National Research Council. (2011). *Assessing 21st century skills: Summary of a workshop*. National Academies Press, p. 15).

- Creating new concepts and solutions out of opposing ideas, debates and paradoxes
... hold two opposing ideas in their minds at once. Then, rather than settling for choice A or B, they forge an innovative “third way” that contains elements of both but improves on each (Martin, 2007, p. 73).

Brilliant leaders excel at integrative thinking. They can hold two opposing ideas in their minds at once. Then, rather than settling for choice A or B, they forge an innovative “third way” that contains elements of both but improves on each (Martin, 2007, p. 73).

3.7.2 Structuration theory

The structuration theory is a social theory of the creation and reproduction of social systems that are situated in the analysis without giving primacy to either ‘structure’ or ‘agents’. The Theory of Structuration according to Orlikowski (1991, p. 1) enables researchers to conceptualise the world in ways that do not rely on application of simple binaries or dichotomies which result from reductive thinking that is based on ‘dividing the world into opposites e.g. micro/macro, subjective/objective, agency/structure’.

The theory was proposed and developed by sociologist Anthony Giddens (1976, 1979). Giddens recommended that structure and organisation be seen not as free and opposing components but rather as a commonly communicating duality. So, influential human agents create and sustain social structures through their activities, while people in the background will often seek to create and imitate that social structure. The structure is accordingly not just an external controlling power, but rather is an asset which can be deployed by people in their activities: it is therefore simultaneously empowering and incapacitating. Giddens (1979) defines the ‘duality of structure’ as:

...the essential recursiveness of social life, as constituted in social practices: structure is both medium and outcome of reproduction of practices. Structure enters simultaneously into the constitution of the agent and social practices, and ‘exists’ in the generating moments of this constitution (p. 5).

In the context of the use of technology, Giddens (1979) proposed a dynamic image of the process by which people incorporate advanced technologies into their workplaces. The author argues that organisational actors' adaptation of technology structures is a major factor in technology change. In accord with this perspective, DeSanctis and Poole (1994) argue that 'advanced information technologies bring social structures which enable and constrain interaction to the workplace' (p. 125). DeSanctis and Poole assert that application of structuration theory:

provides a general approach to the study of how groups organise themselves, a process that plays a crucial role in group outcomes and organisational change., advanced information technologies trigger adaptive structuration processes which, over time, can lead to changes in the rules and resources that organisations use in social interaction (pp. 142-143).

Giddens identifies three dimensions of structure; signification, domination, and legitimation.

Figure 8 displays these dimensions as connected with the interaction of structure and agency (respectively, communication, power, and sanction) across three modalities (interpretive schemes, facility, and norm).

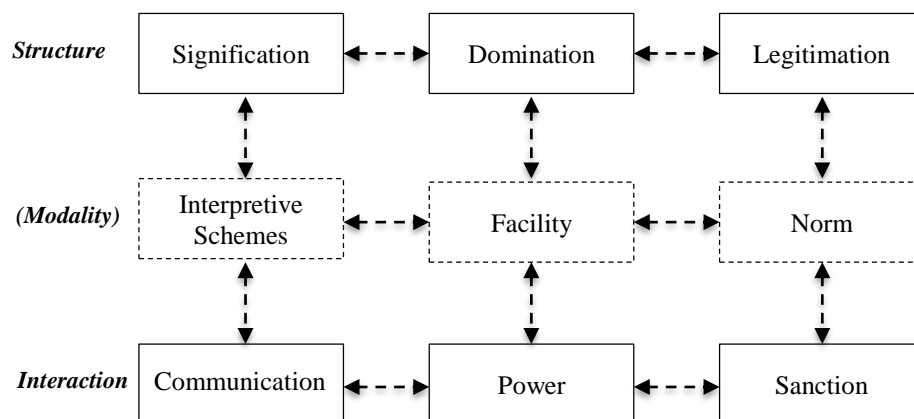


Figure 8: The dimensions of the duality of structure.

(Adaptation based on: Giddens 1984, cited in: Wu & Kersten, 2008, p. 7)

Accordingly, the modalities are points of communication and interaction between the knowledgeable capacities of actors and the structural features of social systems. This framework is fundamental for conducting a structuration analysis of social practice. The modalities are inextricably linked in practice, but it is convenient and informative to distinguish them in analysis. Giddens emphasises the unpredictability and complexity of the duality of structure which includes acknowledged and unacknowledged settings, intended and unintended results of planned activities, and acts of agency by social actors that often create and recreate fundamental properties of the social system.

In their critical review of Giddens' work Jones and Karsten (2003) argue that structuration theory has been popular with information systems researchers and influential on business and management studies, particularly during the early 1990s. They propose that more creative and also more parsimonious use of structurationist concepts should be attempted in future research on information systems, advocating philosophical approaches that are emergent and constructivist. Giddens (1984, p. 375) explains his main approach as 'institutional analysis'. He defines this as a form of 'Social analysis which places in suspension the skill and awareness of actors, treating institutions as chronically reproduced rules and resources' (Stones, 1991, p. 43).

Structuration theory has been applied in research to numerous contexts relevant to leadership and management. Vallaster and Chernatony (2006) use structuration theory to analyse change when building an internal brand. They argue that effective leaders act as 'integrating forces' in two stages: (i) integrating the components of the organisation's identity structures, and (ii) interceding between the organisation's branding structures and individual employees.

Thompson's (1984) review of structuration theory concludes that Giddens' utilisation of the

term "rules" is risky. Likewise, "Structure", Thompson argues, is also questionable: 'Yet to adhere to this origination of structure, while in the meantime recognising the requirement for the investigation of 'structural principles,' 'structural sets' and 'axes of structuration', is basically a formula for conceptual chaos' (p. 160).

Thompson claimed that Giddens offered no way of formulating *structural identity*. Some "rules" are better conceived of as broad inherent elements that define a structure's identity (e.g., Henry Ford and Harold Macmillan are "capitalistic"). These agents may differ, but have important traits in common due to their "capitalistic" identity. Thompson theorized that these traits were not rules in the sense that a manager could draw upon a "rule" to fire a tardy employee; rather, they were *elements* which "limit the kinds of rules which are possible and which thereby *delimit* the scope for institutional variation." It is necessary to outline the broader social system to be able to analyze agents, actors, and rules within that system (https://en.wikipedia.org/wiki/Structuration_theory#John_B._Thompson).

In the context of public relations, Falkheimer (2009) asserted that integrating structuration theory into strategies could result in a business that is less agency-driven. Falkheimer depicted public relations as an approach to communication and activity whereby social frameworks emerge and reproduce. He proposed that increased theoretical focus on power structures in public relations could lead to more holistic understanding of how to utilise public relations as both, a reproductive and a [transformational] social instrument. The application of structuration theory can be appropriate to community-based approaches emphasising 'storytelling, rituals, and informal communication systems'. Additionally, structuration theory incorporates every employee in public relation activities, coordinating public relations at all levels of the organisation. A major strength of using structuration theory is its capacity to draw moral attention when assessing whether or not a social system should transform.

The attributes, actions and processes of integrative leadership where conceptual skills could be found to be significant, according to structuration theory, might reside in interpretative rules, knowledgeability ('to put things into words' and 'what agents know about what they do,

and why they do it', Giddens, 1981, p. 17), thinking globally (time-space and homogenising, Giddens, 1981), interpreting and adopting the duality of structure to increase effectiveness in leading an organisation (Giddens, 1979), practical and discursive consciousness (Giddens, 1984), having reasons for one's actions, and being able to elaborate discursively upon these reasons (Giddens, 1984).

In summary, three potential elements of structuration theory that are relevant to understanding a leader's conceptual skills in integrative leadership are:

- Knowledgeability: 'to put things into words'
- Adopting discursive consciousness
- Having reasons for one's actions and being able to elaborate discursively upon these reasons

3.8.0 Innovative leadership

Based on Korn Ferry's *Real World Leadership* study with over 7,500 executives from 107 countries as participants, Smith (2015) reviewed the importance of innovation in driving strategic change. Smith asserted that innovative leadership is critical to today's executives and that few executives believe they have the right leaders in place to effectively deliver on strategy. In addition to difficulties with recruiting competent leaders, there are also areas of leadership and innovation that require substantially more empirical research investigation. Rosing, Frese and Bausch (2011) examine the existing literature on leadership and innovation concluding that it often presents an inconsistent and complex relationship between the two concepts. They found that most research has ignored the complexity of innovation processes. The primary requirements of innovation are exploration, exploitation and adaptability in switching between them.

In relation to competence-based approaches to leadership, Gliddon (2006) describes a competency model of innovation leaders. Gliddon refers to Roger's (1995) categorisation of innovators as composed of early adopters, opinion leaders and change agents. He defines innovation leadership as a philosophy and method that integrates diverse styles of leadership to influence people to initiate creative ideas. The innovation leader, Gliddon argues, is central to activities of innovation, particularly the leadership of groups and teams.

From the perspective of creative or synthetic intelligence, Sternberg (1999) argues that this is an ability to deal effectively with new and uncommon states by depending on existing knowledge and skills. Leaders who possess distinctive viewpoints on strategic change have the opportunity to lead others by infusing creativity and different ideas and perspectives.

Graham-Leviss (2016) proposes that innovative leaders are better than non-innovative leaders in six competencies. XBInsight (2016) has collected competency data on nearly 5,000 leaders across a wide range of industries; these data were analysed to identify the competencies that innovative leaders share. The top five competencies identified by XBInsight are. Graham-Levis, however, selects five out of the six competencies, rejecting the last one in the list which is 'maintain order and accuracy'.

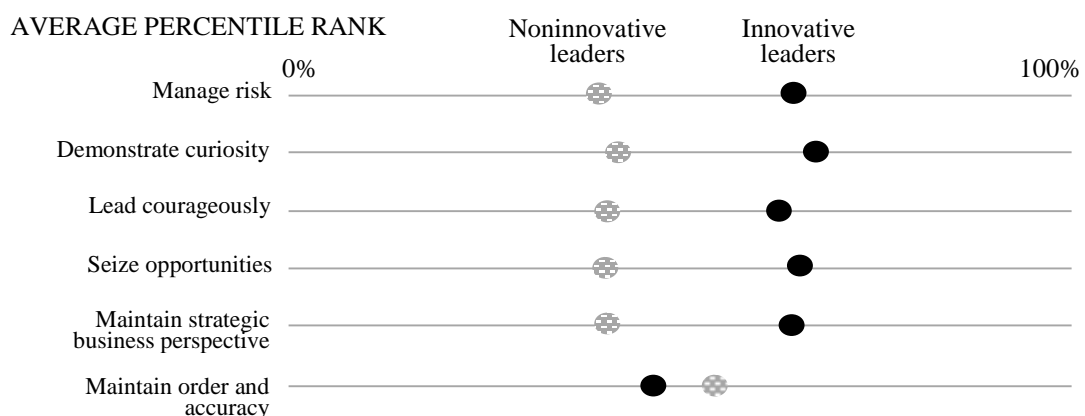


Figure 9: What innovative leaders do better than noninnovative ones.

(Adaptation based on: K. Graham-Leviss 2016, The 5 Skills That Innovative Leaders Have in Common, *Harvard Business Review*, 20th December)

Graham-Levis asserts:

The data suggests that the most innovative CEOs don't ignore risks – they manage them. These leaders anticipate what can go wrong without getting boxed in. They're curious, and they seize on clear opportunities, balancing exploration with being opportunistic. The CEOs who are most likely to lead innovation are driving, high-impact individuals, who aren't afraid to be assertive, independent, and above all, curious (Graham-Leviss, 2016. p. 7).

These five competencies – 'Manage Risk, Demonstrate Curiosity, Lead Courageously, Seize Opportunities, and Maintain a Strategic Business Perspective' – could all be areas of innovative leadership that involve the exercise of relevant conceptual skills.

3.8.1 Ambidexterity theory

The adoption of innovation is often highly influenced by the extent of leadership, support, and coordination (Damanpour, 1991). O'Reilly and Tushman (2013) define ambidexterity 'as a capability for resolving the tensions between exploration and exploitation' (p. 5); however, they indicate that Uotila et al.'s (2009) study, for example, estimated that 80% of organisations under-emphasised exploration and over-emphasised exploitation. Further, O'Reilly and Tushman (2013) describe ambidexterity as an ability to both explore and exploit, to compete in an environment where efficiency, control, and incremental improvement are respected, and to compete in 'new technologies and markets where flexibility, autonomy, and experimentation are needed' (p. 2). In a study on investigating the role of leadership and organisational culture, Lin and McDonough (2011) found a significant and positive relationship between strategic leadership and innovation ambidexterity. They explain that strategic leadership has a crucial role in mediating between strengths for

exploration – for example, innovation and change – and inertial forces for exploitation of the present state of affairs. The authors define innovation ambidexterity as follows:

Innovation ambidexterity is the ability to generate multiple types of innovation in terms of internal process and incremental and radical product innovation simultaneously. Thus, innovation ambidexterity concerns a firm's combined magnitude of exploration and exploitation (p. 502).

Also, Lin and McDonough (2011) recommended that senior leaders need to consider how their organisations facilitate innovation ambidexterity across different types, including process, incremental innovation, and radical innovation. Leaders have a critical role in the activities of external learning and new knowledge exploration, and need to collect intelligence regarding changes in the environment, competitive context, and the competitive status of organisations that are similar to their environment. They should screen the organisation's external environment and collect competitive intelligence on market trends, as well as attain customer feedback, and understand the customers' needs, expectations, and market trends. Leaders must ensure that the organisation links known customer expectations and needs with service development to create new knowledge and ideas. Finally, by participating in these areas, leaders displaying behaviours that they hope others will model. Leaders' and other employees' behaviours therefore have to support exploitation and exploration in order to generate incremental and radical process innovation.

In a very recent publication, Turner, Aitken and Bozarth (2018) address ambidexterity at the individual level rather than at the organisational level of analysis. They adopt the lens of ambidexterity to examine responses to complexity aiming to understand the use of recognised solutions concurrently with innovative resolutions to solve impediments. The authors conclude that, 'Through exploiting current knowledge, managers can lessen the impact of complexity while exploring other innovative approaches to solve new problems and

challenges that evolve from complexity growth driven by business strategy (p. 1443). Also, in order to achieve forms of ambidexterity (the ability both to exploit and explore), the authors present greater meanings for both sides of this skill, as shown in the following table.

Table 6: Relating exploitative/ exploratory responses to reduction/ accommodation of supply chain complexity.

(Adaptation based on: Turner, Aitken and Bozarth 2018, p. 1452, Table III)

Exploit Refining and using existing knowledge	Explore Innovating, problem-solving and creating new knowledge
<i>Deleterious complexity (reduce)</i> Use appropriate known technology/process/ best practice to reduce the complexity. Example – use established business rules to trim the number of product offerings	Develop or bring in a solution to reduce or eliminate the complexity. Example – implement advanced scheduling software to stabilise production schedules
<i>Beneficial complexity (accommodate)</i> Build on existing solutions to gain the benefits available from the complexity. Example – modify existing product designs to provide more offerings to customers	Work in a new way to take advantage of a complex opportunity that competitors find difficult to emulate. Example – work with a wider range of suppliers and intermediaries to enable more new product variations to a greater number of customers

Gibson and Birkinshaw (2004) have argued that organisational ambidexterity, is ‘a context characterised by a combination of stretch, discipline, support, and trust [that] facilitates contextual ambidexterity. Further, ambidexterity mediates the relationship between these contextual features and performance’ (p. 209). In their investigation of the theory of ambidexterity, Raisch et al. (2009) explore whether ambidexterity is achieved through integration or differentiation. They also ask the questions: (i) Does ambidexterity appear at the organisational or individual level? (ii) Does ambidexterity need an inactive or active perspective? and (iii) To what extent and under what conditions does ambidexterity arise internally or relies on externalising selected processes? They conclude overall that these tensions should be balanced and harmonised rather than treated as exclusive, conflicting categories.

The attributes, actions, and processes that are part of leaders' competencies, skills and behaviours which are relevant to theories of ambidexterity include adapting organisational structures to strategy (O'Reilly & Tushman, 2013) and adopting a mindset of explore and exploit, leading to organisational '... behavioral capacity to simultaneously demonstrate alignment and adaptability across an entire business unit' (Gibson & Birkinshaw, 2004, p. 209). Leaders, groups and organisations should seek to be 'ambidextrous as aligned and efficient in their management of today's business demands, while also adaptive enough to changes in the environment that they will still be around tomorrow' (Gibson & Birkinshaw, 2004, p. 209). Ambidexterity concerns 'The ability to simultaneously pursue both incremental and discontinuous innovation ... from hosting multiple contradictory structures, processes, and cultures within the same firm' (Tushman & O'Reilly, 1996, p. 24), and the ability to create a broad organisational culture and identity, that has the ability to move on from the organisation as the unit of analysis to the organisation's wider networks.

There are many areas of ambidexterity likely to include elements of conceptual skills because ambidexterity relies on abilities to think and act in ways that reconcile, balance and harmonise contradictory ideas and processes. Three types likely to be significant are simultaneous, contextual and sequential ambidexterity:

- Simultaneous/Structural Ambidexterity: detecting and seizing new opportunities through concurrent ambidexterity, rely on both inward ambidexterity and outside associations to enhance its capability to explore and exploit (Nickerson and Zenger, 2002).
- Contextual Ambidexterity: adjusted and proficient in recent business requests, while additionally sufficiently versatile to changes in the condition that they will even now associate with tomorrow, and a culture of adaptability advanced innovativeness while standards for control assisted with execution (Gibson & Birkinshaw, 2004).
- Sequential Ambidexterity: dynamic abilities which are characterised as 'temporal

switching between exploration and exploitation – has not been examined fully, and the conditions under which this temporal switching can be successful are unclear’ (Chou, Hang & Chiu, 2018, p. 752).

In summary, it is proposed that the leader’s exercise of conceptual skills will be evident in leadership competencies related to dealing with organisational ambidexterity:

- Use both sequential and simultaneous modes of exploration and exploitation
- Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual).

3.8.2 Structure of Intellect (SOI), practical intelligence and successful intelligence

Mental abilities and aspects of intelligence have been assessed and evaluated based on an individual’s performance in intelligence tests since the first half of the last century (Eysenck, 1963; Stanford-Binet, 1916; Lorge-Thorndike, 1958). The SOI expresses intellectual abilities structured according to three dimensions – operations, content, and products. SOI is a relevant theory of intelligence where it can be assumed that there will be evidence of conceptual skills through attributes, actions, and processes of leaders and their leadership behaviours.

Guilford (1956, 1961, 1963, 1967) is well-known for his SOI theory and his contribution to the field of innovation. SOI is a multi-dimensional model of the intellect. Guilford’s model classified mental abilities by ‘operation performed, content used to perform the operation, and type of product produced’ (Guo, Gonzales & Dilley, 2016, p. 130). Guilford (1961) developed the SOI model through factor analysis. He suggested that every intellectual activity and the related mental processes can be defined according to the three basic dimensions. Based on these

three dimensions, each of which contains five or six abilities, there are 150 interlinked intellectual abilities ($5 \times 5 \times 6 = 150$; later updated to $5 \times 6 \times 6 = 180$).

An important distinction in SOI is made between two sorts of process – convergent thinking and divergent thinking (Clapham, 2004). *Divergent* thinking is a complex concept which has been explored through different kinds of variables developed by psychologists, such as fluency, flexibility, originality, and elaboration. A number of studies on leadership, including in the public sector, have indicated that divergent thinking skills are significant for leaders (Mumford et al., 1998; Vincent, Decker, & Mumford, 2002; Zaccaro et al., 2000). Guo (2016) explained that Mumford et al. (2002) offered a tripartite model – that is ‘idea generation, idea structuring, and idea promotion’ – in order to examine innovative leadership. The authors criticised Mumford et al.’s (2002) analysis of innovative leadership as complex and occasionally inconsistent.

A leader’s conceptual skills rely upon the functional activities of the human intellect, and particularly capacities in analytical and practical intelligence. Sternberg (1998b, 2002, p. 1) proposed the concept of practical intelligence classifying it as a ‘form of developing expertise’. In another article, Sternberg et al. (2000) defined practical intelligence as ‘the ability to solve real-world everyday problems’ and, more broadly, ‘the ability to adapt to, shape, and select everyday environment’ it is ‘what most people call common sense’ (pp. 97-98). Sternberg and Wagner, (1986, p. 1), attributed the concept of ‘mind in action’ as a definition of practical intelligence devised by Sylvia Scribner, a scholar who argued that there are different kinds of thinking and that it is useful to distinguish between theoretical thinking, and practical thinking.

In research on practical intelligence and creative leaders, Sternberg (1999) and Sternberg, Kaufman and Pretz (2001, 2002) argued that there are eight distinctive types in which to apply creative leadership. These types of leadership characterise different types of metaphorical means of directing ‘those they lead from wherever they are to wherever the leader wishes them to go’ (Sternberg, Kaufman & Pretz, 2003, p. 457). They divided creative leadership into three general kinds that subdivides further into eight types. First, there is ‘leadership that accepts existing ways of doing things, leadership that challenges existing ways of doing things, and leadership that synthesises different existing ways of doing things’ (Sternberg et al., 2003, p. 455). The kind of leadership that accepts current paradigms includes four types – replicators, redefiners, forward incrementers, advance forward incrementers. Leadership that rejects current paradigms consists of redirectors, reconstructive redirectors and reinitiators. Leadership that synthesises various paradigms is categorised into one type, synthesisers:

Some types of creative leadership accept current paradigms. In brief, replicators do what others have done in the past. Redefiners do what others have done but find a new rationale for it. Forward incrementers move one step or a small number of steps beyond where other leaders have gone. Advance forward incrementers move a large number of steps beyond where others have gone, sometimes at their own peril. Other types of creative leadership reject current paradigms. Redirectors steer an organization in a new direction. Reconstructive redirectors move in a new direction but use the past rather than the present as a starting point. Reinitiators virtually start over from scratch. Finally, one type of creative leadership synthesizes various current paradigms. Synthesizers take what they believe are the best ideas from different paradigms and put them together (p. 457).

In summary, Sternberg (2005) recommends that researchers understand human intelligence as subdividing into three types of thinking:

- 1) Analytical intelligence is the capacity to examine and assess thoughts, take care of issues and decide;

Analytical intelligence is involved when the information- processing components of intelligence are applied to analyze, evaluate, judge, or compare and contrast. It typically is involved when components are applied to relatively familiar kinds of problems where the judgments to be made are of a fairly abstract nature (Sternberg, 2005, p. 191).

2) Creative intelligence includes going past what is given to produce original and fascinating thoughts;

Intelligence tests contain a range of problems, some of them more novel than others. In some of the componential work we have shown that when one goes beyond the range of unconventionality of the conventional tests of intelligence, one starts to tap sources of individual differences measured little or not at all by the tests. According to the theory of successful intelligence, (creative) intelligence is particularly well measured by problems assessing how well an individual can cope with relative novelty. Thus it is important to include in a battery of tests problems that are relatively novel in nature (Sternberg, 2005, p. 193).

3) Practical intelligence is the capacity that people use to identify the most appropriate solution suggested between themselves and the requests of others. This form of intellect involves different practical ways of adapting, shaping and selecting environments;

Practical intelligence involves individuals applying their abilities to the kinds of problems that confront them in daily life, such as on the job or in the home. Practical intelligence involves applying the components of intelligence to experience so as to: a) adapt to, b) shape, and, c) select environments. Adaptation is involved when one changes oneself to suit the environment. Shaping is involved when one changes the environment to suit oneself. And selection is involved when one decides to seek out another environment that is a better match to one's needs, abilities, and desires (Sternberg, 2005, p. 193).

Sternberg's theory of successful intelligence was developed over several decades (e.g.

Sternberg, 1977, 1985a, 1985b, 2000, 2004). He defines successful intelligence as follows:

Success is attained through a balance of analytical, creative, and practical abilities. Analytical abilities are the abilities primarily measured by traditional tests of abilities. But success in life requires one not only to analyze one's own ideas as well as the ideas of others, but also to generate ideas and to persuade other people of their value (Sternberg, 2003, p. 142).

The attributes, actions, and processes that are part of leaders' competencies, skills, and behaviours which are relevant to SOI, practical intelligence and successful intelligence

include ability to act directionally, think rationally, and face the environment effectively

(Guilford, 1967). The six operations or general intellectual processes include cognition ('The

ability to understand, comprehend, discover, and become aware of information’); memory recording (‘the ability to encode information’); memory retention (‘the ability to recall information’); divergent production (‘the ability to generate multiple solutions to a problem; creativity’); convergent production (‘the ability to assume a single solution to a problem; rule-following or problem-solving); and evaluation (‘the ability to judge whether or not information is accurate, consistent, or valid’) (source: www.web3.lu/guildfords-structure-of-intellect/).

The processes, attributes, and actions that might indicate leaders’ use of conceptual skills and which are relevant to the structure of intellect, practical intelligence and successful intelligence theories are:

- Cognitive processes and modes of critical thinking capable of generating unique, creative responses to questions, problems and situations. Most often evident in divergent thinking characterised by fluency, flexibility, originality, and elaboration.
- Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion.
- Creating fit between leaders and their environments through processes of adaptation, shaping, and selection.
- Creative intelligence is used to produce new ideas, analytical intelligence to evaluate the quality of the ideas, and practical intelligence to identify the best ways to sell these ideas to other people; achieving a balance of analytical, creative, and practical intelligence which, in combination, constitutes successful intelligence.

3.9 The four areas and their inter-relationships

The four areas of competence have been selected based on evidence in the literature that they are important for leadership in the public sector and are critical to leading change. Many scholars have contributed to the selected theories, and so the list of key thinkers is inevitably

broader than the few landmark publications mentioned so far in this research. It is frequently argued in the literature on leadership that leaders need to self-regulate and innovate in thought and action (Mumford, et al., 2015; Mumford, Watts & Partlow, 2015; Mostovicz, Kakabadse & Kakabadse, 2009). Interestingly, in the context of self-regulation, work by Jean Piaget (2015) has conceptualised the human structure of thinking and learning as based on three key ideas: the idea of wholeness, the idea of transformation, and the idea of self-regulation. There is also a smaller but important group of publications that assert the value of sensemaking in leadership – for example, during crisis (Olcott & Oliver, 2014; Oliver, Calvard & Potocnik, 2017) – and the concept of integrative leadership is an important current topic within public management (Crosby & Bryson, 2010; Moynihan & Ingraham, 2004).

3.10 Theoretical framework

Based on previous work by Katz (1955) and Hicks (1975), Strand (1981) reviewed leadership abilities related to conceptual, human and technical skills. The researcher argued that conceptual skills are the highest and most critical type of skills; likewise, Moore and Rudd (2005) advanced similar arguments. In a similar vein, T. V. Mumford, Campion and Morgeson's (2007, Fig. 1., p. 156) model of distributed leadership skills subdivides into four segments – cognitive, interpersonal, business, and strategic. These authors conducted an empirical study based on a sample of 1,023 professional employees of an international agency in the US government. Their main findings revealed a high rating of the role of conceptual skills at the senior levels of leadership ('strategic skill requirements') as well as high ratings for skills related to thinking and cognitive processes at the lower levels of leadership ('cognitive skill requirements').

This research is concerned about investigating the conceptual skills of public sector leaders

and their role in leading change. The intention is to examine the role of conceptual skills according to how public leaders experience and understand the four areas of leadership competence (self-regulation, sensemaking, integrative leadership, and innovative leadership) and the extent to which they are successful in leading change. These four areas are based on theories available in the subject fields of leadership, psychology, business and public management.

The empirical study examines attributes, actions and processes where underlying conceptual skills are proposed to be salient within four areas of public sector leadership competence. The focus of this research therefore is not particularly on feelings or behaviours or technical skills, but chiefly on *conceptual* skills. Inevitably though, understanding a leader's cognitive abilities necessitates acknowledging emotional and social perspectives, as Vurdelja, (2011, p. 18) has argued:

...in addition to measuring cognitive abilities for complex, dialectical thought, the full understanding of one's cognitive capabilities also requires the integration of emotional and social aspects. Lack of such integration could lead to a gap —between espoused theory and theory in use (Inglis & Steele, 2005, p. 40).

The following skills are proposed to be likely elements influenced by conceptual skills.

Table 7: Theoretical framework of the research

Conceptual skills within four areas of public sector leadership competence	Related theories	Subject discipline	Attributes, actions and processes where underlying conceptual skills could be essential
Self- regulation competence	SDT (self-determination/ Self-regulation theory)- 1. (Deci & Ryan, 2010, Gagne & Deci, 2005), 2. Vohs & Baumeister, 2004; Vonasch, Vohs, Baumeister, Pocheptsova, & Dhar, 2015), 3. (Day & Harrison, 2007): Leadership Perspective	Psychology	<ul style="list-style-type: none"> Competence: ability to be effective in dealing with the environment (Vohs, Baumeister & Ciarocco, 2005); Formulating intrinsic aspirations, goals and plans, and achieving them (Gagne & Deci, 2005).

	Authentic Leadership Theory- 1. (B. George, 2003), 2. (Avolio & Gardner, 2005)	Leadership	<ul style="list-style-type: none"> Leaders' practices follow their values consistently, and they lead with their "hearts and heads" (George, Sims, McLean & Mayer, 2007, p. 1); Leaders demonstrate 'Self-awareness and self-knowledge' (values, cognition, emotions) likely to involve use of conceptual skills (Avolio and Gardner, 2005, p. 323).
Sensemaking competence	CTT (Cognitive Transformation Theory) - 1. (Klein & Baxter, 2006)	Cognitive psychology	<ul style="list-style-type: none"> Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change (Klein & Baxter, 2006; Weick, 1995; Klein & Zsombok, 1997).
	Sensemaking Theory- 1. (Weick, 1988, 1995) 2. (Dervin, 1984, 1998) 3. (Gioia & Chittipeddi, 1991, 1998); (Gioia & Thomas, 1996) 4. (Maitlis & Christianson, 2014)	Business & Management: (Organisation Behaviour, Strategy); Information Sciences & Communication Studies; Knowledge Management	<ul style="list-style-type: none"> 'Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness' (Dervin, 1998, p. 39); A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives (McNamara, 2015); 'Structuring the unknown' (Waterman, 1990, p. 41) by 'placing stimuli into some kind of framework' that enables us 'to comprehend, understand, explain, attribute, extrapolate, and predict' (Starbuck & Milliken, 1988, p. 51); Understand how to create order from the overflow of experiences and interactions (Weick's seven properties: builds on extracted cues that we apprehend from sense and perception (Weick, 1988, 1995); Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning (Weick et al., 2005).
Integrative leadership competence	Integrative leadership- 1. (Crosby & Bryson, 2010), 2. (Moynihan & Ingraham, 2004), 3. (Martin, 2007)	Leadership	<ul style="list-style-type: none"> Systems thinking (Crosby & Bryson, 2010, p. 218; Senge, 1990; Senge, Smith, Schley, & Laur, 2008; Luke, 1998; Bryson, 2004); Creating new concepts and solutions out of opposing ideas, debates and paradoxes (Martin, 2007, p. 15).
	Structuration theory- 1. (Giddens, 1984)	Structuration theory	<ul style="list-style-type: none"> Knowledgeability: 'to put things into words' (Giddens, 1981); Adopting discursive consciousness (Giddens, 1984); Having reasons for one's actions and being able to elaborate discursively upon these reasons (Giddens, 1984).
Innovative leadership competence	Ambidexterity theory- 1. (O'Reilly & Tushman, 2011, 2013); (Tushman & O'Reilly, 1996)	Business & Management	<ul style="list-style-type: none"> Use both sequential and simultaneous modes of exploration and exploitation (O'Reilly & Tushman, 2013; Tushman and O'Reilly, 1996); Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual) (O'Reilly & Tushman, 2013).
	<ul style="list-style-type: none"> Structure of Intellect (SOI)- (Background: Guilford, 1956, 1963, 1988) Practical intelligence- (Sternberg, 1986), (Howell & Avolio, 1993) 	Psychology (Psychometrics)	<ul style="list-style-type: none"> Divergent thinking characterised by fluency, flexibility, originality, and elaboration (Mumford et al., 1998; Vincent, Decker, & Mumford, 2002; Zaccaro et al., 2000); Organising resources, people, and relationships through innovative processes of idea generation,

	•Successful intelligence (Sternberg, 1977, 1985a, 1985b, 2000, 2004)		idea structuring, and idea promotion (Mumford et al., 2002); – Creating fit between leaders and their environments through processes of adaptation, shaping, and selection (Sternberg, 2005, p. 193); – Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence (Sternberg, 2003, p. 142).
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The theoretical framework of this research is composed of four areas of leadership competence that are likely to include conceptual skills. This framework is designed to focus on those cognitive and conceptual skills which influence the leader's performance. The research intent is to construct a new framework of conceptual skills that underlie the four areas of leadership competence, and a model of the inter-relationships between them – a model that demonstrates how leaders can be effective in the areas of self-regulation, sensemaking, integrative leadership and innovative leadership to lead change successfully.

This research is unusual in that it aims to proceed by concentrating on public leaders' conceptual skills in leading change in contexts of individual leadership, regardless of follower-based or behaviour-based academic preferences. Neither does it intend to develop further the concepts of leadership styles, although Bass (2006) determined that transformational leadership during strategic change requires use of conceptual skills. Finally, this research may hold less relevance for middle and lower levels of management, since the emphasis is on the top leadership level.

Research Design and Methodology

4.0 Research design and methodology

4.1 Introduction to chapter

The qualitative approach adopted for this thesis is an inductive, interpretive and a phenomenological research study. The ontology is subjectivist aiming to develop a deep understanding of the complexities of public leaders' conceptual skills in leading change. The researcher examines conceptual skills in leading change as a social phenomenon from the perspectives of participants and their work life experiences.

The data are analysed and interpreted within the theoretical framework on four areas of leadership competence and their potential, related conceptual skills. Theoretical sampling is used in the data collection and analysis to develop the theory. The literature reviewed across several fields of psychology, business management and the public sector are used to interpret and evaluate public leaders' unique concepts, experience, and understandings of conceptual skills.

It is worthwhile remembering that in spite of a large volume of published research on leadership, there still needs to be more attention given to leaders' conceptual skills. Many researchers in the leadership literature have advocated conducting more research on leaders' conceptual skills (Kanungo & Misra, 1992; M. D. Mumford, Watts, & Partlow, 2015; T. V. Mumford, Campion, & Morgeson, 2007; Wright, 1996; Wright & Taylor, 1985, 1994; Yukl & Van Fleet, 1992). This empirical research explores the conceptual skills of a sample of

high-level public leaders working in United Arab Emirates' (UAE) federal and local government organisations.

4.2 Research philosophy and approach

Any research philosophy is connected to epistemological, ontological and axiological assumptions and undertakings that guide the inquiry, implicitly or explicitly. Epistemological, ontological and axiological assumptions and actions that control the study are deeply connected to the enacted research philosophy. Pathirage, Amaratunga, and Haigh, (2008) identify and explain three major undertakings and assumptions as follows:

epistemology describes 'how' the researcher knows about the reality and assumptions about how knowledge should be acquired and accepted. The ontology explains 'what' knowledge is and assumptions about reality. Axiology reveals the assumptions about the value system. These epistemological undertakings, ontological assumptions and axiological purposes about the nature of the world complement the formulation of research philosophy, thereby influencing the selection of appropriate research approach and methods (p. 5).

Pathirage (2008) used Easterby-Smith et al.'s (2012) work to explain the usefulness of understanding philosophical issues and approaches to research. He refers to the fact that the authors state three main reasons. First, it empowers the analyst to take knowledgeable decisions about the research plan; second, it can enable the researcher to comprehend the most effective type of design; and third, it empowers the researcher to adjust the plans flexibly as indicated by the requirements of various knowledge structures.

Since this research examines a social phenomenon that is constructed based on perceptions and accounts of the experiences of the participants, it can be categorised as adopting a predominantly subjectivist viewpoint (Maylor & Blackmon, 2005), while the objectivist ontology is more appropriate for comparatively stable, recognisable and assessable objects and social phenomena. Adopting subjectivism in this research means that the representation of

the social phenomenon is created based on the perspectives of high-level public sector leaders (in this study), and various observed events involving social performances by this group of selected participants. Based on the review of the literature provided in the earlier sections above, the author assumes that the public sector context will have a great impact on the socially constructed meanings and interpretations. Scholars emphasise the importance of investigating the points of interest in the context under study to understand the various social realities that contribute to the enacted contexts. These ideas about research methodology and practice are frequently linked with the concept of social constructionism (Berger & Luckmann, [1966], 1991).

Epistemology concerns what constitutes satisfactory or suitable knowledge in a field of study, whereas ontology concerns matters of being, meaning, and the nature of reality. Collis and Hussey (2014, p. 47) define epistemology as ‘...concerned with the study of knowledge and what we accept as being valid knowledge’. In the same context, Bryman (2008, p. 13) argues that ‘[a]n epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline’. All researchers have to make epistemological assumptions about what they know and the way that the world works. The perspective adopted in this research is an interpretive ontology which relies on public sector leaders’ experiences of leadership and their knowledge and understanding of their competencies and use of conceptual skills in leading change. This exploratory research is informed by a framework of conceptual skills that are constituted within four areas of leadership competence. Therefore, a potential research limitation is that such prior intellectual and academic contextualisation of leadership may interfere with accurate reporting and analysis of the empirical data. Further, the study is being conducted at a time and in a context where leaders in the public sector are being encouraged to modify their leadership style and

paradigms of thinking towards change initiatives that advance governments' competitiveness strategies.

This research uses grounded theory as a primary theoretical framework to investigate empirically – through data collection and analysis – the role of conceptual skills in leading change. Grounded theory is an inductive theory that was established by Glaser and Strauss (1967). These two researchers recommended that collecting data through grounded methods should start without any preconceived primary theoretical framework. Their argument is that the theory emerges and grows both during and after the data have been collected through interviews, observations and other methods and tools in grounded research. The data are then used by the researcher to create propositions and, towards the end of the research process when a grounded theory has been produced, even make predictions that might be measured in subsequent research to produce further explanations of the research phenomena. In their initial formulation of grounded theory, Glaser and Strauss (1967) were not opposed to the use of hypotheses and hypothesis testing; rather their criticism was that, at the time they were writing, these methods were overused and often without sufficient familiarity about the specific research contexts investigated.

The methodology for this thesis consists of multiple methods of qualitative research. Agarwal (2012) commenting on work by Dervin (1999) proposes that there are two distinct kinds of theories, substantive and metatheories:

- 1) Substantive theories, those that result from observation – systematic propositional statements of the nature and characteristics of observed phenomena and the relationships between observed phenomena”, privileged by those who favor quantitative approaches; and 2) metatheories, those that direct observings [sic observations] – “philosophically grounded assumptions about the phenomena and how to study it”, privileged by those who favor qualitative approaches (Agarwal, 2012).

In employing a qualitative approach, and adopting a theoretical perspective to examine how public leaders experience, understand and recognise conceptual skills in leading change, this research uses the qualitative phenomenographic approach that is commonly used to understand the perceptions and experiences of a phenomenon (Sandberg, 2000).

Phenomenography is a research approach that evolved out of various research traditions including phenomenology. Many authors have argued that what is significant in phenomenology is how contexts are instructed, classified, created and interpreted. Moreover, phenomenology assumes that the possibility of any real experience is only achieved through interpretation. The purpose of phenomenology is to return to the thing itself (Cheng, Kruger & Daniels, 2003; Eagleton, 1996; Groenewald, 2004; Moustakas, 1990, 1994; Welman, Kruger & Mitchell, 2005). Phenomenology is inextricably linked with qualitative research and is often considered interchangeably as a methodology, a philosophy and a paradigm. Anosike (2012) characterised phenomenology equally as a research method and philosophy. Anosike supports the use of phenomenology in examination of a phenomenon through reflective observation and argues that phenomenological research, as indicated by Giorgi (2012), has the advantages of offering a more profound and thoughtful understanding of the field of study.

Willis (2001, p. 2) explained that ‘Phenomenological research was originally developed by Husserl (1931, etc.), Heidegger (1962, etc.) and Merleau-Ponty (1962, etc.) and received elaboration by their great apologist, Spiegelburg (1970).’ Known as the philosopher of phenomenology, Husserl (1960) was a German mathematician-philosopher who made a major contribution to the interpretative social sciences by arguing that ‘being in the world’ is an alternative way of developing human knowledge, which is distinct from the processes of objectification typical of the positivist sciences. Saunders, Lewis and Thornhill (2009) explain that phenomenology refers to the way in which individuals understand common contexts; as

we are always in touch with our world and in an interpretive relation with our social environment involving activities that invite us to constantly modify our perspectives and behaviours. Saunders and colleagues described phenomenology as a philosophy that seeks to understand social phenomena and as a research approach that has expanded over the years. Phenomenology, they write, is generally concerned with making propositions and finding knowledge inside phenomena under study.

Creswell (2017) identified phenomenological research as an approach to philosophy and psychology wherein the researcher portrays the lived experiences of people about a phenomenon as represented by participants. Valle, King and Halling (1989, p. 6) described phenomenology as ‘... the rigorous and unbiased study of things as they appear so that one might come to an essential [fundamental] understanding of human consciousness and experience...’. In the same context, Collis and Hussey (2014, p. 55) describe the typical features of the phenomenological paradigm: ‘... qualitative data, uses small samples, concerned with generating theories, data is rich and subjective, the location is natural, reliability is low, validity is high, ...’.

Marton (1981) defined phenomenology as a research methodology where we as humans create a conception of the world that researchers are concerned to learn more about and understand. According to Marton (1981), phenomenology is ‘directed towards the pre-reflective level of consciousness’, and it aims to ‘describe either what the world would look like without having learned to see it or how the taken-for-granted world of our everyday existence is lived’ (p. 181). Marton argued that the phenomenological approach is concerned with immediate experience rather than with conceptual thoughts (Richardson, 1999). Marton (1981; 1986; 1988b) draws attention to the contrasts within phenomenological approaches,

whereby phenomenographers deal with ‘both the conceptual and the experiential, as well with what is thought of as that which is lived’ (Marton, 1981, p. 181).

The empirical research of this thesis is based on the idea of a constant comparison of experienced phenomena, as the researcher encounters these phenomena both as experiences in the research setting and as accounts and performances produced by the participants. Such encounters can be based on actual interactions with research participants in the field as well as encounters through the researcher consulting and reflecting on records of collected data, which might consist of, for example, documents, field notes, transcripts, and audio and video recordings.

Phenomenography requires that the researcher develops an understanding of the research participants from an ontological viewpoint that is co-constructed by the researcher and the researched. This research methodology necessitates adopting a non-dualistic perspective on all of the participants’ encounters and experiences. Phenomenography is based on the philosophical assumption that nothing is either right or wrong; rather it is always a point of view. Subsequently, through a process of description and interpretive re-description by the researcher the likenesses and contrasts between the ideas expressed by participants on the research phenomenon – in this context, the leader’s conceptual skills in leading change –lead to identification of significant contrasts in participants’ ideas and understanding. These classifications developed by the researcher on how the participants experienced the phenomenon (conceptual skills in leading change) constitute the major findings of this phenomenographic research. To some extent, this research approach seeks to be anticipatory about the participants’ experience because, as Giorgi (2012) remarked, researchers are aiming

to explain the phenomenon as accurately as possible, with assumed structure and continuing ahead of the evidence.

Richardson's (1999) review of the concept of phenomenographic research locates its conceptual underpinnings within the phenomenological tradition. The author explained that this kind of research 'relies on participants' discursive accounts of their experiences and cannot validly postulate causal mental entities such as conceptions of learning. The analytic procedures of phenomenography are very similar to those of grounded theory' (p. 53). He added, 'it is argued that these conceptual and methodological difficulties could be resolved by a constructionist revision of phenomenographic research.'

Larsson and Holmström (2007) have indicated that whereas phenomenography developed predominantly from within an educational framework, when applied in other areas (such as business management and leadership) this approach can be misunderstood as seems to be the case in some reports on purportedly phenomenographic studies. Some of these writers have described how the phenomenographic approach differs from a phenomenological one. Often, they argue that *phenomenology* is about studying the essence of being while *phenomenography* is about exploring the different ways of understanding or making sense of the research phenomenon. Larsson and Holmström (2007, p. 56) highlight that

phenomenography is about different ways of understanding. A general way of understanding constitutes a relation between the subject and the phenomenon. It is the result of a person thinking intentionally (in the Husserlian sense of the word), interacting with the phenomenon and striving to create meaning.' ...The different ways of understanding have both "what" and "how" aspects. The "what" aspect tells us what is in the subject's focus, the "how" aspect describes how meaning is created.

Phenomenology improves realisation of the phenomenon, while phenomenography leads to a better understanding of the perceptions and experiences of the phenomenon itself (Ashworth & Lucas, 1998; Bowden & Walsh, 2000; Marton, 1981). Nevertheless, phenomenology and

phenomenography are both rooted in the subjective sense and the world of human beings. The phenomenographical method however aims to reveal and disclose unique classifications of description often relevant to identified groups of research participants. Marton (1986, p. 31) defines phenomenography as a

research method adapted for mapping the qualitatively different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around them.

Sandberg (2000) differentiates phenomenography from highly rationalist approaches to research, management, and human competence. Leadership competence studied through phenomenographic methods relies on developing knowledge and understanding about conceptions of competence in practice and as articulated by participants in the research. It therefore does not rely upon abstract theories or highly rationalised accounts of human competence as often found in practitioner and scholarly publications on leadership. In essence, phenomenography examines individuals' lived experiences. A key unit of analysis in phenomenography is the individual. Sandberg's (2000) research on engineers' lived experience concentrates on grouping individuals into different conceptions of competence. This research concentrates on the meaning of leaders' lived experience and what constitutes human skill at work. The research design for this thesis acknowledges that phenomenography as an explanatory approach to the analysis of skills and competencies can be effectively conducted using a variety of qualitative methods, including interviews and observation for data collection.

4.3 Research strategy and paradigm

Saunders (2003) indicates three different strategies – explanatory, exploratory or descriptive – and explains that the boundaries between them are indistinct, alongside the fact that the

researcher is likely to want to utilise more than one strategy for the same study. *Explanatory* research is most appropriate when studying a context or problem that involves clarifying the relationship between factors. When undertaking an *exploratory* investigation, the researcher tries to look for new insights into phenomena, conceiving and theming them in a new light. The main objective of a *descriptive* study, in contrast, is to deliver accurate representations of people, events, and contexts. This thesis employs an *exploratory research approach in the field of public sector change*, to discover insights into leaders' use of conceptual skills when leading change.

Concerning the research paradigm, Saunders et al. (2015) indicated that 'paradigm' is a word that is regularly utilised within the social sciences, which can help with differentiating between the political and ideological focus of researchers regarding the social subjects they examine. Bryman (2008, p. 696) defines the research paradigm as what 'describes a cluster of beliefs and dictates what should be studied, how research should be done and how the results should be interpreted'. In the same context, Burrell and Morgan's (2017) well-known categorisation of social science paradigms subdivides them into radical structuralist, interpretive, functionalist, and radical humanist.

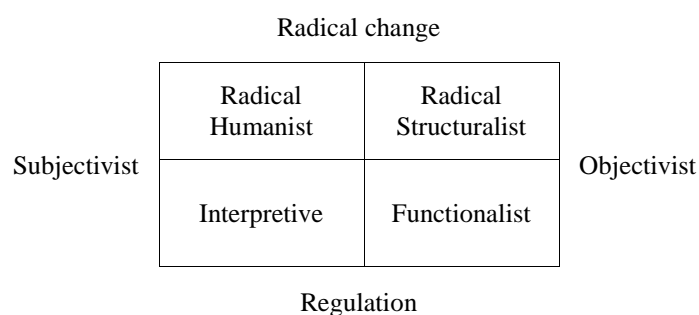


Figure 10: Four paradigms for the analysis of social theory.

(Adaptation based on: Saunders et al. 2009, 5th edn, p. 120)

Note: The original shape was drawn in colour, where each square was given a different colour.

This research is based within interpretivism as a methodological paradigm and hence it depends on interactions between the researcher and the subjects (or participants) that reveal aspects relating to the use of conceptual skills in leading change. It is therefore not seeking to adopt an independent role towards the subject as one would in a typically positivist research paradigm. Thus, portrayal of the context and individual experiences of leaders is more important to this study paradigm than issues of attributing causality and processes of reductionism are. The research methods in this study are qualitative, and its paradigm is subjectivist. This paradigm is concerned with phenomenographic understanding of the essential meanings that are involved in leading public sector change, realising irrationalities, behaviours involved, the purposes of the hidden intentions, and the reality of public sector' politics and acceptable ways of using power in different cultures and societies. In this qualitative, interpretive, subjectivist, phenomenographic paradigm, the researcher must become involved in observing and understanding everyday events in order to identify what is happening on a deeper level.

This research utilises a constructivist (subjective) qualitative paradigm, whereas a quantitative scientific research approach follows a different paradigm. Donley and Grauerholz (2012) argue that qualitative research creates word-based data instead of numbers, and qualitative types of research try to go beyond the numbers. Although quantitative research responds to issues about how, what, who, how often/many, and so on, the qualitative study does not offer reductionist, causal accounts based on numbers. Qualitative research has been criticised for not producing statistically significant results and for being limited in the extent that it is capable of generalising from a sample to a known population.

Research based on qualitative approaches can provide a more profound understanding of the research phenomenon in a way that quantitative research often does not. This is because quantitative research often does not have access to sufficient depth of data due to the data collection and analysis methods used. As an example; Donley and Grauerholz (2012) argue that while many types of research have disclosed to us *who* is homeless and *how* individuals get to be homeless, qualitative research is more effective in showing us what it *feels like* to be homeless.

To conclude this section, the choice of qualitative phenomenological research methods is based on the researcher's assumption that the complexities of understanding leaders' conceptual skills can be investigated using this particular research paradigm. The methods were implemented by the researcher in ways that paid attention to differences in individual leaders' competencies and studied research participants situated within diverse public sector settings and change requirements.

Research methodology in general

Table 8: Overall research methodology

Approach	Reason of adopting (justification)
A multi-method qualitative approach	Useful for exploring problems where there is a lack of knowledge and understanding about the research phenomenon
Inductive approach	<p>Because the research focuses on the formation of new theory through developing it from out of the data and by using the research questions to guide and limit the scope of the exploration.</p> <p>The researcher is concerned with understanding why something is going on, instead of being able to explain what exactly is occurring, Easterby-Smith et al. (2012) propose that it is more appropriate for studies (including – the author assumes – the research for this thesis) to be researched inductively rather than deductively.</p> <p>Justification: inductive research in its purest senses might commence without any predetermining theory or conceptual framework; however, to explore the data and develop theory from the collected data, this study starts with some general ideas and academic knowledge about what is already debated on leadership competencies and conceptual skills.</p>

Qualitative phenomenographic research method and philosophy	<p>This qualitative study aims at recognising and describing qualitatively different ways of experiencing conceptual skills in leading change and identifying instructively critical viewpoints that could be utilised as a means towards new and more complicated ways of understanding. The research examines conceptual skills in leading change as a social phenomenon from the perspectives of participants and their work life experiences, which necessitates adopting a non-dualistic perspective of their combined understanding and experiences. Also, the research is concerned about uncovering essential differences, not in defining everything that may be taken from the data.</p> <p><i>“Phenomenography is the empirical study of the limited number of qualitatively different ways in which various phenomena in, and aspects of, the world around us are experienced, conceptualized, understood, perceived, and apprehended”</i> (Marton, 1994).</p> <p>Phenomenography is based on the philosophical assumption that nothing is either right or wrong; instead, it is always a point of view.</p>
Subjectivist viewpoint	The representation of the social phenomenon (leader’s conceptual skills) is created and constructed based on perceptions and accounts of the experiences of the participants.
An interpretive ontology The interpretative framework may be (Transformative /Postmodern)	<p>In this research, the results rely on public sector leaders’ experiences of leadership and their knowledge and understanding of their competencies and use of conceptual skills in leading change.</p> <p>Ontological beliefs expressed within a transformative interpretative framework require intense participation between the researcher and individuals being studied.</p>
Interpretive and subjectivist research paradigm	Depends on interactions which is a feature of interacting between the researcher and the subjects (or participants) that reveal aspects relating to the use of conceptual skills in leading change.
Exploratory research strategy	<p>Aims to explore the role of public sector leaders’ conceptual skills in leading change. The researcher tries to look for new elements of knowledge into phenomena, considering and theming them in a new light. In contrast, the main objective of a descriptive study is to deliver accurate representations of people, events, and contexts. This study is informed by a framework of conceptual skills that are constituted within four areas of leadership competence. Therefore, it is acknowledged that there is the potential research limitation that such prior intellectual and academic contextualisation of leadership may interfere with accurate reporting and analysis of the empirical data.</p>

Qualitative paradigms offer the researcher the opportunity to develop an idiographic understanding of participants, and what the research problem means to them, within their social reality, living with a particular condition or be in a specific situation (Bryman, 1988). Phenomenography differs in some ways from some other approaches to phenomenology. A phenomenographer, similar to many other phenomenologists, uses an empirical orientation and explores the experiences of others (Marton & Booth, 1997). Interpretive phenomenology research concentrates its focus on the essence of the phenomenon, whereas phenomenography

focuses on the essence of the experiences and the subsequent variations in perceptions of the phenomenon (Hitchcock, 2006).

Table 9: Uses of different types of interview in each of the main research categories.
(Adaptation based on: Saunders et al., 2009, 5th ed, p. 314)

	Exploratory	Descriptive	Explanatory
Structured		√√	√
Semi-structured	√		√√
Unstructured	√√		

√√ = more frequent, √ = less frequent

4.4 Research design and methodology

Introduction to the methodology

The study methodology utilises a multi-method qualitative approach. Creswell (2014) explains that qualitative research is useful for exploring problems where there is a lack of knowledge and understanding about the research phenomenon. The inductive approach is adopted since the research focuses on the creation of new theory by developing it from out of the data and by using the research questions to guide and limit the scope of the exploration. In the context of investigating the research phenomenon through a phenomenological approach to leaders' conceptual skills, it is assumed that sufficient data can be collected, analysed and interpreted to identify different perspectives on the four selected competencies and their related exercise of skills. Joubish et al. (2011) describe how qualitative research is 'used to gain insight into attitudes, behaviours, value systems, concerns, motivations, aspirations, culture or lifestyles.' It is envisaged that a qualitative research approach is effective in developing more knowledge about the topic, as well as gaining an advanced understanding of the types and scope of the conceptual skills involved.

Easterby-Smith et al. (2012) indicated that, in management research, phenomenology is an epistemology and empirical research approach that is characterised by subjective constructed interpretation. It can be distinguished from positivism which is also highly dependent on empirical investigations; however, the philosophical orientation is objective and knowledge about the research phenomenon is developed principally through hypothesis generation and testing. The value of the philosophical direction of a study rests on clarifying its rationale and research design. It helps to identify which designs will work and which will fail; also, it helps the researcher recognise the right design.

This research utilises inductive research and, as such, is particularly concerned with the setting in which relevant leadership activities and events occur; with the ultimate aim of building theory. For instance, the researcher is concerned with understanding why something is going on, instead of being able to explain what exactly is occurring. Thus, in these situations, Easterby-Smith and his colleagues (2012) propose that it is more appropriate (including – the author assumes – the research for this thesis) to conduct research studies inductively rather than deductively. Inductive research in its purest form might commence without any predetermining theory or conceptual framework; however, to explore the data and develop theory from the collected data, this study starts with some general ideas and academic knowledge about the extant and current debate on leadership competencies and conceptual skills. Since this is an inductive research study, there is a strong emphasis placed on the meaning of leaders' competencies and conceptual skills situated specifically in the UAE public sector context. To an extent, the inductive research approach is less concerned with making generalisations; rather, the aim is to identify and develop new theory and ideas about the research problem and problem domain.

Adopting an inductive research methodology involves the researcher in developing an intense level of awareness, knowledge and understanding about what individual leaders say is happening, and the ways that they characterise their leadership competencies, intentions, skills and behaviours. The ultimate aim, therefore, is to formulate theory based on phenomenological approaches to learning about the research participants, rather than testing or explaining known conceptual skills.

Research purpose and methodology

This thesis investigates the research problem through exploratory research informed by a framework of conceptual skills that are constituted within four areas of leadership competence. Since this research topic and approach is relatively new and not fully established in the literature, by conducting exploratory research to study the phenomena that have not been studied much, this research aims to establish priorities, improve operational definitions, and expand the final research design (the method of data collection and the selection of subjects). Nonetheless, this exploratory research relies on a comprehensive review of the available literature, and formal and informal qualitative approaches.

Phenomenology improves realisation of the phenomenon, while phenomenography leads to better understanding of the perceptions and experiences of the phenomenon itself (Ashworth & Lucas, 1998; Bowden & Walsh, 2000; Marton, 1981). This research uses the qualitative phenomenographic approach commonly employed to understand the perceptions and experiences of a phenomenon (Sandberg, 2000) – which is conceptual skills in leading change. Phenomenography is a research approach that emerged from various research traditions including phenomenology, and requires that the researcher develops an understanding of the research participants from an ontological viewpoint that is co-

constructed by the researcher and researched. This research methodology needs to adopt a non-dualistic perspective on all the participants' encounters and experiences.

Phenomenography is based on the philosophical assumption that nothing is either right or wrong; rather it is always a point of view. Phenomenography adopts a non-dualistic ontology.

As Marton and Booth (1997, p. 13) postulated,

There is not a real world 'out there' and a subjective world 'in here'. The world [as experienced] is not constructed by the learner, nor is it imposed upon her; it is constituted as an internal relation between them.

Thus, the researcher aims to construct a rationally comprehensive structure linking the different meanings (or set(s) of different meanings). The researcher constitutes categories of description to represent different ways of experiencing and understanding a 'leader's conceptual skills'. These different ways of experiencing are consequently realised as representing a structured set, known as the 'outcome space' (Akrilind, 2012).

This research differs in that it proceeds by concentrating on public leaders' conceptual skills in leading change in contexts of individual leadership, with only some empirical attention paid to follower-based or behaviour-based academic preferences. Importantly, it does not intend to develop further concepts of leadership styles. Also, it is acknowledged that this research may hold less relevance for middle and lower levels of management, since the emphasis is on the top leadership level.

Since this research examines a social phenomenon that is built up from perceptions and accounts of the experiences of the participants, it can be categorised as adopting a predominantly subjectivist viewpoint (Maylor & Blackmon, 2005). This will not be seen as particularly relevant by some schools and traditions of research oriented towards positivist

and rational, reductionist forms of theorising. The scope and relevance for leadership science of this research can be evaluated against six questions from Hiller et al. (2011).

Table 10: Organising framework: criterion issues in leadership research.

(Adaptation based on: Hiller et al. (2011), Table 1)

Issues in evaluating public leaders' conceptual skills	Indicators examined	Indicator categories
From whose perspective is leadership judged?	Source of leadership measure	Self-report, subordinates, peers, manipulation
Which type of leadership measure is used (methods to collect data)?	Type of data	Interview, observation, document review, manipulation
On which criterion domains are leadership effects assessed?	Outcome categories	Conceptual skills employment (involves: feelings, attitude, cognitive ...)
In what time frame are leadership criteria (conceptual skills) being examined?	Temporal separation	Cross-sectional
At what level of analysis are leadership criteria (conceptual skills) being examined?	Level of outcome variable	Individual
What is the organisational level at which leadership effects on criteria (conceptual skills) are being examined?	Organisational level of leader	Top management

Phenomenographical research methodology

This qualitative study's philosophy, approach and strategy are interpretive, inductive and centred within phenomenography (Saunders et al., 2009). The philosophical approach is interpretive and adopts a perspective that believes in the authenticity of subjectivity in contrast to objectivity. Its world view stems from the epistemological assumption that there is no objective and neutral empirical reality. Saunders, et al. (2009) indicated that reality is the product of reactions in a specific context and is dependent on the interpretations of the people.

Phenomenography as an interpretive research approach focuses on individuals' understanding of their reality (Marton, 1986; Sandberg, 2000). Phenomenography was developed by educational researchers in Sweden and appeared as a new approach to research in the 1970s

(Marton et al., 1977; Marton & Svensson, 1979; Säljö, 1979). Dahlin (2007, p. 327) pointed out that,

It seems that Sonnemann (1954) first used the term “phenomenography” in an attempt to distinguish between the phenomenologies of Karl Jaspers and Martin Heidegger, as applied within psychopathology (the former being better called phenomenography, according to Sonnemann).

Furthermore, Lamb et al. (2011) explained that this approach has three specific qualities that enabled the researcher for this thesis to realise insights centred on leaders’ experiences in leading change; which may not have been attained through other (e.g. case study, narrative approach, grounded theory or discourse analysis) interpretive approaches. Initially, phenomenography delivers a methodology intended to capture potential variation in the ways that people in a specific field enact and understand a particular aspect of reality (Marton, 2014; Tight, 2015). The capturing of the potential variation in people’s understandings may occur by (1) choosing study participants with as differing biographical backgrounds and personalities as possible; and (2) focusing on differences in understanding throughout both data collection and data analysis.

Second, this approach is designed to reflect possible relationships between individuals’ varying understandings of an assumed research phenomenon (Sandberg, 2000; Trigwell, 2000). This can be done by examining to what extent the varied levels of understanding combine with each other. O’Leary and Sandberg (2017, p. 516) describe how ‘the meaning of one understanding can be built on and expanded to form a different understanding, which in turn is built on and expanded in another understanding and so on’, while Marton (1986, pp. 40-42) described the phenomenographers as those who ‘... try instead to describe relations between the individual and various aspects of the world around them, regardless of whether

those relationships are manifested in the forms of immediate experience, conceptual thought or physical behaviour’.

Third, a group of researchers (e.g. Blomberg, 2004; Dall’Alba, 2004; Lamb et al., 2011) assert that phenomenography had been formerly utilised to explain the execution of practice as it is influenced by practitioners’ understanding of their practice. This can be achieved by investigating the following in the data collection and analysis stages: (1) individuals’ understandings of their work (i.e. the meaning of their work); (2) the main activities they are practicing when working; and (3) how these understandings and activities relate to generating individuals’ ways of doing their work.

Phenomenography as a methodology has received a lot of criticism since the 1990s, mainly connected to the question of whether phenomenography is achieving anything new. For example, Taylor (1993, p. 63) criticised the methodology for purposely rejecting standard, available methods and findings. He asserted that phenomenography

...seems to miss much of the historical sedimentation in individual understanding. It is curious that phenomenographic analyses of differing conceptions tend to tell us much the same as we can discover by studying the history of attitudes towards the subject in question (p. 63).

Alsop and Tompsett (2006) have questioned the long-standing validity of the categorisations reached in phenomenographic analysis, arguing that ‘the principles that underlie phenomenography can only produce a narrow, snapshot model of what understanding might be, and provide little insight into learning’ (p. 242). Richardson (1999) has complained about the variability and lack of accuracy in the methods adopted; he posited that

a proper evaluation of the phenomenographic approach has in the past been bedevilled by a lack of specificity and explicitness concerning both the methods for the collection and analysis of data and the conceptual underpinning of these methods (p. 53).

Information science criticises phenomenography for its unquestioned abstract conceptualisations with which phenomenographers attempt to explore and elaborate research phenomena, and for its rejection of the real-world setting in which (information) phenomena are fixed. In this regard, O'Farrill (2010) argues that despite the fact that conceptions are understood as relationships, the phenomenographer should explicitly link conceptions to the practices from whence they arise since many of these relationships develop from the interaction of the individual with others (Bryman 2016).

Phenomenographic study typically includes contextual groups of individuals and data collection, often gathered through the interview, based on individuals' descriptions of their understanding. Explanation of understanding and experience, however, relies on the meaning of the conceptions themselves (Svensson, 1997), and it is important to understand that the object of phenomenographic study is not the phenomenon *per se* but the relationship between the performers and the phenomenon (Bowden, 2005).

The analysis is often all-group-oriented as the data in their entirety are analysed collectively with the aim of classifying possible conceptions of experience related to the phenomenon under investigation, rather than to individual experiences. There is an emphasis on detailed analysis of description which follows from an assumption that designs are developed from both the results of individual performance and from the conditions for it.

The next section of this chapter compares some of the key characteristics of three research methodologies including the phenomenography, based on work by a group of scholars interested in phenomenographic research work (Åkerlind, 2008; Ashworth & Lucas, 2000; Booth, 1997; Creswell 2013; Edwards, 2007; Dall'Alba, 1996; Limburg, 2008; Marton (1981, 1986, 1996); Micari et al., 2007; Trigwell, 2000; Walker, 1998).

Table 11: Phenomenography - its methodology and characteristics

Characteristic	Narrative research	Phenomenology	Phenomenography
Focus	Exploring the life of an individual	Understanding the essence of the phenomenon	The focus is on variation in the perceptions of the phenomenon, as experienced by the participant, and in the ways of recognising the phenomenon as experienced and described by the researcher (Pang, 1999). The phenomenographer investigates the experiences of others; they focus on studying how people experience and understand a given phenomenon, not investigating a given phenomenon. Understanding the essence of the experiences and the subsequent perceptions of the phenomenon. Emphasis on the description, which is essential because our knowledge of the world is a matter of meaning and the qualitative similarities and differences in meaning as different people experience it.
Type of problem best suited	Needing to tell stories of individual experiences	Needing to describe the essence of lived phenomena	Needing to find 'the variation and the architecture of this variation by different aspects that define the phenomena' (Walker, 1998), cited in Ornek, 2008, p. 2). Also, phenomenography allows the researcher to apply their own experiences as data for phenomenographic analysis (Säljö, 1996; Uljens, 1996)
Discipline background	Drawing from the humanities: anthropology, literature, history, psychology and sociology	Drawing from philosophy, psychology and education	Drawing from a non-dualistic ontological perspective; meaning that object and subject are not viewed as separate from and independent of each other.
Unit of analysis	Studying one or more individuals	Studying several individuals who have shared the experience	To maximise variation, between 10 and 20 interviews is usually sufficient to capture the variation (Åkerlind, 2008; Trigwell, 2000). Phenomenography takes as its unit of analysis the range of different ways that participants conceive of the same phenomenon (Micari et al., 2007). Marton (1981) states that repeated investigations found that phenomena and aspects of perceived reality are experienced and described in a 'relatively limited number of qualitatively different ways' (p. 181); the number of the different conceptions is finite. Therefore, in a phenomenographic approach, the focus of the research is on the variation among the conceptions of the phenomenon to describe its essence (Limburg, 2008).
Data collection forms	Interviews and documents	Interviews with individuals	The face-to-face interview is the primary method for data collection in a phenomenographic study (Ashworth & Lucas, 2000; Dall'Alba, 1996; Marton, 1986, 1996). Other methods such as drawings, focus groups, written surveys and drawings can also be used (Edwards, 2007). A phenomenographer aims for a collective analysis of individual experiences (Åkerlind, 2005). Focus on collective rather than individual experience.

Data analysis strategies	Analysing data for stories, and developing themes	Analysing data for significant statements, meaning units, structural descriptions	The phenomenographic analysis process is fully iterative and comparative. It includes regular data sorting and resorting and continuing comparisons among the data and the developed categories of description, and also between the categories themselves (Åkerlind, 2005). Booth (1997) explained that the analysis process is to identify qualitatively separate categories that describe the ways in which different people experience a different concept. There can be a limited number of categories for each concept from the study, and these categories can be found in interview transcriptions.
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Phenomenography classification

Bowden (1996), Hasselgren and Beach (1997) and Uljens (1996) have classified phenomenography into five themes; the experimental, the discursive, the naturalistic, the hermeneutic, and the phenomenological. Overall, though, these different characteristics amount to three lines of approach (Cibangu & Hepworth). The *naturalistic* phenomenography ‘is about recording what is actually said or happens in a given situation without direct manipulation or involvement from the researcher and then analysing that data phenomenographically’ (Hasselgren & Beach, 1997, p. 197). Then, there is the *hermeneutic* phenomenography as a research approach whose ‘analysis is geared to exegesis, interpreting texts or statements not originally made for the purpose of phenomenographic analysis in terms of their whole-part relations’ (Hasselgren & Beach, 1997, p. 198). Third, there is the *phenomenological* phenomenography which is based on a way of research thinking where ‘phenomenological criteria concern questions directed toward the essences of experiences, such as for instance experiences of learning’ (Hasselgren & Beach, 1997, p. 199).

Bryman (2016, p. 26) notes that ‘hermeneutic phenomenology’ (interpretivism) is a term that mostly indicates an alternative to the positivist orthodoxy that has dominated the social sciences for decades. It is established upon the view that a methodology is required that

attends to the contrasts between individuals; consequently, it requires the social researcher to understand and analyse the subjective significance of social activity. The meaning of reality as experienced by people is part of what the phenomenologist should interpret.

Phenomenography is clearly interpretivist. Marton (2015) clarifies that ‘phenomenography is about the diverse implications of similar things’ (p. 106).

Practicing phenomenography

The interview is the main method used by the phenomenographer for collecting data, as attested by Bowden (2000, pp. 9-10):

The phenomenographic interview has a focus – the way in which interviewees understand the chosen concept – and this focus is maintained throughout the interview. Interviewees are encouraged to express their qualitative understanding of the phenomena under investigation. The researcher may ask interviewees to clarify what they have said, and ask them to explain their meaning further.

Bowden (2005 p. 17) further emphasises the importance of pursuing variation in conceptions:

you need to interview enough people to ensure sufficient variation in ways of seeing, but not so many that make it difficult to manage the data... In practice, most phenomenographers find that between 20 and 30 subjects meet the two criteria.

A phenomenographer emphasises the value of ‘bracketing out’ all previous knowledge of the concept-supporting considerations during the process to decrease bias and assist the researcher to focus on the data. In a similar vein, Walsh (2000, p. 20) explains that in conducting phenomenographic analysis, the researcher is ‘consciously interpreting the data, choosing and discarding data, and thereby constructing the relationship’, rather than ‘looking into the transcripts to discover the particular ways in which people understand the phenomenon’.

4.5 Research Methods and Sample

The empirical research conducted for this thesis examines leaders' conceptual skills in leading public sector change through six research methods, based on a sample of top managers of government organisations in the United Arab Emirates (UAE). A quasi-random sampling approach was deployed, where every member from the higher management level in the entities of the UAE Federal and Local Governments has an equal chance of being included in the sample. Random sampling therefore was undertaken by sending letters out to more than 35 government entities requesting that they nominate one of the higher management members (preferably the Director-General, or his representative) to participate in the data collection. Twenty five (25) invited parties responded with their approval and nomination. Then, seven of these government entities were excluded due to the delay in scheduling, or changing appointments more than three times. The final sample contained a list of 18 parties who were all eligible to be participants in this study. With this random sample, all of the UAE Government leaders were reasonably representative since the selection procedures did not favour specific entities or members.

In summary, the methods chosen for the empirical study are relevant to examining leaders' conceptual skills in leading change, and this is achieved through collecting and analysing primary and secondary sources of data. The main emphasis of the data collection using multiple methods is on the leaders' self-reports about their leadership (e.g. one-to-one interviews, diaries, formal tests), and observation of their competencies in action through primary qualitative methods such as peers' and subordinates' interviews (formal and informal interviews), field observation (participant and non-participant observations), shadowing, and

focus groups, as well as secondary data collection (e.g. document review). The following sections provide more explanation of the research methods employed.

4.5.1 Interviews (Individual and Group)

(1:1) Interview

A qualitative research interview is an in-depth method and technique that ‘seeks to describe and the meanings of central themes in the life world of the subjects’ Kvale (2006, p. 483).

Kvale defines the interview as

... a meeting where a reporter obtains information from a person, as a meeting with another person to achieve a specific goal, and more generally, as a conversation with a purpose (p. 483).

The key requirement in interviewing is to recognise the meaning of what interviewees say, as well as the intention that the interview seeks to cover both factual and meaning levels. Kvale (2006, p. 483), however, cautions that it is typically more problematic to interview on a meaning level. Arendt et al. (2012) argued that conducting in-depth interviews, observations, and focus groups improves the strength and scope of the research, while Dortins (2002) asserted that the processes of conducting and analysing interviews are particularly important in phenomenographic research. Bryman (2001) and May (1997) classified interviews as ranging across a continuum, from structured, to semi-structured, and finally, unstructured (or focused) interviews. Usually, qualitative researchers concentrate on semi-structured and unstructured approaches, which are often characterised by an adequate degree of structure but with appropriate levels of flexibility. In contrast, the structured interview is more typical for the quantitative side of research studies, and is often adopted in survey approaches. Notably structured interviews use similar questions in a predetermined format in order to describe the study phenomenon. The interview is probably the most widely used method employed in

qualitative research, and is a central resource for social science.

Edwards and Holland (2013) reviewed a number of terms applied to qualitative interviewing, such as in-depth, informal, non-directed, open-ended, conversational, naturalistic, narrative, biographical, oral or life history, ethnographic, and others. What determines the type of interview can be the role of the interviewee, but the most common rationale for the selected type of interview relates to the underlying philosophy and specific approach taken in the research. Hence, the structured interview offers the researcher limited space for flexibility as it depends on a specific order of questions, based on the same instruction with the same method applied to all subjects of the research. Edwards and Holland (2013, p. 3) assert that all qualitative and semi-structured interviews have certain core features in common:

1. The interactional exchange of dialogue (between two or more participants, in face-to-face or other contexts).
2. A thematic, topic-centred, biographical or narrative approach where the researcher has topics, themes or issues they wish to cover, but with a fluid and flexible structure.
3. A perspective regarding knowledge as situated and contextual, requiring the researcher to ensure that relevant contexts are brought into focus so that the situated knowledge can be produced. Meanings and understandings are created in an interaction, which is effectively a co-production, involving the construction or reconstruction of knowledge [Adapted from Mason 2002: 62].

Nevertheless, researchers encounter several challenges during data collection, such as ensuring validity and avoiding halo effects. Edwards and Holland (2013) recommended using cue calls, making link/common words, and utilising the native language to avoid challenges when running the individual interview. Prasad (2005) argued that the social sciences and particularly business studies face distinctive types of difficulties that are apparent in the degree of willingness to use traditional positivist standards.

The way of experiencing a phenomenon is the typical unit of analysis in phenomenographic research projects. Marton and Booth (1997) indicated that the methods of phenomenographic

data collection and data analysis are inseparable. These authors related this relationship to one reason; that during the collection of data, whether through interviews or in some other form, analysis is taking place, and ‘early phases of analysis can influence later data collection’ (p. 129). These authors contend that ‘the dialectic relationship is even stronger than that in terms of constituting the object of research’ (p. 129), and researchers need to define the phenomenon that is essential to their research concern, be it learning as such, or the nature of matter, or whatever. Marton and Booth (1997, p. 129) hold researchers responsible for the research phenomenon and plan:

The researcher has a responsibility to contemplate the phenomenon, to discern its structure against the backgrounds of the situations in which it might be experienced, to distinguish its salient features, to look at it with others; eyes, and still be open to future developments.

In phenomenography the data collection strategy exercised within the interview relies upon organised communicative interaction between the researcher and researched (Anderberg et al., 2009). In this study, the interviewees’ experience of conceptual skills in their day-to-day leadership activities is central. Exploratory questions are essential to inspire the interviewees to consider all of the conceivable implications of their own and others’ conceptual skills. In addition, it is important to contextualise their responses and motivate them to talk spontaneously. The literature on research methods in interviews advised that analytical questions should start based on words used by the interviewees in order to reduce the risk that interviewees become confused or alienated from the discussion.

The data collection for this thesis used formal interview techniques to explore and understand the conceptual skills of leaders in the UAE Government entities. This was achieved by conducting a set of interviews, each lasting for about one to two hours for each participant. Through using an interview protocol which explains the ethical issues in the study, the

interviewees were informed about the overall purpose of the research. The data have been treated confidentially and are not to be revealed, taking into account the confidentiality procedures, thereby assuring that no risk of detriment to the interviewees could occur as a consequence of the research. The interviews were digitally audio-recorded with the participants' prior approval and consent, and the interviews were transcribed verbatim.

Informal interviews

Many social researchers often overlook the potential contribution of group interview methods, and their preference is often for implementing individual interviews.

Group interviews can be formal with a specific, structured purpose such as a marketing focus group, or, it can be informal taking place in a field setting where a researcher stimulates a group discussion with a topical question (Frey & Fontana, 1991, p. 175).

Zhang and Wildemuth (2009, pp. 239-240) explained that unstructured interview methods were developed in the disciplines of anthropology and sociology as a way of eliciting people's social realities. Informal interviews reported in the literature use several definitions and terms interchangeably, such as in-depth interview, nonstandardised interview, ethnographic interview, and informal conversational interview (Zhang & Wildemuth, 2009). Unstructured interviews depend completely on unplanned questions presented in the natural run of communication between the researcher and interviewees, and attract various definitions. Punch (1994) defined unstructured interviews as a way to understand the multifaceted performance of individuals without imposing any previous classification, which could limit the area of investigation. Also, Minichiello et al. (1990) described them as interviews where neither the questions nor the answer groups are prearranged. In their delivery, they depend on an adequate level of social communication between the researcher and the interviewee. Patton (2002) described unstructured interviews as 'a natural extension of participant observation,

because they so often occur as part of ongoing participant observation fieldwork’ (cited in Zhang & Wildemuth, 2009, p. 240). Furthermore, some researchers have reported that human resource managers trust more in the validity of unstructured interviews than other sifting methods, even when they know that the indication recommends that structured interview is better (Dana, Dawes, and Peterson (2013).

Member checking

Creswell and Miller (2000, p. 124) explained that ‘qualitative researchers routinely employ member checking, triangulation, thick description, peer reviews, and external audits’. They relate member checking to the post-positivist or systematic paradigm which necessitates member checking as one of the lenses used by the researcher. The authors explained that the paradigms and assumptions/lenses vary according to whether they are post-positivist, constructivist or critical approaches:

Table 12: Validity procedures within qualitative lens and paradigm assumptions.

(Adaptation based on: Creswell and Miller (2000, p. 124, Table 1)

Paradigm assumption/Lens	Post-positivist or Systematic Paradigm	Constructivist Paradigm	Critical Paradigm
Lens of the Researcher	Triangulation	Disconfirming evidence	Researcher reflexivity
Lens of Study Participants	Member checking	Prolonged engagement in the field	Collaboration
Lens of People External to the Study (Reviewers, Readers)	The audit trail	Thick, rich description	Peer debriefing

Member checking is one of the key quality control procedures applied in qualitative research. It is a research procedure where, during the data collection stage, the researcher gives informants an opportunity to review their accounts to ensure that what they have said has been reported accurately and correctly (Harper & Cole, 2012, p. 510).

4.5.2 Focus group

Freitas et al. (1998) proposed that focus groups are one of the qualitative research methods employed by researchers for answers to research questions such as: *How do people consider an experience, idea, or event?* (p. 2). These authors defined the term as a ‘type of in-depth interview accomplished in a group, whose meetings present characteristics defined with respect to the proposal, size, composition, and interview procedures’ (p. 2). Edwards and Holland’s (2013) definition of a focus group is essentially that it involves ‘... a small group of people engaging in collective discussion of a topic previously selected by the researcher’ (p. 36). The term *focus group* differs from the term *group interview*, where group interview is commonly applied to denote any interview in which a group of people takes part (Edwards & Holland, 2013).

In focus group research, the interaction within the group is the main emphasis of the analysis. Within the focus group the researcher stimulates conversation with topics or notes to enliven the discussion, and participants influence each other through their responses to the contributions and opinions expressed throughout the discussion. Freitas et al. (1998) emphasised that the essential data shaped by focus groups are the transcripts of the participants’ discussions and the researcher’s reflections and comments. Also, focus groups can be used alone, or in combination with other methods, and are often combined with the individual interview (Freitas et al., 1998).

Morgan (1997) explained that focus groups have been used intensely in the marketing field; however, they have seen growing acceptance in another fields. Robert Merton (1987; 1996) used focus groups to publish his work in social science, and Paul Lazarsfeld and others who followed presented focus groups methods applied in marketing issues and problems. Although

this method has elicited a range of criticisms, however ‘particular emphasis has been placed on the interaction that takes place between the participants, the group dynamics, and the insight and data that this can produce (Kitzinger 1994; 1995, p. 37). The structure of focus groups is directed by the aim of the research and research questions. Edwards and Holland (2013, p. 37) explained the process of focus groups:

Typically the researcher moderates, or runs the discussion, with a series of questions to guide its course. But a stimulus can provide a focus or starting point, for example, a photograph, film, vignette or game. If resources allow, a second researcher can be present making notes on the interactions, and identifying speakers as an aid to transcription and recognition of the participant in the recording.

The focus groups (six to seven participants in each group) were conducted with leaders’ subordinates. These focus groups were designed to provide an overview of the conceptual skills in leading change; also, the questions were directed to the participants to concentrate on one area or more of the selected areas of a leader’s conceptual skills within two out of the four areas, which are integrative leadership and innovative leadership.

4.5.3 Documents review

Documents review is a way of collecting secondary data by reviewing existing documents. Bowen (2009) argues that documentary reviews have been a major approach of qualitative research for many years. More recently, many research reports and journal articles mention document analysis as part of the methodology and a significant source of data. Bowen (2009, p. 27) describes the meaning of document analysis as,

...a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge (Corbin & Strauss, 2008; see also Rapley, 2007).

Bowen (2009) listed a variety of documentary types that could be used for investigation as part of the research, such as

advertisements; agendas, attendance registers, and minutes of meetings; manuals; background papers; books and brochures; diaries and journals; event programs (i.e., printed outlines); letters and memoranda; maps and charts; newspapers (clippings/articles); press releases; program proposals, application forms, and summaries; radio and television program scripts; organisational or institutional reports; survey data; and various public records. Scrapbooks and photo albums can also furnish documentary material for research purposes (Bowen, 2009, pp. 27-28).

The author explained that documents include text (words) and recorded images without involving any interference by the researcher. Bowen (2009, p. 27) indicated that other mute or trace evidence, such as cultural artefacts, is not included. Consistent with Atkinson and Coffey (2011, p. 79), he postulated that people refer to documents as ‘social facts’, in that they are produced, shared, and used in socially organised ways. The analytical process involves finding, selecting, assessing, and creating data enclosed in documents. ‘Document analysis yields data—excerpts, quotations, or entire passages—that are then organised into major themes, categories, and case examples specifically through content analysis (Labuschagne, 2003)’ (Bowen, 2009, p. 28).

Bowen (2009) concluded that the researcher should control not only the reality and availability but also the authenticity and efficacy of specific documents, in view of the ‘original purpose of each document, the context in which it was produced, and the intended audience’ (p. 38). Many scholars determine and explain how to plan and conduct document reviews. One Government paper (2009, pp. 1-2) outlines the following rules:

Assess existing documents ... Secure access to the documents you have identified through your assessment ... Ensure confidentiality ... Compile the documents relevant to your evaluation ... Understand how and why the documents were produced ... Determine the accuracy of the documents ... and Summarize the information from documents reviewed (<https://www.cdc.gov/healthyyouth/evaluation/pdf/brief18.pdf>).

Primary documents (source) and diaries

A primary source (also called an original source or evidence) refers to any source of information that was made within the period of the study, or any informant that serves as an original source of information – for example, other primary sources are diaries, notes by research participants, an artefact, manuscripts, autobiography, fieldwork, audio and video recordings, speeches, internet communications via email, listservs, blogs, web site, interviews (e.g. oral histories, telephone, e-mail), letters, photographs, proceedings (of meetings, conferences and symposia) statistical data, and newsgroups. A primary source delivers direct evidence about an event, object, person, or work of art (Doel & Marsh, 2017). The University of Maryland defines primary sources of information thus:

Primary sources are original materials. They are from the time period involved and have not been filtered through interpretation or evaluation. Primary sources are original materials on which other research is based. They are usually the first formal appearance of results in physical, print or electronic format (<https://web.archive.org/web/20130726061349/http://www.lib.umd.edu:80/ues/guides/primary-sources>).

The data collected from some qualitative methods such as interviews and document analysis can be triangulated with knowledge from diaries. As one source of documentary data, the diary is used as a tool to

...provide temporally ordered reports on the events and experiences of their daily life, offering management researchers the opportunity to investigate social and psychological processes within everyday organizational situations’ ... ‘Diary techniques can also be used as a precursor to other methods, ... as a mean of generating questions to be used in an interview (q.v.), or to fulfil many of the purposes of direct observation ... in situations when the later is precluded by access or resource considerations (Thorpe & Holt (Eds.), 2007, p. 79).

Diary is not a constant but periodic record of self-reports, and individuals can be required to keep a diary about themselves and/or others. However, Higgins et al. (1985) discussed the efficacy of diary methods according to how valid this method is as a precise recording of daily

events. They argued that the frequency with which a diary is recorded such as data collected by a self-recorded diary might restrain the actual frequency of communication. Also important is the duration of recording, the brief, and whether received or initiated interactions are to be recorded.

Jones (2000, p. 556) argues that the ‘comparisons of the validity of the data obtained from questionnaires with those obtained from self-recovered diaries suggest that the relative immediacy of the latter ought to lead to greater accuracy’ (p. 556). Also, Higgins, McClean, and Conrath (1985) argued that attention should be paid to the indicator’s reliability concerning the frequency of the recorded events. Jones (2000, p. 556) pointed out that ‘diary data may display biases if that which is recorded is a selection from the totality of events and may represent an underrecording or overrecording’. One important disadvantage of the diary method is that it needs a level of participant’s commitment that is rarely required in other methods of data collection.

Secondary documents – Minutes of meetings, Reports, Memoranda

Secondary sources, which build on primary sources are accounts created after the fact with the benefit of retrospection. According to the University of Maryland, ‘They are interpretations and evaluations of primary sources’. They are a particular form of evidence, based on socially constructed, and often partial, commentary on and discussion of the evidence. However, the context specifies what construes a secondary source, and what is a primary or a tertiary source.

Secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources. A secondary source is generally one or more steps removed from the event or time period and are written or produced after the fact with the benefit of hindsight. Secondary sources often lack the freshness and immediacy of the original material. On occasion, secondary sources will collect,

organize, and repackage primary source information to increase usability and speed of delivery, such as an online encyclopedia. Like primary sources, secondary materials can be written or non-written (sound, pictures, movies, etc.) (Santiago Canyon College).

Secondary documents can be paper copy or electronic files (team meeting minutes, online forums, emails, corporate reports) and artefacts (i.e. logos, clothing, space, technology), (Garcia & Gluesing, 2013, p. 438). The University of Maryland lists the following as secondary sources:

Bibliographies (also considered tertiary); Biographical works; Commentaries, criticisms; Dictionaries, Encyclopedias (also considered tertiary); Histories; Journal articles (depending on the discipline can be primary); Magazine and newspaper articles (this distinction varies by discipline); Monographs, other than fiction and autobiography; Textbooks (also considered tertiary); Web site (also considered primary).

The University of Maryland distinguishes the secondary source in social sciences from the primary source through the following example: Notes taken by the clinical psychologist (primary), magazine article about the psychological condition (secondary), and textbook on clinical psychology (tertiary).

4.5.4 Shadowing

Shadowing is a research method that is holistic and insightful, and can provide considerable data for the study of the shadowed participant in all their perplexity and complexity. This method includes – as McDonald (2005, p. 3) explains –

a researcher closely following a member of an organisation over an extended period of time. When the person being shadowed goes to another department, the researcher follows them. When they have a project meeting or meet with a customer, the researcher sits in. If they have coffee with friends who are colleagues from another site, the researcher goes too. The researcher ‘shadows’ the target individual from the moment they begin their working day until they leave for home.

McDonald (2005, p. 29) suggests several practical recommendations for shadowers:

- **Never go in cold.** It is important to spend time getting to know both the organisational environment and, to a lesser extent, the individuals you will be shadowing. If you don't know the names of your subject's boss, work colleagues secretary and husband, not to mention the major product lines and suppliers, your notes will not be very meaningful at the start of your shadowing.
- Use a **small, hard-back notebook** to keep a research account. This will allow you to write anywhere. Tape recorders are not practical for shadowing. Take plenty notebooks and spare pens!
- **Write down as much as you can.** This is especially important at the start of a project when you can still see the organisation as an outsider. Settings, the meaning of acronyms, how meetings make you feel, relationships and your first impressions of people (and how these change) are all data.
- Try to find an academic colleague or **mentor** that is away from the organisation that you can discuss your research with if necessary. This provides vital moral support and allows you to keep your research perspective.
- Get into the habit of making a **daily tape dump** of your research notes. This makes it easier to decipher what you have been writing at speed and helps keep your accounts rich and detailed. It also helps to preserve your own thoughts and impressions, which will change very quickly as you lose your beginner perspective over time.
- Plan your **data management**. Decide how you are going to record, manage and analyse your data before going into the field.

4.5.5 Fieldwork observation

Marshall and Rossman (1989) define observation as 'the systematic description of events, behaviors, and artifacts in the social setting chosen for study' (p. 79: cited in Kawulich, 2005, p. 2). Researchers conducting observation can use their five senses to describe the existing situation and might provide written photographs of the context under study. Participant and non-participant observation have been used to analyse the information requirements of several groups of people, often, but not exclusively, in work situations, (Cooper, Lewis & Urquhart, 2004). Ritzer and Ryan (2011, p. 428) describe observation as follows:

As a method of inquiry, observation is an alternative or complement to the use of interview, documentary, or questionnaire data. It is usually conceived as taking place in "natural" rather than experimental situations, even though experiments necessarily rely on observations by the experimenter. At a minimum, observation involves a researcher watching and listening to actions and events within some context over some period of time, and making a record of what has been witnessed.

Participant observation

Kawulich (2005) indicated that participant observation has, for many years, been a symbol of both anthropological and sociological studies. The purpose of participant observation is to benefit from a close understanding with a specified group of individuals and experience and understand their performances within a concentrated participation with a group of people, usually over an extensive period of time. Kawulich (2005, p. 19) summarises participant observation as follows:

Participant observation involves the researcher's involvement in a variety of activities over an extended period of time that enable him/her to observe the cultural members in their daily lives and to participate in their activities to facilitate a better understanding of those behaviors and activities.

Roberts (1972, p. 26) outlines the phases of participant observation as: 'Establishing Rapport (it is important to become friends, or at least be accepted in the community, in order to obtain quality data); In the Field (Do as the locals do); Recording observations and Data (field notes, interviews, and reflexivity journals); Analysing data (thematic analysis and narrative Analysis)' (Ambert et al., 1995; DeWalt & DeWalt, 2011; Richardson, 2000; Roberts, 1972). Based on DeWalt, DeWalt and Wayland (1998), Schwartz and Schwartz. (1955) and Spradley (1980), the types of participant observation are:

Table 13: Types of participant observation.

(Adaptation based on: https://en.wikipedia.org/wiki/Participant_observation)

Type of Participant Observation	Level of Involvement	Limitations
Non-Participatory	No contact with population or field of study.	Unable to build rapport or ask questions as new information comes up.
Passive Participation	Researcher is only in the bystander role.	Limits ability to establish rapport and immersing oneself in the field.

Moderate Participation	Researcher maintains a balance between "insider" and "outsider" roles.	This allows a good combination of involvement and necessary detachment to remain objective.
Active Participation	Researcher becomes a member of the group by fully embracing skills and customs for the sake of complete comprehension.	This method permits the researcher to become more involved in the population. There is a risk of "going native" as the researcher strives for an in-depth understanding of the population studied.
Complete Participation	Researcher is completely integrated in population of study beforehand (i.e. he or she is already a member of particular population studied).	There is the risk of losing all levels of objectivity, thus risking what is analysed and presented to the public.

Non-participant observation

Non-participant observation acknowledges that the researcher should remain as an accepted outsider, observing and recording interactions. When the researchers are concerned with defining and abstract the taken-for-granted daily practices of participants, they might find that non-participant observation is particularly useful (Fitzpatrick & Boulton, 1994). Urquhart (2015, p. 30) explains that:

Non-participant observation means that the observer is “looking on”, and not playing an active role. In unstructured, ethnographic observation research the researcher is open to observing what really happens, and the researchers may have some role in the situation – they are participant observers.

4.5.6 Formal tests

Formal test typically means using a test that includes a standardised format, direction and set of instructions. This type of assessment has a specific right answer or wrong answer based on a set of predetermined criteria. While ‘[c]riticisms of standardised tests seem to have grown in proportion to the frequency with which, and the purposes for which, they are used (Haney & Madaus 1989) (Navarrete, et al., 1990, p. 1). The authors argue that there are no consistently accepted definitions, so, formal and informal are not scientific psychometric terms. Formal

tests accept a single set of expectations for all participants and come with ‘prescribed criteria for scoring and interpretation’ (Navarrete, et al., 1990, p. 2).

Lemme (1976) defined formal tests thus:

Formal tests are those instruments which are published, elicit S-R information, and adhere to a given structure and set of principles. The structured and set of principles include evidence of validity and reliability (test - retest, inter- and intra- judge) as well as specific test instructions, or any were manipulated in a formal test, or if the task were taught in treatment, would the results from a formal test then become informal? (p. 353).

4.5.7 Narrative methods

Researchers use narrative methods to present certain artistic and emotional effects in a story. The narrative term is used customarily in everyday speech to talk about narratives or a story, often simply relating a series of occurrences over time (Hansen, 2012). Narrative research methods include interviews and diary accounts, which offer potentially greater depth of information and more noteworthy data than some other methods might produce. Narrative methodologies provide ‘... an accessible framework for researchers — to analyse narrative texts with confidence, empathy, and humility’ (Adams, cited in Riessman, 2008, p. 8). Many narratives are strategic, functional, and purposeful. Mark Freeman qualifies narrative as follows:

This is not to claim that the intentionality of narrative is always conscious and deliberate; the ends that are being achieved may be utterly obscure to those whose narratives they are. Rather, the claim is simply that narratives, as sense-making tools, inevitably do things-for people, for social institutions, for culture, and more (Freeman, 1984, p. 8).

Mitchell and Egudo (2003) discuss narrative in the specific research context of interpretive methods in the social sciences, mentioning that it includes using storytelling methodologies. Bamberg (2012) argued that, recently, qualitative, in-depth interview has been intended to

inspire unequivocally narrative accounts—some guided and semi-structured, others unstructured and open-ended. The author explains that:

These techniques include the *free association narrative interview method* (Hollway & Jefferson, 2008), the *biographic- narrative interpretive method*—an interview technique that leads into personal experience, lived situations, and life-histories (Wengraf, 2006)—or *narrative-oriented inquiry* (Hiles & Cermák, 2008), to name a few (p. 80).

Narrative Methods for the Human Sciences is a valuable manual for four of the fundamental narrative strategies: (a) oral narrative got from interviews; (b) narrative collected from recorded materials, such as letters, diaries and different archives; and (c) ethnographic observations as aggregated from the field (Hansen, 2012).

Riessman (2008) recommends a well-defined, brief explanation of four methods of narrative analysis: ‘thematic, structural, dialogic/performance, and visual’ derived from Victor (2009, p. 172). In every part the collected data are replete with narrative cases of interviews, conversations, archival and written documents, photographs, and drawings. In more detail, Riessman (2005, pp. 2-5) describes the four main methodological approaches as cutting crosswise over various sorts of narrative research, including:

1) *Thematic analysis* where content is the restrictive concentration, no matter how the narrative is written/spoken. Thematic analysis is near grounded theory; however it keeps the story in place and frequently utilises earlier theoretical ideas.

2) *Structural analysis*. Notwithstanding investigating content, this form of analysis focuses on narrative frame and endeavours to draw out the fundamental implications characteristic of commutative acts. Structure can allude to classification, a bigger storyline, or phonetic frame and regularly involves extraordinary thoughtfulness regarding subtle elements of discourse with a specific end-goal to see how the narrative is formed.

3) *Dialogic/performance analysis*. Here, inquiries around who narrates, and when and why they do so come to the fore. Considering narrative to be dialogically delivered and performed, this type of analysis sees stories as social artifacts which say as much about society/culture as they describe an individual or group.

4) *Visual narrative analysis*. Integrates words and pictures (e.g. photographs, artworks, video, composition) in looking at how individual and collective personalities are constructed and performed visually.

4.6 Research design and four areas of leadership competence

Introduction to the research design and literature background

According to Yin (2003, p. 20), research design deals with a *logical* problem, not a *logistical* problem. It can also be ‘a blueprint for conducting a study that maximises control over factors that may interfere with the study’s desired outcomes’ (Burns, Grove & Gray, 2011, p. 69); or it is ‘the researcher’s overall design for answering the research question or testing the research hypothesis’ according to Polit, Beck and Hungler (2001, p. 164). Parahoo (1997, p. 142) meanwhile describes a research design as ‘a plan that describes how, when and where data are to be collected and analysed’.

To reiterate, the main focus of this research is to explore the role of public sector leaders’ conceptual skills in leading change. De Vaus (2001, pp. 1-2) explains that ‘Social researchers ask two fundamental types of research questions: What is going on (descriptive research, which is investigating trends and correlation of elements of a phenomenon)? And why is it going on (explanatory research, which is investigating ‘why’ does a phenomenon behave as such)?’ This research is necessarily exploratory in nature informed by a framework of

conceptual skills that are constituted within four areas of leadership competence. Since this research topic is relatively new or not fully established in the literature, there is only limited theory available to predict and test concepts using an explanatory methodology and methods. By conducting exploratory research to study emerging phenomena that are not clearly understood, this research intends to establish priorities, improve operational definitions, and expand the final research design (the data collection method and the selection of subjects). Also, this exploratory research relies on reviewing the available literature, and applying formal and informal qualitative approaches.

This research adopts a qualitative approach and is sympathetic to Marsh's (1982) argument that quantitative methodology has not always been good at exploring and describing the subjective dimension of performance. Marsh (1982, p. 123 cited in De Vaus (2001, p. 11) argues that:

Making sense of social action ... is ... hard and surveys have not traditionally been very good at it. The earliest survey researchers started a tradition ... of bringing the meaning from outside, either by making use of the researcher's stock of plausible explanations ... or by bringing it from subsidiary in-depth interviews sprinkling quotes ... liberally on the raw correlations derived from the survey. Survey research became much more exciting ... when it began including meaningful dimensions in the study design. [This has been done in] two ways, firstly [by] asking the actor either for her reasons directly, or to supply information about the central values in her life around which we may assume she is orienting her life. [This] involves collecting a sufficiently complete picture of the context in which an actor finds herself that a team of outsiders may read off the meaningful dimensions.

In this research, a qualitative approach design is adopted which is exploratory (Polit et al., 2001) and descriptive (Burns & Grove, 2010) in nature. The research design for this thesis is based on the selection of a group of theories that offer interesting and relevant starting points for exploring ideas and developing new theory on the role of conceptual skills, in four identified areas of public sector leaders' competence in leading change. Understanding the meaning of a phenomenon (leader's conceptual skills) in a particular situation (leading

change) is useful for understanding similar aspects in similar cases (Burns & Grove, 2010; Mouton, 1996; Mouton & Marais, 1990). Since this research adopts a contextual strategy, it therefore aims to provide a description and undertake an exploration of conceptual skills (particular phenomenon or experience), within the context of the phenomenon's specific setting and world significance (leading change in the public sector).

Four areas of competence

Researchers have studied leadership through many models and approaches, such as trait, style, skills, situational and contingency approaches. Leadership skills and abilities have been investigated for many years and two critical models have been selected, proposed by Robert Katz in 1955 and Michael Mumford and colleagues in 2000. Both models are complementary since they offer theoretical ideas about leadership primarily from the perspective of the leader's skills. This research seeks to develop new ideas about the role and potential contribution of the leader's conceptual skills in leading public sector change. Furthermore, in order to limit the scope and ambition of this approach, the research strategy and research design is confined to a single framework of four areas of leadership competence – self-regulation, sensemaking, integrative leadership and innovative leadership – which are expanded on below.

Self-regulation

Ent, Baumeister and Vonasch (2012) define self-regulation as

...the capacity for altering one's responses to make them consistent with social values and one's long-term goals (e.g. Baumeister, Vohs, & Tice, 2007). Self-regulation typically involves exerting control over thoughts, emotions, impulses or desires, and task performance (p. 620).

Moss, Dowling and Callanan (2009) argued that self-regulation is the fundamental, if not only, means by which leaders can improve performance. They point out that followers can be affected by leaders' self-regulation, and inspired or encouraged to refine, adapt, and regulate their own behaviour. Collins and Jackson's (2015) study showed that

effective self-regulation relied on sufficient attentional resource capacity regardless of the level of task difficulty. Higher attentional resource capacity resulted in effective self-regulation and lower post-task negative emotion in both test conditions. Also, effective self-regulation resulted in reduced negative emotions, while ineffective self-regulation resulted in increased negative emotions over the course of an easy or difficult performance task (p. 399).

Tylor-Bianco and Schermerhorn (2006) suggest that leaders need to develop awareness of self-regulatory propensities and utilise this understanding while engaging the processes of strategic influence. They found that:

Strategic leadership of organizational change should allow for co-existent states of both continuity and change. Leadership teams should include a mix of individuals with promotion and prevention foci of self-regulation and should provide for a regulatory fit that cascades throughout the organization (p. 457).

In their discussion of the literature on self-regulation, Ent et al. (2012) examined the relationship between power, leadership and self-regulation and concluded that:

Power has been linked to both self-regulatory success and failure. Power typically aids self-regulation of task performance by making people motivated and goal-oriented. However, because people's self-regulatory resources are limited, as powerful people exert effort on their focal tasks, they may fail to self-regulate in other domains. This type of goal myopia may lead to detriments in impulse control. Wielding power, by making decisions and leading subordinates, can deplete people's self-regulatory resources, making subsequent acts of self-control more difficult (p. 619).

Sensemaking

The concept of sensemaking was first used to focus attention on the largely cognitive activity of framing experienced situations as meaningful. Sensemaking is all about trying to reconcile apparent differences and polarities without wishing away the differences, but recognising

them as important. Sensemaking is a collaborative process of creating shared awareness and understanding out of different individuals' perspectives and varied interests. The work of Karl E. Weick, in particular, has dealt with sensemaking in organisations, providing insight into factors that surface as organisations address uncertain or ambiguous situations (Weick, 1979, 1988, 1993; Weick et al., 2005). Dervin and Huesca (2001/2003) describe sensemaking as a distinctive way of communicating that is not identical to typical styles of rational, intellectual dialogue or formal debate.

Dialogic or communication theory of communication focuses not on homogenizing difference but on putting difference into dialogue and thus, using it to assist human sense-making. Such a communication theory of communication assumes that when difference is not treated dialogically, it appears both capricious and chaotic as if needing homogenization (cited in Agarwal, 2012, p. 3).

Maitlis and Christianson (2014) argue that the categories of sensemaking are in fact very broad and include at least

constituent-minded, cultural, ecological, environmental, future-oriented, intercultural, interpersonal, market, political, prosocial, prospective, and resourceful. The sensemaking-related concepts included: sensebreaking, sensedemanding, sense-exchanging, sensegiving, sensehiding, and sense specification (pp. 68-69).

Integrative leadership

Moynihan and Ingraham (2004) categorise integrative public leadership as concerning 'how leaders choose, promote, institutionalise, and use public management systems, and reform those in time' (p. 427). In an earlier contribution Ingraham (2001) asserts that: 'The integrative approach is concerned with how public officials use management systems to improve performance, arguing that effective leadership is exhibited through actions that build and improve organisational abilities and management systems' (cited in Moynihan & Ingraham, 2004, p. 428). The integrative perspective recognises the environment of the public

sector by describing public leaders as operating in an organisational context over which they have limited control (Hooijberg & Choi, 2001), as they try to improve performance through building and enabling critical organisational capacities. Integrative leadership requires leadership flexibility and a capacity to strategise around the issues as well as within them.

Planners should make their contribution around [italics in original] the strategy-making process rather than inside [italics in original] it. They should supply the formal analyses or hard data that strategic thinking requires, as long as they do it to broaden the consideration of issues rather than to discover the one right answer (Mintzberg, 1994, p. 108).

Innovative leadership

Organisational ambidexterity refers to the ability of an organisation to both explore and exploit—to compete in mature technologies and markets where efficiency, control, and incremental improvement are prized and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed (O'Reilly & Tushman, 2013, p. 2). Some organisations have come to view innovation as a key strategic objective with a potentially intense impact on organisational performance (Drazin, Glynn, & Kazanjian, 1999; Fillis, 2000; Hanson & Schneider, 1997; Tushman & O'Reilly, 1996). It is important to distinguish between innovation and creativity. Amabile (1988, p. 126) distinguishes creativity as 'the production of novel and useful ideas by an individual or small group of individuals working closely together' from innovation which is defined as, 'the successful implementation of creative ideas within an organization'.

In the research for this thesis, it is assumed that senior public sector leaders are likely to routinely face challenges related to old and mature technologies as well as new ones. Hence, ambidexterity is also likely to be important in the public sector study contexts. Borins (2002) subdivided the nature and role of leadership into three ideal types of public management

innovation: politically-led responses to crises; organisational turnarounds engineered by newly-appointed agency heads; and bottom-up innovations initiated by front-line public servants and middle managers. Borins (2002, p. 474) argues that ‘there exists a strong link between innovation and leadership in the public sector’, and he asserts that, ‘The public sector has traditionally been considered inhospitable to innovation, particularly innovations initiated by middle managers and front-line staff’ (p. 310).

Numerous previous studies on how cognitive traits influence emergence and performance of a leader have indicated that cognition/intelligence is critical to leader performance and makes a considerable difference in both, leader’s emergence and performance. Some of these studies are Bass (1990), Connelly et al. (2000), Cornwell and Manfreda (1994), Lord, DeVader and Alliger (1986), Mumford (2007) Mumford, Campion and Morgeson (2007), Mumford et al. (2007) and Zaccaro (2007).

Sternberg (2007, p. 34) argues that effective leadership is ‘a synthesis of wisdom, creativity, and intelligence (WICS)’. In his website on leadership

(<http://www.robertjsternberg.com/leadership/>) Sternberg refers to these three characteristics as follows:

WICS is an acronym for Wisdom, Intelligence, and Creativity, Synthesized. The WICS theory of leadership states that good and effective leaders possess a crucial set of developed characteristics: (1) the creativity to generate novel and useful ideas for leadership; (2) the analytical intelligence to ascertain whether these ideas are good ideas; (3) the practical intelligence to implement these ideas and to persuade others of their value; and (4) the wisdom to ensure the ideas help to achieve a common good through the infusion of positive ethical values Sternberg.

He further explained that creative leadership can occur as different types of intelligent activity. These are ‘Conceptual replication, Redefinition, Forward incrementation, Advance forward incrementation, Redirection, Reconstruction and redirection, and Reinitiation,

Synthesis' (2007, pp. 35-36). As Sternberg and his colleagues have emphasised (Hedlund et al., 2003; Sternberg & Hedlund, 2002; Sternberg et al., 2000), practical intelligence involves adaptation to manage oneself, manage others, and manage tasks. Sternberg defines practical intelligence as:

the set of skills and dispositions used to solve everyday problems by applying knowledge gained from experience to purposefully adapt to, shape, and select environments. It thus involves changing oneself to suit the environment (adaptation), changing the environment to suit oneself (shaping), or finding a new environment within which to work (selection) (Sternberg, 2007, pp. 37-38).

This thesis is concerned with conceptual skills within four selected areas of leadership competence. Conceptual skills are vital for top managers and leaders to be able to think through and work with complex ideas. An assumption of this thesis is that leaders with high levels of conceptual skills and the capacity to understand and communicate concepts in verbal and written forms are in a strong position to lead public sector change effectively. Leaders with high conceptual skills have the ability to provide abstract ideas with meaning and to make sense of complex problems and opportunities for others.

In the next section, the methods and techniques to collect, analyse and interpret data on leaders' conceptual skills are described.

4.7 Self-regulation competence

4.7.1 SDT (Self-determination/ Self-regulation theory)

- Competence – the ability to be effective in dealing with the environment (Vohs, Baumeister, & Ciarocco, 2005, p, 653):
 - *One starting point is to encourage the research participants to keep a journal or diary. Stressful critical incidents can then be analysed and interpreted as*

they are described by the leader, with a focus on how thinking, reflection, self-determination and self-regulation assisted with successful performance.

- *Interviews with people who were present at some of these events and situations and attention to their descriptions of the leader's leadership competence.*
- Formulating intrinsic aspirations, goals and plans, and achieving them (Gagne & Deci, 2005, p. 24):
 - *Diary, shadowing, simulation tasks/problems for demonstrating to the researcher how the leader formulates intrinsic aspirations, goals and plans. Should be informed by substantial secondary documentation including meeting documents and reports, and perhaps, situated within major resources constraints such as tight budgets or conflicts and delays.*

4.7.2 Authentic Leadership Theory

- Leaders' practices follow their values consistently, and they lead with their hearts and heads (George, Sims, McLean & Mayer, 2007, p. 1):
 - *Field observation of the leader engaged in interactive, problem-solving with small or large teams in areas where they are qualified, experienced and proficient, and in other areas where they are completely dependent on the knowledge, experience and expertise of other team members. The purpose of this observation is to examine the leader's leadership practices that demonstrate genuine care and attention to the task and towards others, in ways that encourage conceptual thinking and communication.*
- Leaders demonstrate self-awareness and self-knowledge (values, cognition, emotions) likely to involve use of conceptual skills (Avolio and Gardner, 2005, p. 323):
 - *1:1 Interviews with leaders based on discussion of their reflective diary giving examples of self-awareness and self-knowledge combining elements of value, cognition and emotions with conceptual ideas, thinking, reasoning and self-reflection.*

4.8 Sensemaking competence

5.8.1 CTT (Cognitive Transformation Theory)

- Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change (Klein & Baxter, 2006; Klein & Zsombok, 1997; Weick, 1995):
 - *Shadowing the leader and informally discussing reflections, feelings, ideas, intentions and viewpoints in the process of leading a major change initiative.*
 - *1:1 Interviews with leaders.*

4.8.2 Sensemaking Theory

- ‘Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness’ (Dervin, 1998, p. 39):
 - *Analysing closure during individual and group meetings in informal and formal settings. How does the leader specifically sensegive to others in these moments before separating?*
- A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives (McNamara, 2017):
 - *Analyse and review the leader’s reflective diary and accounts expressed during biographic 1:1 interview questions.*

- ‘Structuring the unknown’ (Waterman, 1990, p. 41) by ‘placing stimuli into some kind of framework’ that enables us ‘to comprehend, understand, explain, attribute, extrapolate, and predict’ (Starbuck & Milliken, 1988, p. 51):
 - *Analyse and review the written communications by the leader on websites, in internal emails, press releases, reports and other forms of documented communication.*
- Understand how to create order from the overflow of experiences and interactions (Weick’s seven properties: builds on extracted cues that we apprehend from sense and perception (Weick, 1988, 1995):
 - *Analyse verbal recorded or field noted meeting communications where the leader deals interactively with difficult and potentially conflictual situations. Interview accounts from the leader on difficult interpersonal communication situation that they can recall and describe how they tried to create order from the overflow of experiences/interactions.*
- Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning (Weick et al., 2005):
 - *Examination of actions that the leader describes how they attempted to increase understanding of the new reality. Follow-up assessment and interpretation of some of these scenarios with followers who were present asking them to provide accounts of what they noticed about the leader’s actions and how he/she acted.*

4.9 Integrative leadership competence

5.9.1 Integrative leadership

- Systems thinking (Bryson, 2004; Crosby & Bryson, 2010, p. 218; Luke, 1998; Senge, 1990; Senge, Smith, Schley, & Laur, 2008):

- *Field observation and interviews - Analyse the leader's oral and written communication in areas of innovation/creativity, planning, review and evaluation of public sector change initiatives.*
- Creating new concepts and solutions out of opposing ideas, debates and paradoxes (Martin, 2007, p. 15):
 - *The leader is provided with a set of written scenarios and challenges. Their responses are analysed and interpreted for the extent that they show capacity to create new concepts and solutions out of opposing ideas, debates and paradoxes.*

4.9.2 Structuration theory

- Knowledgeability – ‘to put things into words’ (Giddens, 1981):
 - *Observation and field notes of the leader's verbal performances in public settings and meetings. Analysis and interpretation of the leader's talk in interview transcripts.*
- Adopting discursive consciousness (Giddens, 1984):
 - *Informal and formal interviews - Analysis of the leader's accounts and explanations of how to think about complex problems and settings involving multiple government entities and stakeholder, requiring exercise of skills in integrative leadership.*
- Having reasons for one's actions and being able to elaborate discursively upon these reasons (Giddens, 1984):
 - *Analysis of the leader's accounts and explanations of difficult situations based on provided scenarios. These scenarios were generated by peers and subordinates who describe their actions in contexts requiring integrative leadership.*

4.10 Innovative leadership competence

4.10.1 Ambidexterity theory

- Use both sequential and simultaneous modes of exploration and exploitation (O'Reilly & Tushman, 2013; Tushman and O'Reilly, 1996):
 - *Unstructured interviews involving questions and prompts to encourage consideration of issues of exploration and exploitation. Depending on the accounts provided by interview participants, further probing for relevant plans and other documents.*
 - *Identify and discuss new ideas/projects/plans in formal and informal interviews with leaders. The 'element need not be entirely novel or unfamiliar to members of the unit, but it must involve some discernible change or challenge to the status quo' (West & Farr, 1990, cited in Unsworth, 2001 p. 73).*
- Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual) (O'Reilly & Tushman, 2013):
 - *Analyse the breadth vs. depth in design of sequential memoranda of cooperation with stakeholders/partners to characterise the leader's amount of adaptation for coping with changing demands, including both experienced changes and anticipated future changes.*
 - *Find through secondary document analysis, interviews with leaders, peers and subordinates, and observation (e.g. meetings, shadowing) any 'sequence of activities by which a new element is introduced into a social unit, with the intention of benefiting the unit, some part of it, or the wider society' (West & Farr, 1990, cited in Unsworth, 2001 p. 73).*

4.10.2 Structure of Intellect (SOI), Practical intelligence, and Successful intelligence

- Divergent thinking characterised by fluency, flexibility, originality, and elaboration (Mumford et al., 1998; Vincent, Decker, & Mumford, 2002; Zaccaro et al., 2000):

- *When analysing field observation notes and interview transcripts, employ Guilford's measure of a person's divergent production by the researcher focusing on creative output in the context of a prompt (any prompt) that asks for a quantity of responses. Fluency: how many responses? Flexibility: how many types of responses? Originality: the unusualness of the responses? Elaboration: the detail of the responses? (see Figure 11 below).*
- *Review of available secondary documents to calculate the number of ideas that created by the leader of accepted by him (fluency), the types of these ideas (flexibility), how the ideas elaborated, and what is the degree of originality in those ideas.*
- Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion (Mumford et al., 2002):
 - *Multiple methods of analysis and interpretation of collected, qualitative primary and secondary data. The analysis concentrates on Mumford's innovative processes (idea generation, structuring, and promotion) used by leaders in dealing with new ideas.*
- Creating fit between leaders and their environments through processes of adaptation, shaping, and selection (Sternberg, 2005, p. 193):
 - *Multiple methods of analysis and interpretation of collected, qualitative primary and secondary data (including written documents, verbal and non-verbal behaviour) to examine the three main ways that leaders create fit with their environments (adapt, shape, and select).*
- Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence (Sternberg, 2003, p. 142):
 - *Based on the collected data from multiple qualitative sources, develop narrative analytical summaries of leaders' competence across four areas describing and theorising the related roles and contributions of intelligence (analytical, creative and practical). These interpretative narrative analyses were written by the researcher both during and following data collection.*


























Use the circles as a prompt for drawing. Draw for two minutes						
Anna						Highest fluency Most responses
Benji						Highest flexibility Most types of
Carol						Highest fluency Most responses
Darlene						Highest originality Most unusual
Eric						Highest elaboration Most detailed

Figure 11: The Guilford Measures: measuring a person's creativity

(Adaptation based on: Peter Nilsson (2017), Four Ways to Measure Creativity, <http://www.senseandsensation.com/2012/03/assessing-creativity.html>)

4.11 Research framework

This section presents an overview of the multiple (qualitative) methods implemented in the empirical research for the thesis. The adaptation of multiple data-collection methods offers deeper substantiation of concepts and hypotheses (Eisenhardt, 1989). The methods used to analyse a leader's conceptual skills in four areas of leadership competence include interviews (one to one, focus groups), primary and secondary document review (e.g. leaders' personal diaries, minutes of meetings, reports), field observation, shadowing (leaders), formal tests (creativity, innovativeness and intelligence tests), and narrative analysis of documents, events and field research.

The research framework is based on an in-depth review of the literature in the disciplines of psychology, leadership, business and management, information science and communication studies, structuration theory and psychometric psychology. Four areas of leadership

competence have been selected from among the large number of possibilities and alternatives. A number of theories from within these subject disciplines have been chosen for their potential to reveal conceptual skills. These are self-determination theory, self-regulation theory, authentic leadership theory, cognitive transformation theory, sensemaking theory, integrative leadership theory, structuration theory, ambidexterity theory, structure of intellect theory, and practical and successful intelligence theories.

Self-regulation competence includes use of interviews, diaries, secondary documentation, shadowing, field observation, and formal tests. Sensemaking competence was explored through shadowing, observation, attending meetings and events at work involving leadership acts, analysing interviews and diaries, and document review. Integrative leadership competence was researched through field observation, interviews, and formal tests. Finally, innovative leadership competence was studied using interviews (unstructured: formal and informal), document review and multiple methods of analysing qualitative data, formal tests, and interpretative narrative analysis.

4.12 Theoretical framework and research method

Six qualitative methods were applied to the research problem. These are interviews/focus groups, document review, field observation, shadowing, formal tests, and narrative analysis. These six methods are represented below in Table 14:

Table 14: Theoretical framework and research method

Interviews (1:1, focus groups)		Document review	Shadowing	Formal Test	Narrative analysis
			Field observation		

Conceptual skills	Related theories	Subject Discipline	Attributes, actions and processes where underlying (numbered). Conceptual skills that might be essential	Methods of Data Collection and Analysis (multiple methods of qualitative research)	Method
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Self-regulation competence	SDT (self-determination/Self-regulation theory)	Psychology	SREGSDT1: Competence: ability to be effective in dealing with the environment	One starting point is to encourage the research participants to keep a journal or <i>diary</i> . Stressful critical incidents can then be analysed and interpreted as they are described by the leader, with a focus on how thinking, reflection, self-determination and self-regulation assisted with successful performance. <i>Interviews</i> with people who were present at some of these events and situations, and attention to their descriptions of the leader's leadership competence.	Diaries and interviews
			SREGSDT2: Formulating intrinsic aspirations, goals and plans, and achieving them	<i>Diary, shadowing</i> , simulation tasks/problems for demonstrating to the researcher how the leader formulates intrinsic aspirations, goals and plans. Should be informed by substantial <i>secondary documentation</i> including meeting documents and reports, and perhaps, situated within major resources constraints such as tight budgets or conflicts and delays.	Diaries, secondary documentation and shadowing
	Authentic Leadership Theory	Leadership	SREGAUTH1: Leaders' practices follow their values consistently, and they lead with their "hearts and heads"	<i>Field observation</i> of the leader engaged in interactive, problem-solving with small or large teams in areas where they are qualified, experienced and proficient, and in other areas where they are completely dependent on the knowledge, experience and expertise of other team members. The purpose of this observation is to study the leader's leadership practices that demonstrate genuine care and attention to the task and towards others, in ways that encourage conceptual thinking and communication.	Field observation
			SREGAUTH2: Leaders demonstrate 'Self-awareness and self-knowledge' (values, cognition, emotions) likely to involve use of conceptual skills	<i>1:1 Interviews</i> with leaders based on discussion of their reflective <i>diary</i> giving examples of self-awareness and self-knowledge combining elements of value, cognition and emotions with conceptual ideas, thinking, reasoning and self-reflection.	1:1 Interviews
Sensemaking competence	CTT (Cognitive Transformation Theory)	Cognitive psychology	SENSEMCTT: Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change	<i>Shadowing</i> the leader and informally discussing reflections, feelings, ideas, intentions and viewpoints in the process of leading a major change initiative. <i>1:1 Interviews</i> with leaders.	Shadowing 1:1 Interviews
	Sensemaking Theory-	Business & Management: (Organisation Behaviour, Strategy);	SENSEM1: Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness	Analysing closure during <i>individual and group meetings in informal and formal</i> settings. How does the leader specifically sensegive to others in these moments before separating?	Observation attending meetings, work events

			SENSEM2: A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives	Analyse and review the leader's reflective <i>diary</i> and accounts expressed during biographic <i>1:1 interview</i> question.	Diaries and 1:1 Interview
			SENSEM3: "Structuring the unknown" by "placing stimuli into some kind of framework" that enables us "to comprehend, understand, explain, attribute, extrapolate, and predict"	Analyse and review the <i>written communications</i> by the leader on websites, in internal emails, press releases, reports and other forms of documented communication	Document review
			SENSEM4: Understand how to create order from the overflow of experiences and interactions (Weick's seven properties: builds on extracted cues that we apprehend from sense and perception	Analyse verbal recorded or field-noted meeting communications where the leader deals interactively with difficult and potentially conflictual situations. <i>Interview accounts</i> from the leader on difficult interpersonal communication situation that they can recall and describe how they tried to create order from the overflow of experiences/interactions.	1:1 Interviews
			SENSEM5: Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning	Examination of actions where the leader <i>describes</i> how they attempted to increase understanding of the new reality. Follow-up assessment and interpretation of some of these scenarios with followers who were present asking them to provide accounts of what they noticed about the leader's actions and how he/she acted.	Interviews
	Integrative leadership competence	Integrative leadership	INTEG1: Systems thinking	<i>Field observation and interviews (1:1 leaders, focus groups with subordinates)</i> - Analyse the leader's <i>oral and written</i> communication in areas of innovation/creativity, planning, review and evaluation of public sector change initiatives.	Field observation 1:1 and focus groups interviews
			INTEG2: Creating new concepts and solutions out of opposing ideas, debates and paradoxes	The leader is provided with a set of <i>written scenarios and challenges</i> . Their responses are analysed and interpreted for the extent that they show capacity to create new concepts and solutions out of opposing ideas, debates and paradoxes.	Formal test
		Structuration theory-	INTEGSTRUCT1: Knowledgeability: 'to put things into words'	<i>Observation and field notes</i> of the leader's verbal performances in public settings and meetings. Analysis and interpretation of the leader's talk in <i>interview transcripts</i> .	Field observation
			INTEGSTRUCT2: Adopting discursive consciousness	<i>Informal and formal interviews and document review</i> - Analysis of the leader's accounts and explanations of how to think about complex problems and settings involving multiple government entities and stakeholder, requiring exercise of skills in integrative leadership.	Interviews and document review

			INTEGSTRUCT3: Having reasons for one's actions and being able to elaborate discursively upon these reasons	Analysis of the <i>leader's accounts and explanations</i> of difficult situations based on provided scenarios. These scenarios were generated by peers and subordinates who describe their actions in contexts requiring integrative leadership.	Interviews
Innovative leadership competence	Ambidexterity theory	Business and Management	INNOVAMB1: Use both sequential and simultaneous modes of exploration and exploitation	<ul style="list-style-type: none"> <i>Unstructured interviews</i> involving questions and prompts to encourage consideration of issues of exploration and exploitation. Depending on the accounts provided by interview participants, further probing for relevant plans and other documents. Identify and discuss new ideas/projects/plans in <i>formal and informal interviews</i> with leaders. The 'element need not be entirely novel or unfamiliar to members of the unit, but it must involve some discernible change or challenge to the status quo' (West & Farr, 1990, cited in Unsworth, 2001 p. 73). 	Unstructured interview (formal and informal)
			INNOVAMB2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)	<ul style="list-style-type: none"> <i>Document review.</i> Analyse the breadth vs. depth in design of sequential memoranda of cooperation with stakeholders/partners to characterise the leader's amount of adaptation for coping with changing demands, including both experienced changes and anticipated future changes. Find through <i>secondary document analysis, interviews with leaders (1:1), peers (1:1) and subordinates (focus groups), and observation</i> (e.g. meetings, <i>shadowing</i>) any 'sequence of activities by which a new element is introduced into a social unit, with the intention of benefiting the unit, some part of it, or the wider society' (West & Farr, 1990, cited in Unsworth, 2001 p. 73). 	Document review; Interviews (1:1, focus groups); multiple-methods of analysis
	• Structure of Intellect (SOI)- Practical intelligence- Successful intelligence	Psychology (Psychometrics)	INNOVSOI1: Divergent thinking characterised by fluency, flexibility, originality, and elaboration	<ul style="list-style-type: none"> When analysing field observation notes and <i>interview transcripts</i>, employ <i>Guilford's measure of a person's divergent production</i> by the researcher focusing on creative output in the context of a prompt (any prompt) that asks for a quantity of responses. Fluency: how many responses? Flexibility: how many types of responses? Originality: the unusualness of the responses? Elaboration: the detail of the responses? (Figure 11). Review of available <i>secondary documents</i> to calculate the number of ideas that created by the leader of accepted by him (fluency), the types of these ideas (flexibility), how the ideas were elaborated, and what the degree of originality is in those ideas. 	Formal tests and documents review
			INNOVSOI2: Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion	<ul style="list-style-type: none"> Multiple methods of analysis and interpretation of collected, qualitative <i>primary and secondary data</i>. The analysis concentrates on Mumford's innovative processes (idea generation, structuring, and promotion) used by leaders in dealing with new ideas. 	Multiple methods of analysis
			INNOVSOI3: Creating fit between leaders and their environments through processes of adaptation, shaping, and selection	<ul style="list-style-type: none"> Multiple methods of analysis and interpretation of collected, qualitative <i>primary and secondary data</i> (including <i>written documents</i>, verbal and non-verbal behaviour) to examine the three main ways that leaders create fit with their environments (adapt, shape, and select). 	Multiple methods of analysis

			INNOVSOI4: Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence	Based on the collected data from multiple qualitative sources, develop narrative analytical summaries of leaders' competence across four dimensions describing and theorising the related roles and contributions of intelligence (analytical, creative and practical). These interpretative narrative analyses were written by the researcher both during and following data collection.	Interpretative narrative analyses
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Note: SREGSDT = Self-Regulation, Self-Determination. SREGAUTH = Self-Regulation, Authentic Leadership. SENSEMCTT = Sensemaking, Cognitive Transformation Theory. SENSEM = Sensemaking Theory. INTEG = Integrative leadership, Integrative Leadership Theory, INTEGSTRUCT = Structuration Theory. INNOVAMB = Innovative leadership, Ambidexterity Theory. INNOVSOI = Innovative leadership, Structure of Intellect Theory. Each skill has a unique number within the related dimension.

4.13 Data collection

Data collection involves gathering and measuring information on factors of interest to the research, in a constructive and organised manner. This helps the researcher to answer the research questions accurately, test theories, and assess results. Data collection in this qualitative exploratory and descriptive thesis is characteristically orientated towards 'who', 'what', and 'questions relating to the nature and shape of leaders' conceptual skills, and the actions and experiences involved. The primary research data collection tools are semi-structured, open-ended individual and focus group interviews. The interviews are used to obtain a broad range of information about events. Other data collection methods used in this research include shadowing, field observations of targeted events, and a review of documents and artifacts.

How different methods informed the results relating to the different competencies

Following tables are explaining what skills the research is investigating for each of the selected methods. Table (15) is a distribution plan to trace the skills which is basic distribution. And the second one, table (16) is representing what happened in the reality of

data collection which is emergent distribution. The following methods are adopted to investigate public sector leaders' conceptual skills.

Table 15: What skills the research is investigating for each of the selected methods - Basic distribution

4 Self-regulation 6 Sensemaking 5 Integrative leadership 6 Innovative leadership

Methods		Conceptual skills								
Interviews	1:1 Interviews (6)	SENSEMCTT1	SREGAUTH2	SENSEM2		SENSEM4		INTEG1	INNOVAMB2	
	Formal Interview (5)	SREGSDT1	SENSEM5	INTEGSTRUCT2	INTEGSTRUCT3	INNOVAMB1				
	Informal interviews (5)									
	Member checking (5)									
	Focus groups (2)	INNOVAMB2							INTEG1	
Documents review	Primary sources and diaries (9)	SREGSDT1	SREGSDT2	SREGAUTH2	SMSM2	SENSEM3	INTEGSTRUCT2	INNOVSOI2	INNOVSOI3	
	Secondary sources (5)	INNOVSOI1								
Shadowing (3)		SENSEMCTT1								
Field observation	Participant Observation (5)	SREGSDT1	SENSEM1	INNOVAMB2	INTEGSTRUCT1	INTEG1				
	Non-participant Observation (5)									
Formal Test (2)		INTEG2	INNOVSOI1							
Narrative analysis (1)		INNOVSOI4								

The following table represents what different methods informed the results relating to the different competencies, as these methods have been adopted to investigate public sector leaders' conceptual skills.

Table 16: What skills the research is investigating for each of the selected methods - Emergent distribution

Methods												
Interviews	1:1 Interviews (11)	SREGSDT1	SREGAUTH2	SENSEMCTT	SENSEM1	SENSEM2	SENSEM4	INTEG1	INTEGSTRICT2	INTEGSTRICT3	INNOVAMB2	INNOVSOI3
	Formal Interview (7)	SREGSDT2	SREGAUTH1	SENSEM3	SENSEM5	INTEGSTRICT2	INTEGSTRICT3	INNOVAMB1				
	Informal interviews (7)											
	Member checking (7)											
	Focus groups (8)	SREGSDT1	SENSEM1			SENSEM3	INTEG1	INNOVAMB2				
Documents review	Primary sources & diaries (9)	SREGSDT1	SREGSDT2	SREGAUTH2	SMSM2				INTEG1	INNOVAMB2	INNOVSOI2	INNOVSOI3
	Secondary sources (7)	INNOVSOI1				SENSEMCTT1						
Shadowing (5)		SENSEMCTT1										
Field observation	Participant Observation (5)	SREGSDT1	SENSEM1	INTEGSTRICT1	INTEG1	INNOVAMB2						

	Non-participant Observation (5)						
	Formal Test (1)	INNOVSOI1					
	Narrative analysis (2)	INTEG2	INNOVSOI4				

Note: Refer to Table 6 for the meaning of the codes listed in the above table.

4.13.1 Data collection in phenomenography

Data collection normally requires addressing issues like the selection of participants, number of participants, the interviewer and the questions, and the data collection procedures. An initial step in data collection is to select the individuals processed by general and critical thinking. Giorgi (1997; 2009) identifies four criteria for the research mode of enquiry. Scientific research, concerning the knowledge acquired, should be systematic, methodical, general and critical. Giorgi's criteria are not related to the participants' selection procedure, but rather to the knowledge generated from the research. Thus, the actual selection of the participants does not exclude the knowledge gained from being general and critical. This research is focusing primarily on *general* and *critical* types of information. A key concern related to these two modes is to explain the interrelation between data collection and analysis of the results and to display the essential features of the processes as well as explain their consistency. Another concern is to present a noticeable contrast – as phenomenographical qualitative research – to quantitative research. Englander (2012, p. 13) explained that, 'Certain conclusions were drawn indicating that phenomenological research methods cannot be evaluated on the basis of an empiricist theory of science, but must be critiqued from within a phenomenological theory of science'.

Generalisability of the results is to an extent linked to the natural qualities, personalities and social categories of the participants, and has to be considered as a part of the evaluation of the generality of the findings including critique of the processes used to select the study

participants. Sampling in the quantitative tradition often derives straight from the idea that the sample can be statistically associated with the population at large; that is, the sample should be representative of the population (Englander, 2012).

Quantitative researchers can use many different types of sampling method to calculate how much one can reasonably expect that the representativeness of the sample is demonstrative of the total population. Random sampling is seen as being more predominant in quantitative research designs (despite the fact that a range of other sampling methods can be chosen). An ideal perfect population sampling is inconceivable for all forms of research, in particular, qualitative methods; however, perfection is not a standard for having the capacity to lead to real, logical scientific research (Giorgi, 2009).

Aiming to achieve representativeness is critical for quantitative research. The evaluative statistical criteria, and the approach taken to achieving external validity, rely on effective calculable sampling processes. In this manner, in quantitative research, being critical about the general research phenomenon is found in the connection between sampling methods selected and the results obtained. Therefore, the quantitative researcher must answer the critical question regarding participants' selection: *Does the subject belong to the population that I am studying?*

However, the phenomenological focus embarks on its research by asking the general question: *What is it like?* (Gallagher and Zahavi, 2008; Giorgi, 2009; Nagel, 1974), contrasted with the general quantitative inquiry of *How much?* or potentially *What if any?* This central distinction in itself likewise calls for another perspective on the issue of evaluative criteria and, along these lines, seeks another interpretation of the issue of 'representativeness' (Englander, 2012). Giorgi argues that:

First of all, the most obvious difference between these questions (i.e., qualitative versus quantitative) directly shows that statistics will not be involved in the phenomenological critical evaluation in relation to the selection of the participants. The phenomenological researcher is not primarily interested in knowing how many or how often one has had a particular experience, although such information might present itself in the data (Giorgi, 2009, p. 19).

Thus, ‘representativeness’ holds different meanings and values for qualitative, phenomenological perspectives, as do other, traditional evaluative criteria, such as validity and reliability (Giorgi, 1988). In phenomenological investigations, representativeness does not make a difference until the point at which the general structure of the phenomenon is elaborated and, therefore, the results of a phenomenological study cannot be assessed based on the sampling method. Qualitative researchers aim for general knowledge about the phenomenon and they seek to secure the participation of individuals, but they do not know who the participants are in relation to their likely distribution across a population. When choosing the subjects for phenomenological investigation, one of the questions that the researchers should ask themselves about the individual and the sample is: *Do you have the experience that I am searching for?*

In this study, the researcher selects participants who report having had a specific experience of the conceptual skills in leading change – the research phenomenon. The researcher developed an initial idea beforehand about what the phenomenon (conceptual skills) is all about, once he had acquainted himself with and interpreted the literature. The researcher has a genuine interest in the phenomenon, and a general sense of the standard parameters of the phenomenon scoped by the literature. Needless to say, the data collected may exceed what the researcher thinks he needs to know about the phenomenon, and in fact to reduce the extent of researcher bias, the researcher endeavoured to suspend pre-conceptions to discover the meaning of the phenomenon. It is expected that later on in the data analysis, the researcher can uncover new nuances that would identify and perhaps, to some extent, verify critical

issues for the structure and content of the leaders' conceptual skills (the phenomenon). In some qualitative research studies, difficulties with identifying participants for the research is a more significant component of the main problem than other contingencies related to becoming acquainted with and understanding the research phenomenon.

Whereas individual interviews can each take one hour to two hours, on the other hand, other methods (formal and informal interviews, focus groups, document review, shadowing, and field observation, member check, and formal tests) can accumulate relevant data from participants, and some of these methods and techniques tend to be more succinct (Giorgi, 2009). The use of audiotape to record interviews is frequently reported in the literature (Aflague and Ferszt, 2010; Åkerlind 2005a). Voice recording facilitates accurate and comprehensive transcriptions. It was crucial for this empirical study that the questions were as open-ended as possible to acknowledge the participants' views and enable them to express their 'relevance structure'. Thus, the interview had to be flexible as far as the questions were arranged and ordered. Also, the researcher ensured that detailed and numerous questions were not created in advance. Instead, questions in in-depth, qualitative research studies such as this one should take after and fit the setting that the subject is stating and portraying.

4.14 Data analysis and interpretation

The initial data analysis was conducted alongside the process of data collection but once saturation was reached in the answers given, the data were analysed and interpreted more extensively. The data were derived from interview transcripts, focus groups (the discussions were recorded and transcribed), materials from interviews and member checking, observational studies, and primary and secondary analysis of documents. All these techniques generate databases for memo-taking, note taking and transcription.

Watkins (2007) indicated that the purpose of phenomenography is to identify the distinctive concept of the phenomenon throughout the interviews and during all stages of the data analysis. Practically, the data that are collected from the interviews are expected to enlighten the researcher's understanding of the phenomenon and its meaning largely through its expression and relationships with specific situational and contextual factors.

This research examines the selected phenomenon, conceptual skills, and their significance from public leaders' perspectives. The purpose of the research is to explore the precise ways that each participant is confronted with and deals with the phenomenon, and then to classify qualitatively all of the major differences through comparing and contrasting individuals and groups of interviewees.

Maxwell et al. (2013) explained that qualitative data analysis can be understood in several ways, although a commonality among all approaches is that they often involve significant investment in time by the researcher in the analysis and interpretation of the meaning and significance of the data. The research does not intend to follow the methods and techniques of discourse analysis which tends to focus on three major components for interpretation and discussion; namely, how the data are activity-arranged, located, and created. Nevertheless, the research is similarly interested in what is going on in leadership discourse, how it is built up to stimulate discussion, and what resources are accessible and play out discursively. The chosen research approach is closer to the methods and techniques typical of cognitive psychology, which endeavours to relate discourse association to intellectual association. For qualitative data analysis, substantive theories available in the literature may or may not occur in the grounded data collection and analysis. The overall approach in the first stage of this study was grounded and emergent and, as the research progressed, the critical implications of

the ongoing analysis were interpreted based on the researcher's understanding of the data combined with comparison to the literature. The analysis and interpretation involved coding the data and forming classifications, distinguishing and segmenting the data into secondary and theoretical concepts, and progressive data reduction leading to their assessment and evaluation to establish their relevance to concepts presented in the literature. This, however, was conducted in a manner which preserved the integrity of theoretical categories derived from and grounded in the data.

Altheide (1987), Morgan (1993) and Sandelowski (2000) have all argued that qualitative research is an active method of analysis of verbal and visual data that provide information and lead to the development and refinement of open codes, elaborated codes, and theoretical categories. 'The term 'content analysis' is a technical term designating specific approaches, including quantitative and qualitative content analysis' (Sandelowski, 2000, p. 338).

As opposed to quantitative content examination, in which the researcher efficiently applies a previous arrangement of codes to the information, qualitative content analysis is data-derived: that is, codes are created from the data themselves over the course of the research process. Qualitative content analysis is likewise collaborative as researchers persistently modify their classification and categorisation of data to accommodate new data and achieve new insights about those data. Also, qualitative analysis – whether content-based or grounded – goes beyond the immediate contextual field of interpretation, requiring an effort to understand not only the apparent data but also the hidden content of the data.

Yet qualitative content analysis is the least interpretive of the qualitative analysis approaches in that there is no mandate to re-present the data in any other terms but their own. For example, ...Geller and Hotzman (1995) described physicians' perceptions concerning genetic testing by eliciting this information from them in focus groups and then summarizing their perceptions. In these studies, concerns remained concerns and perceptions remained perceptions. They did not become, for example, conditions for or

consequences of some event in a theory, nor a 'strategic' representation of self in a narrative rendering (Sandelowski, 2000, p. 338).

In content analysis, the qualitative '... researcher might start with pre-existing coding systems, which are continuously modified during the analysis, or could even be completely rejected in favour of a new system, to ensure the finest appropriate to the data style' (Sandelowski, 2000, p. 338). Miller and Crabtree (1992) have defined this approach to analysis as a type of template analysis. Riessman (1990) concluded that the qualitative descriptive research approach is used as a method of choice when conventional descriptions of a research phenomenon are anticipated. In general, qualitative research seeks to go beyond surface description, and particularly when researchers want to know the 'what', 'who' and 'where' of events, qualitative research approaches represent a valuable methodological approach in and of themselves.

The purpose of analysing data is to reveal practical and valuable information. The analysis approach could define and summarise the data, recognise relations among variables, match and recognise the distinction between variables, and predict results. Renner, Taylor-Powell and Renner (2003) indicated that 'qualitative data analysis involves the identification, examination, and interpretation of patterns and themes in textual data and determines how these patterns and themes help answer the research questions at hand' (p. 1).

The National Science Foundation (NSF, 1997) states that within qualitative modes of data analysis, researchers create methods of discerning, measuring, analysing and comparing, and explaining essential patterns or themes. Qualitative data analysis might involve varieties of approaches – 'including ethnography, narrative analysis, discourse analysis, and textual analysis - correspond to different types of data, disciplinary traditions, objectives, and philosophical orientations' (NSF, 1997, p. 1). As the qualitative data analysis is not directed

by general rules, it is often not a smooth process, is extremely dependent on the researcher and the framework of the study, and is 'likely to change and adapt as the study evolves and the data emerges' (pellinstitute.org).

Bryman and Burgess (2002) intimated that Potter and Wetherell (1987) and Potter et al. (1990; 2015) go one step further and recommend that the use of the term 'analysis' is possibly erroneous in qualitative research, in general, and discourse analysis specifically, in light of the fact that data analysis relates to a distinctive set of processes that belong to the discourse of quantitative research. Burgess (1984a; 1984b) and Habenstein (1970) argued that qualitative researchers have often proposed that research design, data collection and analysis are simultaneous and continuous processes. Also, Wiseman (1974) stated that the 'constant interplay of data gathering and analysis is at the heart of qualitative research' (p. 317).

In this study, the data analysis is iterative with the data collection. The data were analysed as they were collected through the process of coding. The first step is open coding, which is described by Bohm (2004) as

broken down' analytically, and in this the principle of grounded theory shows itself: from the data, that is from the text, a succession of concepts is developed that may ultimately be used as building blocks for the model. As a first step it is advisable to analyse single short textual passages (line by line). Subsequently larger paragraphs or even whole texts may be coded (p. 271).

Then, the coding is elaborated and categories are formed leading to substantial data reduction and eventually theoretical coding.

The common themes of everyday life were identified and examined in relation to the context, meanings, and circumstances of living with the research sample (top managers of the UAE Governments' entities) and with their subordinates. The data have been coded by conceptualising their underlying patterns. The initial data analysis was guided further towards

more focused data collection, leading to further conceptualisation of the data and refinement of the coding schemes. As part of the analysis, similarities and differences among the compiled codes were clustered to create categories, eventually being reduced further to theoretical categories.

Extensive theoretical memos were written consistent with recommendations from authors specialising in research methods such as Bohm (2004, p. 271):

...the coding notes ... and on broad interrelations that are gradually revealed by the investigator. The writing of theoretical memos requires researchers to distance themselves from the data, and also helps them to go beyond purely descriptive work (motto 'Stop and memo!'). In the course of the analysis memos can become starting points for the formulation of the final manuscript. Exactly as with theoretical memos, there is a constant process of writing and revision (theoretical sorting).

These theoretical memos were written throughout the coding process to track the conceptual skills as they happened. Theoretical memos were also coded using theoretical coding and constituted the basis for writing up the grounded theory during the final phase of the analysis. Grounded theory is 'often used to refer to both the method and also the research result that is sought through the use of this theory' (Bohm, 2004, p. 270).

The overall credibility of the data was established adopting the methods of persistent field observation (recurring observations of subordinates during and between individual interviews), diaries, secondary documentation, shadowing, and member checks, which involves 'presenting the analysis of the data to informants for their confirmation or revision' (Lacy & Luff, 2001, p. 12).

4.14.1 Data analysis in phenomenography

Phenomenography as a process and a tool is mainly concerned with focusing on and describing conceptions, with each conception representing one way in which the specific phenomenon

under examination is experienced (Svensson, 1997). Therefore, the data analysis in phenomenographic studies aims to reveal variations in how the phenomena that have been studied are experienced (Bruce, 2000; Limberg, 2005).

There are many approaches to phenomenographic data analysis reported in the literature; however, no one method is prescribed as mandatory. Yates, Partridge and Bruce (2012) explain that the perceived lack of a distinct method has been a common point of criticism (Ashworth & Lucas, 2000; Francis, 1996; Richardson, 1999; Säljö, 1997; Uljens, 1996). However, many authors (e.g., Bruce, 1997; Johansson, Marton, & Svensson, 1985; Prosser, 2000; Säljö, 1988) argue that, given the nature of the phenomenographic research, actually this is neither desirable nor possible. The two most prominent phenomenographic methodologies are Åkerlind's (2005b) method and Marton (1986) and Marton and Booth's (1997) method. According to Bowden (1994), Dall'Alba (1994), Prosser (1994) and Åkerlind (2005a, 2005b) the Åkerlind method treats the transcript as a significant unit of data and one that retains its significance throughout the analysis. It prescribes that the emerging categories and the transcripts must be focused on as a set, not individually, so as to understand the collective experience and the eventual outcome space. Åkerlind's method emphasises that the individual transcript is not equivalent to a category of description (Bruce, 1997) and the meaning of the phenomenon would be varying under different situations for every participant (Åkerlind, 2005c).

Meanwhile, 'Marton's method' reduces the collection of transcripts to 'utterances' or 'quotes', each with a perceived and distinct meaning. These are then brought together into categories on the basis of their similarities. Although part of the 'meaning' ascribed to an utterance comes from its context in a transcript, the transcript is no longer a data unit in itself.

Marton's method emphasises the importance of considering the larger context when interpreting and selecting excerpts from the transcripts, and working with whole transcripts (Marton, 1986, Marton & Booth, 1997).

Åkerlind's (2005b) transcript-centred approach has three steps. The first step involves reading through each transcript three times, making notes on each during the third reading, and summarising the issues and themes that emerge in the context of the other readings. The value of reading the transcripts several times before summarising the content was apparent as the significance of individual statements could be seen in a clearer or different focus when the researcher was familiar with the whole transcript. The second step involves grouping similar transcripts together after repeatedly re-reading the transcripts and the notes. Vaismoradi et al. (2016) described this step as difficult with such a small number of transcripts but stated that, overall, themes did begin to emerge. The third stage involves rearranging the groups after further readings, focusing first on the search for similarities and differences in the overall meaning of the transcripts (the value of this process as a preliminary sorting activity began to show itself), and second, looking for themes of expanding awareness running throughout the set of transcripts as a whole, where each topic is linked to a collection of different 'dimensions of variation' (Åkerlind, 2005b).

As mentioned above, Åkerlind (2002) suggested common principles of practice. (1) Limit the predetermined views, while placing aside outline conclusions about the nature of categories to avoid converging too soon on an interpretation. (2) Confirm that a focus on the combined experience is supported by reviewing the transcripts and emerging categories of description as a group (rather than individual transcripts and categories of description). (3) Scan for meaning

or variation in meaning across transcripts, and identify the structural associations between these meanings.

Marton's (1986) 'seven steps' explain the phases of data analysis in phenomenography, as shown below in Table 16.

Table 17: 'Marton method'

(Adaptation based on: Marton (1986) and Marton and Booth (1997))

STEPS	EXPLANATION
Familiarisation	Once the audiotapes are transcribed, the transcripts are read a number of times while listening to the audiotape. This action is necessary for making amendments in the transcripts. Collection of participants' answers to a specific question. Recognising the most critical components in the answers given by participants.
Condensation	Discarding some of the participants' answers to find the fundamental elements of a conversation. Several similar occurrences of the same phrase are reduced to a representative version as some concepts developed over several sentences and are built on utterances earlier in the transcript. What turned out to be significant only became so when associated with other statements elsewhere and usually had little independent life of its own.
Comparison	The selected significant dialogue excerpts are compared to find sources of variation or agreement. In the pilot, difficulties in finding meaningful statements led to problems when comparing and contrasting. Similar challenges occurred in the following three stages.
Grouping	Preliminary grouping or classification of similar answers. Answers that appear to be related are put together.
Articulating	Review the initial list of categories by re-reading the transcripts to check the representation of actual experiences of participants within the preliminary established categories.
Labelling	Emphasising the essence of each category, by naming them regarding the internal attributes of groups and the distinguishing features between them as well. This is also to ensure that the linguistic expressions are appropriate, and refer to the different categories.
Contrasting	The similarities and differences of the categories are compared; a contrastive comparison of groups. It includes a description of the character of each category and similarities between categories.

Marton and Booth (1997) suggest three initial criteria for assessing the quality of a phenomenographic 'outcome space': (1) That each category in the 'outcome space' discloses something unique about how a phenomenon is understood; (2) That the categories are rationally connected, usually as a hierarchy of structurally comprehensive relationships; and

(3) That the results are parsimonious. This means that the significant variations in experience detected in the data should be represented by a group of as few categories as possible.

4.15 Participant selection and sample size

The research participants are managing different types of Government business and entity size; they hold different management levels in the Government entities, and are all from the highest levels of Government leadership. Positions and numbers of each participant group are: One Minister; two General Managers; five CEOs; one Under Secretary; one Assistant Direct Manager; one Assistant Sec Gen, and seven Managers.

The sample of participants was selected based on the nature of the work, from various fields of business, and the public sector fields of Justice, Social development, Housing, Economics, Security, Municipality, Media, Transportation, Health, and Information. These Government fields of business represent UAE Federal and Local Governments (six Federal Government; nine Dubai Government; one Abu Dhabi. Government; one Sharjah Government; and one Ajman Government). The participants' organisations vary in size between approximately 40 and 22,000 employees.

Most of these entities had received excellence and quality awards for their efforts in achieving outstanding strategic results in the provision of government services and the adoption of innovative projects. The participants varied in their socio-demographic backgrounds and characteristics such as age and gender. Their effectiveness in leadership and management is not investigated in this study.

4.16 Research design of data collection' methods

The study began with seven participants in the first stage and, since phenomenography exclusively seeks for maximum variation, the researcher subsequently extended the sample and began further targeted sampling to identify any further experiences of conceptual skills in leading change that otherwise may have been inadvertently suppressed. At the second stage the researcher expanded the research sample to include eight other participants, bringing the total number to 15 participants. In order to further verify the results, three other participants were recruited in the third phase, bringing the total number of the research sample to 18 leaders from various disciplines and departments of government in the UAE. After enlarging the sample further, no additional conceptual skills were identified.

Data collection was conducted using eight research tools, which are One-to-one interviews; Formal and Informal interviews; Focus groups; Field observation – shadowing; Documents review; Diary; Formal test; and Narrative analysis. Data collection took place following the postponement of the member checking, to take place after the completion of the coding process. . The research has followed a three-phase research design:

- Stage 1: Interviews and analysis. Data analysis, determining the exploratory framework and outcome space from participants and their peers' and subordinates' perceptions.
- Stage 2: Shadowing, field observation, and documents' review and analysis. Data analysis, determining exploratory framework and outcome space from the findings of other data collection methods.
- Stage 3: Member check and analysis.

Table 18: Summary of the steps in the analysis and interpretation of the data

Stage	Process	Procedure	Outcome
1	Determining descriptive categories for: interviews (One to one, formal and informal, and focus groups)	Words analysis	Forming the “outcome space” of selecting participants and their subordinates and peers
		Coding	
		Abstracting works	
2	Expanding the resources of the data collecting, using: Field observation and shadowing, document review, formal tests, and narrative analysis	Word analysis, coding, and abstracting	Forming the “outcome space” of other data collection methods
3	Reporting the findings (outcome space) and comparing all resulting perceptions	Member check	Support and clarify the meanings of the reported conceptions

The interviews conducted with the research participants were written down word-by-word in the form of transcripts, whether the one-to-one interviews, formal interviews, or the focus groups.

- *Level of words analysis.* Analysing at the level of words. The researchers focus on the words as they appear in the transcript, they find out which different terms are utilised to refer to a specific object and whether some words often co-occur with other words, or to find pertinent sections based on the usage of a particular word.
- *Level of coding.* A code signifies the researcher’s interpretation of the exact text. Coding is an attempt to create a relation between segments of the text, theoretical framework, and research questions. Thus, codes are set on a more abstract level than the words that are shown in the transcription.
- *Level of abstraction and reduction.* From reading the data material, relevant concepts were identified. Then, the researcher began hunting for patterns and relationships between the concepts, and determining categories and their relevant description.

4.17 Research sample and methods information

Using six research methods, based on a sample of 123 participants including by 18 focal participants, reflects the leaders representing the top management in the UAE governments (The participants’ designations are varied from Minister to CEO, General Manager, undersecretary, and Manager). Selected personnel from the higher management level in the

entities of the UAE Federal and Local Governments). Through exploratory semi-structured one to one, formal and informal interviews, and nine focus groups, in addition to other five qualitative methods.

In detail, 61 staff from different levels of management (senior, middle, and executive levels of management) participated in the interviews, and 65 staff members involved in the focus groups (21 of them contributed to interviews and focus groups, in addition to the 18 leaders. Eighteen leaders were interviewed, and a further 51 formal (38) and informal (13) interviews were conducted with their peers and subordinates to hear their experiences. In this stage, the researcher held nine focus groups attended by 65 of the participant leaders' subordinates from various functions and disciplines, focusing on some parts of the framework for conceptual skills developed in the review of the literature.

It is worthwhile at this point reiterating that there is no prescriptive quality to a proper interview but, based on Giorgi's (2009, p.122) main criterion, 'What one seeks from a research interview in phenomenological research is as complete a description as possible of the experience that a participant has lived through'. The face-to-face interview was longer and thus richer regarding depth and nuances. The other shorter interviews held with the participants were useful to extract meaning and confirm the concepts that were experienced and described by the main participants. Moreover, the researcher extended the number of subjects in shadowing the participants to compensate for the many nuances usually found in the more extended face-to-face interviews. [Note that the reason for increasing the number of accounts is not due to statistical criteria, but to discovery, identification and interpretation of the research problem].

In the second stage of data collection and analysis the researcher practiced shadowing the participants, holding field observations, and conducting documents review. The research included a significant number of document reviews (27 primary and secondary documents for 17 participants, in addition to four diaries) as well as 31 site visits for 13 participants, and attendance at 22 events and activities searching for triangulating the data that were collected from the interviews and focus groups. Formal tests were completed for 12 leaders, and nine narratives were recorded.

Finally, as mentioned above, the researcher postponed the member checking to after the completion of the coding process. In this stage, he was able to obtain four member checks from the main 18 participants of the research sample.

Table 19: Brief of research sample and the methods used in the data collection

Total Participants	Focal leaders	Formal and Informal Interviews	Participants of Focus Group	Research Instruments/methods of data collection								
				1:1 interview	Formal and Informal interviews	Focus group	Field observation – shadowing	Documents review	Diary	Formal test	Narrative analysis	Member checking
123 (18 focal leaders; 61 participants in interviews; 44 participants in focus groups)	18 participants, Higher level management, UAE Governments	61 participants, 38 formal interviews, 13 informal interviews	9 Focus Groups, 65 participants; (44 after deletion of duplicate names)	17 one-to-one interviews	61 participants representing 11 leaders	9 leaders Attended by 65 participants	13 leaders, 31 sites visits, 22 events and activities	17 leaders Review of 27 primary & secondary documents	4 leader's diary	12 leaders	9 leaders	5 leaders

The table shows the number of main participants, management level position, nature of work, and organisation sizes, as well as the number of participants in formal and informal interviews, focus groups and their participants, and finally, the frequency of uses of each research method.

4.18 Research limitations

The major research limitation is that the concepts of conceptual skills in public sector change are at the same time both general and precise. Since many of these concepts are recognised

by psychologists and, to a lesser extent, leadership theorists, there is a great risk of gathering significant amounts of data that do not have much specific bearing on a particular area of academic thinking on conceptual skills. The problem is exacerbated by the fact that much of the research on leadership functions at very high levels of generality and the precise role and function of conceptual skills in leadership behaviours and activities is often opaque.

This research utilises qualitative methods, and the empirical research design concentrates on a small group of individual leaders. A major limitation of this chosen design is that it does not capture data on large groups of leaders that are representative of the diversity of individual characteristics and viewpoints of public sector leaders. However, a major strength of the research is that it explores, intensively, issues facing a selected group of individuals in relation to their conceptual thinking, skills, and capabilities.

The research also engages with a number of areas of risk in relation to accurately capturing the diversity of perspectives of participants and there are also well understood empirical limitations. These relate to translation between languages, nature, and size of the sample, interviewer and interviewee bias, and difficulties of gaining access to the higher level of management including finding and organising the time with participants to engage in the study. In addition, the shortage of available definitions and concepts of conceptual skills on leading change in the public sector available in the literature and public discourse, combined with the differences in opinions and perspectives expressed in practitioner and academic concepts on how leaders lead, are both major sources of potential confusion for participants in this research.

4.19 Ethical considerations

It is critical to recognise the ethical considerations in any research, particularly the issues of informed consent and subject confidentiality (Kvale & Brinkmann, 2009). Consequently, the major ethical issues including confidentiality, privacy, informed agreement, gifts, and approval were all actively considered and addressed.

The research was submitted to various relevant review boards for approval – primarily, the PhD Ethics Committee in BUiD. Also, formal approval was sought from employers such as public sector authorities and individual participants. It was anticipated that in some cases permission would be given, while in other cases permission would be withheld, for the researcher to engage in primary data collection through activities such as observation, shadowing and interviewing. Hence, it was anticipated that all forms of recording technique would have to be used, including digital recording (visual and auditory), as well as on-site and off-site field-note-taking.

The research purposes, methods, time required, possible risks, and what is anticipated from the participants were all disclosed prior to engaging in the data collection, through such methods as interviews and field observation. It was routinely and consistently explained that the participants have the right to withdraw from the research whenever they want.

4.20 Ways to address the generalisation of the research findings

The aim of qualitative research is to track the diversity of multifaceted phenomena in the interpretive analysis of data attained from interview or observation in a specific context.

Generalisability might be more appropriately considered as transferability, which is the extent to which findings can be utilised or practiced in different contexts. Kvale (1989) termed this

type of generalisability ‘external validity’. Also, Miyata and Kai (2009) argued that while both terms of external validity and transferability are concerned with the utilisation and application of findings in different contexts, external validity differs from transferability in that it can be enhanced by providing sufficient information for readers to generalise and be more confident about building their own transferability decisions.

Johansson et al. (1985) have recognised the use of phenomenographic findings in studying contexts to generate qualitative changes in the conception of a phenomenon. Bowden (2000) explained the increasing application of phenomenographic findings in formal education contexts. Finally, since the researcher aims to generalise these phenomenographic research findings, it is significant that the research design considered the possible contexts and the scope within which the conclusions might be practically used at the beginning of the research, and also in defining the extent and suitability of the selection of participants (Sin, 2010).

Results

5.0 Introduction to the main findings and contributions

This research adopted a qualitative phenomenographic methodology and multi-method approach to examine the role of leaders' conceptual skills in leading change in the public sector. The data were collected and interpreted systematically based on this purpose.

Saunders, Lewis and Thornhill (2007, p. 4) define research as:

... something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge. Two phrases are important in this definition: 'systematic research' and 'to find out things'. 'Systematic' suggests that research is based on logical relationships and not just beliefs (Ghauri and Grønhaug, 2005).

The results of this study clearly show that conceptual skills are practiced in leading change and that, in all four areas of leadership competencies investigated (self-regulation, sensemaking, integrative leadership, and innovative leadership), conceptual skills have an active role in leading change. Conceptual skills were used to systematically influence change leadership to instigate change by the entire research sample. These four fields of leadership competencies differ in their uniqueness of employment and adoption by leaders in the government sector.

The researcher relied on multiple methods of data collection, and these tools had a significant impact on obtaining accurate and adequate information from the research sample. The coding process was informed by ideas from the literature review on conceptual skills. The codes were used carefully to refer to the impressions conveyed and the essence of the explanations, views and styles of expression articulated by the participants. In the following section, a detailed

explanation of the analysis is presented and the results identified based on the process of coding and descriptive categorising of the data collected.

5.1 The research sample, data collection and analysis, and results

The study started with seven participants in the first stage and, since phenomenography exclusively seeks to attain maximum variation, the researcher, therefore, extended the sample and began further targeted sampling to identify any further experiences of conceptual skills in leading change that otherwise could have been inadvertently suppressed. In the second stage the researcher expanded the research sample to include eight more leaders, bringing the total number to 15 participants, and in order to further verify the results three more were added in the third phase; bringing the total number of the research sample to 18 leaders from various disciplines and Government departments in the UAE. After enlarging the research sample further, no additional conceptual skills were identified.

The number of sample (18) reflects the leaders representing the top management in UAE governments, with a total of about 400 leaders (population) in these categories of leadership (have been chosen randomly from different governments and business fields).

It should be noted that the total number of participants in this study has reached 123 participants (after deletion of repeated names), the researcher conducted formal and informal interviews with them, in addition to holding nine focus groups.

In detail, 61 participants from different levels of management participated in the interviews, and 65 staff members involved in the focus groups, in addition to the 18 leaders. By deleting duplicate names between interviews and focus groups, the research respondents is 123 employees from governments in the United Arab Emirates.

In more detail, the number of the research sample who were classified at the first level of leaders (expert) is 37, including the amount of the three leaders at this level. The number of second-level of leaders (proficient) is 62 persons. The third level (developing) reached 24 employees. These figures also do not include persons who were dealt with and met while attending events for observation, and those who entered the leaders' offices during interviews.

The data collection continued until the point of data saturation when, in the interviews with the last three participants, they did not refer to any new major concepts. The participants' ideas, attitudes and perceptions gathered from the interviews were transcribed, the text was coded and categorised, and then the descriptive categories were extracted. Whole codes were created forming descriptive categories of the leaders' conceptual skills within four areas of leadership competencies; self-regulation, sensemaking, integrative leadership, and innovative leadership.

The results from the interviews indicate that leaders' conceptual skills influence the quality and extent of productive, self-regulation, sensemaking, integrative leadership, and innovative leadership in the public sector. The research results suggest that these leaders employ high-level conceptual skills in leading public sector change. These skills influence the four areas of leadership competencies and were ranked in descending order, from the most employed to the least employed. In addition, the leaders were categorised in three levels of utilising conceptual skills.

5.2 Research participants' profiles

Easterby-Smith et al. (2002) claim that, in business and management research, many of the participants tend to be important and hard-working people who are unlikely to allow the

researcher access unless they can get some personal advantages from the research. They are often interested in its practical implications and consequences, in particular, the potential for action of the research findings.

All of the participants were very cooperative with the researcher, and most of the information they provided was relevant to conceptual skills. The researcher never felt pressurised by the participants to fulfil their personal interests and goals; on the contrary, they emphasised that their aim was to support scientific research in the country.

The researcher was keen for the entire sample to be composed of leaders of change, as they differ from managers of change. Change leaders are those senior managers or executives at the top levels of the organisation who envision, action, and support a change of a broad or transformational nature. However, change managers are those functional specialists and middle-level managers who carry forward and embed backing for a change in business departments to achieve their key purposes (Caldwell 2003).

Table 19 shows the numbers of participants in the research sample, their grades, gender, the size of the organisations they belong to, the number of followers and their colleagues who participated in the research, and the number of focus groups.

Table 20: Research participants' profiles

N.	Participant's position, field of government business & entity size	Formal & Informal Interviews	Participants of Focus Group
1	Mr. Assistant Secretary – General Manager	1. Eng. Executive Director. (F, sub) – (Male)	1. Eng. Director of Dept. (Male)
	Specification & Governance – Local Government - 120 employees	2. Executive Director. (F, sub) - (Male)	2. Mr. Director of Dept. (Male)
		3. Director of Dept. (F, sub) – (Female)	3. Eng. - Director of Dept. (Male)
		4. Director of Dept. (I, sub) - (Male)	4. Dr. - Standards Expert (Male)
		5. Director of Dept. (I, sub) - (Male)	5. Director of Dept. (Male)

			6. Head of Section (Female)
2	Eng. Mr. Executive Director	1. Eng. – Director of Dept. (F, sub) - (Male)	1. Director of Dept. (Female)
	Infrastructure /Transportation - Local Government – 3500 employees	2. Eng. Strategic Planning & Excellence Expert - (F, sub) - (Male)	2. Director of Dept. (Male)
		3. Eng. Director of Dept. - (F, sub) - (Male)	3. Director of Dept. (Male)
		4. Eng. Director of Dept. (I, sub) - (Male)	4. Director of Dept. (Male)
		5. Director of Dept. (I, sub) - (Male)	5. Dr. Director of Dept. (Male)
		6. Expert - Development & Corporate Dept. (F, Sub) – Male	6. Chief Specialist – (Male)
		7. Secretary in the CEO Office - (I, Sub) – (Female)	7. Chief Engineer –(Male)
3	Eng. Ms. CEO & Director of Department	1. Architect Engineer - (F, sub) – (Female)	1. Engineer – (Female)
	Infrastructure- Federal Government – 316 employees	2. Follow up Engineer - (F, sub) – (Female)	2. Interior Designer – (Female)
		3. Eng. Deputy Director of Design Dept. - (F, sub) – (Male)	3. Graphic Designer- (Female)
		4. Director of Maintenance Dept. (F, sub) – (Female)	4. Follow up Engineer - (Male)
		5. Director of Innovation, CEO Committee - (F, peer) – (Female)	5. Civil Engineer – (Male)
		6. Chief Electrical Engineer - (I, sub) – (Male)	6. Senior Civil Engineer – (Male)
		7. Major Mechanical Engineer - (I, sub) – (Male)	7. Chief Electrical Engineer –(Male)
			8. Major Mechanical Engineer – (Male) 9. Eng. Deputy Director of Design Dept. (Male)
4	Eng. Mr. Assistant Director General	1. Eng. Director of Dept. (F, sub) – (Male)	
	Municipality – Local Government – 3000 employees	2. Director of the CEO Office - (I, sub) – (Female)	
		3. Head of Section - (I, Sub) – (Female)	
5	Dr. Ms. CEO	1. Nursing Director. (F, sub) – (Female)	1. Nursing Director - (Female)
	Health – Local Government – 2000 employees	2. Dr. Director of Medical Affairs. (F, sub) – (Female)	2. Dr. Head of Paediatric Surgery – (Female)
		3. Director of Clinical Support Services. (F, sub) – (Female)	3. Dr. Head of Paediatrics (Male)
		4. Dr. Head of Obs/Gyn - (I, sub) – (Female)	4. Dr. Head of Obs/Gyn – (Female)
		5. Dr. Head of Paediatrics - (I, sub) – (Male)	5. Dr. Head of Anaesthesia – (Female)
			6. Assistant Nursing Director – (Female)
			7. Head of Customer Relations – (Female)

6	Mr. General manager	1. Excellence Expert - (F, sub) – (Male)	1. Manager of Economics Sector Statistics – (Male)
	Information – Local Government – 200 employees	2. Director of Department of Economic Statistics (F, sub) – (Female)	2. Manager of Prices and Cost of Living – (Female)
		3. Director of Strategy and Excellence Dep. - (F, Sub) – (Female)	3. Head of Creativity and Innovation Unit – (Female)
		4. Manager of Economics Sector Statistics - (I, sub) – (Male)	4. Statistical Project Manager - – (Female)
		5. Manager of Prices and Cost of Living - (I, sub) – (Female)	5. HR Consultant – (Male)
			6. Financial Controller – (Male)
			7. Head of Customer Care Unit – (Female)
			8. Project Management Specialist – (Female)
7	Ms. Minister	1. Director of Dept. (F, sub) – (Female)	1. Director of Social Security Dep. (Male)
	Social Development – Federal Government – 700 employees	2. Legal Counsel, Director of Dept. - (F, sub) – (Male)	2. Advisor to the Minister – (Male)
		3. Advisor to The Minister Office - (F, sub) – (Male)	3. Director of Dept. – (Female)
		4. Director of Dept. (F, sub) - (Female)	4. Director of Dept. – (Female)
		5. Director of Statistics Unit - (F, sub) – (Female)	5. (Legal Counsel – (Male)
			6. Director of Dept. (Female)
			7. Director of Dept. (Female)
8	Eng. Mr. Executive Director	1. Director of Tenders and Contracts Dept. (F, sub) – (Male)	1. Quality Department – (Male)
	Housing Services – Federal Government – 250 employees	2. Director of IT Dept. (F, sub) (Female)	2. Accountant – (Female)
		3. Director of HR Dept. (F, sub) – (Female)	3. Accountant – (Female)
		4. General Manager (F. peer) – (Male)	4. Accountant – (Female)
			5. Finance Department – (Female)
			6. Finance Department – (Female)
			7. Finance Department – (Female)
			8. Finance Department – (Female)
9	Ms. Director of Department	1. Director of Dept. - (F, sub) – (Female)	
	Media - Local Government – 75 employees	2. Dr. Head of Section- (F, sub) – (Female)	
		3. Head of Section - (F, sub) – (Female)	
		4. Head of performance section - (I, Sub) – (Female)	
		5. Head of statistics section - (I, Sub) – (Female)	

10	Ms. Director of Department	1. Manager of Quality and Excellence - (F, Sub) – (Female)	1. Manager of Quality and Excellence. (Female)
	Transportation – Local Government – 48 employees	2. Head of committee & Governance - (F, Sub) – (Male)	2. Head of committee & Governance. (Male)
		3. Major Specialist - Excellence - (F, Sub) – (Male)	3. Major Specialist – Excellence. (Male)
		4. Expert - Development & Corporate Dept. - (F, Sub) – (Male)	4. Expert - Development & Corporate Dept. (Male)
		5. Head of Excellence - (I, Sub) – (Female)	5. Head of Excellence. (Female)
		6. Director of Dept. - (I, Sub) – (Female)	6. Director of Dept. (Female)
11	Mr. Assistant Undersecretary - Expert	1. Senior Manager in Juvenile Welfare Dept. - (F, sub) – (Male)	1. Director of Dept. (Female)
	Social welfare – Federal Government – 700 employees	2. Director of Dept. - (F, sub) – (Female)	2. Director of Dept. (Male)
		3. Director of Dept. - (F, sub) – (Male)	3. Director of Dept. (Male)
		4. Director of Dept. - (F, sub) – (Female)	4. Advisor (Male)
		5. Director of Dept. - (I, sub) – (Male)	5. Director of the Internal Audit and Governance Unit. (Female)
		6. Advisor (I, sub) – (Male)	6. Director of Dept. (Female)
		7. Advisor (F, sub) – (Male)	7. Director of Dept. (Male)
12	Mr. Executive Director & Director of Department	1. head of Legal section. (F, sub) – (Male)	
	Housing Services – Federal Government – 140 employees		
13	Mr. General Manager - Male	1. Customer service employee - (I, sub) – (Male)	
	Land & Property – Local government – 140 employees		
14	Eng. Mr. Director of Department		
	Municipality - Local Government – 800 employees		
15	Mr. Director of Department		
	Security – Local Government – 22,000 employees		
16	Ms. Manager of Department		
	Economic – Local Government – 230 employees		
17	Ms. Director of Department		
	Social Care – Local Government – 42 employees		
18	Dr. Mr. Attorney General - Counsellor		
	Justice – Local Government – 662 employees		
	18 participants	61 participants	9 Focus Groups (65 participants)

Note: Ms. = female; Mr. = Male; Dr. = doctor; Eng. = engineer; I, sub = informal interview with subordinate; F, sub = formal interview with subordinate.

The total research sample consisted of 18 leaders from the top management levels in UAE Government organisations (UAE Federal Government and UAE Local Emirates Governments). Six participants were from the Federal Government; nine from Dubai Government; one from Abu Dhabi Government; one from Sharjah Government; and one from Ajman Government. They comprised one minister, two general managers, five CEOs, one Under-Secretary, one Assistant Direct Manager, one Assistant Secretary-General and seven senior managers. Also, they worked in different fields of the public sector including justice, social development, social care housing services, economic, security, municipality, media, transportation, health care, and information. Their peers and subordinates studied comprised 61 participants who participated in formal and informal interviews – specifically 41 formal interviews and 20 informal interviews.

5.3 Coding stage and code book

The coding process is used to organise, label, and compile the data. Codes help as a method to summarise and synthesise the course of conversations and data collected. The researcher developed codes to link, analyse and interpret the data collected. In *phenomenographical* research, the coding is an integral part of the analysis. The researcher often started the analysis by trying to write down a short sentence defining his initial impression or assessment in general terms. The purpose of coding was clear, namely, trying to find out words or expressions dealing with conceptual skills. Furthermore, the researcher's coding scheme was secured by the fact that the literature generously offers wide-ranging and elaborate sets of general and specific ideas on conceptual skills. So, the prior review of the literature greatly

assisted the researcher with what he wanted to convey with the collected data, which was a wide range of terms and methods relating to leaders' reasoning, obtained through various qualitative research methods such as interviews, observation, documents review, and so on.

The researcher used both open and pre-set codes, beginning with a "start list" of fixed codes stemming from the theoretical framework and prior knowledge of the subject matter. The prepared code list was organised before the interviews began. These codes were increased during interviews based on participants' new accounts and expressions of ideas. Sandelowski (2000) indicated that the researcher can start with a pre-existing coding scheme, continuously modifying the system throughout the analysis, and on occasions it might even be rejected entirely for a new scheme. The process of pre-existing coding is a form of 'template analysis' as described by Miller and Crabtree (1992).

At the outset, the researcher created an initial list of 47 pre-set codes defining what they each meant. This codebook was an essential reference tool in the process of analysing and interpreting the data. During the data collection, new codes emerged. Another set of codes appeared from reading the transcripts and analysing the data. The researcher identified and created 21 emergent codes, which were distinct from the pre-set list of codes.

One way to think about the coding of the data is to look at these codes as a system for organising the data. Furthermore, during the process of creating codes the researcher was asking various questions as he was reading the transcripts; for example, what is this sentence saying? What does it characterise? What is happening here? What kind of evidence does he attempt to provide? What is he/she is trying to deliver to me? This is an example of what?

5.3.1 The results in terms of the codes and their frequency

The numbers representing the sum of the occurrences, as well as this number varies by the level of leaders in conceptual skills adoption. This applies to all of the numbers that are listed in this section.

There were 19 codes evident in the self-regulation area of leadership competence. The most frequent of these codes was ‘building confidence’, which is one of the sub-skills of ‘competence: effective in dealing with the environment’ referred to 57 times within the collected data. The code that was least frequent was ‘trust in his own judgment’, which is a sub-skill of the conceptual skill of ‘formulating intrinsic aspirations, goals and plans’, with seven occurrences only. Other sub-skills – ‘prioritising’ and ‘self-determination’ within the conceptual skill ‘competence: effective in dealing with the environment’ – each received - nine mentions.

In the field of sensemaking competence, among the 18 codes identified in this area, ‘sense giving’ obtained the highest number of mentions, with 51 occurrences. This sub-skill is one of the conceptual skills of ‘making the intractable actionable’. In contrast, ‘reify and reinforce cues and add to the repertoire of retrospective experience’ code obtained the lowest number of mentions with 14 incidences.

In the area of integrative thinking competence, the highest range of evidence was for the code of ‘whole causal picture’, which is a sub-skill of the ‘systems thinking’ conceptual skill and had 42 occurrences. It was followed by ‘elaborate on one's reasons’ as a part of the conceptual skill of ‘having reasons for one’s actions and being able to elaborate discursively upon these reasons’, and had 41 incidences. In comparison, the lowest frequency obtained was for the

‘multiple perspectives on a problem’, which is one of the conceptual skills of ‘creating new concepts and solutions out of opposing ideas and debates’. Similarly, ‘shape and order’, ‘perceive and discrimination’ and ‘multiple perspectives on a problem’ all had just two items of evidence. These sub-skills are part of the ‘knowledgeability; to put things into words’ conceptual skill. Overall, the integrative leadership competence field included 17 identified codes.

Finally, in the area of innovative thinking, within the 19 innovative codes, ‘envisions the path’ was the most frequent with 55 occurrences. This is one of the sub-skills of the ‘organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion’ conceptual skill. The lowest frequency was for ‘have an interest in a wide range of related and divergent fields’ with nine incidences. It constitutes a part of the conceptual skill of ‘divergent thinking characterised by fluency, flexibility, originality, and elaboration’ and was followed by ‘fine-tuning’, and ‘not frightened by challenges’ with 10 mentions for each. This skill is part of the ‘use both sequential and simultaneous modes of exploration and exploitation’ conceptual skill in addition to ‘ego in check’ with nine occurrences, which is an element of the conceptual skill of ‘achieving a balance of analytical, creative, and practical intelligence which, in combination, constitute successful intelligence’.

Table 20 below presents the codebook of pre-set and emergent codes. The codes are each associated with one of the four areas of leadership competence, which are listed in the right-hand column of the table.

Table 21: Pre-set and emergent codes used for the research data

N.	Code/ essence of conception	The four areas	Descriptive category
1	Self-motivation	Self-regulation	Competence: effective in dealing with the environment
2	Self-control		
3	Time management		
4	Self-determination		
5	Prioritising		
6	Building Confidence/social intelligence		
7	Multiple perspectives/flexible		
8	Well-being enhanced by attainment of intrinsic goals		Formulating intrinsic aspirations, goals and plans
9	Trust in his own judgment		
10	Trustworthiness		
11	Goals linkage to the vision		
12	Under-regulation		Leaders' practices follow their values consistently, and they lead with their "hearts and heads"
12	Personal Ethics		
14	Decision making by heart and mind		Leaders demonstrate 'Self-awareness and self-knowledge' (values, cognition, emotions) likely to involve use of conceptual skills
14	Adaptability		
16	Personal empowerment		
17	Knowledge about self-attitudes, values, and abilities		
18	Organise self-thinking and emotion		
19	Mis-regulation		
20	Rational accounts	Sensemaking	Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change
21	Grounded in identity construction of reality		
22	Cognitive biases		
23	Give meaning to experience and make sense of issues		Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness
24	Driven by plausibility		
25	An intersubjective sense of shared meaning		A retrospective activity that involves noticing patterns that are meaningful to us and that are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives
26	Many distinct aspects		
27	Reify and reinforce cues and add to the repertoire of retrospective experience		Structuring the unknown by "placing stimuli into some kind of framework" that enables us "to comprehend, understand, explain, attribute, extrapolate, and predict"
28	Understanding the potential outcomes of imagined realities and alternatives		
29	Make plausible sense retrospectively		Understand how to create order from the overflow of experiences and interactions. Builds on extracted cues that we apprehend from sense and perception
30	Placing stimuli into some kind of framework		
31	Encouraging the clarification of expectations		Making the intractable actionable; acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning
32	Organise overflow of experience		
33	Notice and apply meaningful patterns from lived experience		Integrative leadership
34	Enactive of sensible environments		
35	Understanding the new reality		
36	Meaning construction		
37	Sense-giving		
38	Interconnected variables/Isolate one system from others		
39	Whole causal picture		
40	Causal relationships/merging systems		
41	Art of thinking		
42	Robust choices		
43	Multiple perspectives on a problem		
44	Embrace complexity		
45	Information and whole context		
46	Perceive and discrimination		
47	Central value on learning		Knowledgeability: 'to put things into words'

48	Shape and order		
49	Compare and contrast		
50	Proceeding by reasoning		Adopting discursive consciousness
51	Revise earlier assessments		
52	Reason for action		
53	Flexible purposing. Consider rejecting standardised formats for problem-solving		Having reasons for one's actions and being able to elaborate discursively upon these reasons
54	Elaborate on one's reasons		
55	Not frightened by challenges		
56	Fine-tuning		Use both sequential and simultaneous modes of exploration and exploitation
57	Exploration and exploitation		
58	Balancing search and stability	Innovative leadership	Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)
59	Synchronising incremental and discontinuous improvement		
60	Different way of thinking		Divergent thinking characterised by fluency, flexibility, originality, and elaboration
61	Have an interest in a wide range of related and divergent fields		
62	Healthy criticism and disdain for the status quo		Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion
63	Envisions the path		
64	Stifle creativity		Creating fit between leaders and their environments through processes of adaptation, shaping, and selection
65	Recognises a great idea		
66	Focus far too much on the details		(Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence)
67	Planning for innovation		
68	Anticipating a need		
69	Practical intelligence		
70	Ego in check		

As shown in the above table, the codes represent meaningful conceptual skills that are descriptive categories related to one of the four areas of competence.

5.3.2 Highlight the emergent concepts that have been developed in the earliest descriptive framework

In this qualitative study, the researcher seeks to go beyond surface descriptions in order to know the 'what', 'who' and 'where' of events. Qualitative research approaches constitute a valuable methodological approach in and of themselves. The emergent codes present new concepts of conceptual skills reported by the participants that were not available in a predefined system reported in the literature, and were not included in the initial theoretical framework of the study. Clearly, they could not be ignored and so have been developed in relation to the pre-existing descriptive framework categorised according to the four areas of leadership competence, and contribute to three distinct levels of leaders' adoption of

conceptual skills. Table 21 below demonstrates these emergent descriptive framework elements.

Table 22: Emergent concepts developed in the earliest descriptive framework

1	Pre-empt and forestall risks, to prevent attack with effective decision-making process
2	Run the minds of others
3	Emotional intelligence
4	Goals' linkage to the vision
5	Isolate one system from others
6	Alignment and clarity
7	Aligning thinking
8	Adaptive thinking, reasoning based on pattern
9	Constructing references to the mental systems
10	Think out of the box
11	Adopting lateral and horizontal thinking
12	Anticipating the future/Future shaping
13	Critical thinking
14	Future shaping/Future foresight/Anticipating the future/ Shape the future/ Have a future orientation
15	Have an opinion, present at my entry with teams
16	Take advantage of all existing strengths and people
17	Have self-confidence and trust in their own judgment
18	Positivity thinking
19	Ability to access and verify the source of information
20	Respect the specialisation of other entities
21	Keep away from inter-departmental conflicts

These new skill elements are related to a number of conceptual skills that have been developed in the theoretical framework of this research and bear some similarities to some of the pre-set list of conceptual skills. The lists of emergent concepts and codes are explained in further detail in section 5.8 of this chapter, describing how they can be divided into three sections according to the level of the leaders' adoption of conceptual skills.

5.3.3 Positive and negative significance relating to the execution of conceptual skills in the four areas of leadership competencies

One of the important findings of this research is that, just as there are essential conceptual skills to lead change, there are also misconceptions. A misconception can be defined as a view or concept that is incorrect and based on faulty thinking. Furthermore, erroneous adopting of

conceptual skill may prevent and inhibit desired change, as well as introducing a state of inconsistency that prevents the conceptual skills from being practiced efficiently.

The researcher therefore investigated both positive and negative conceptions and implementation of conceptual skills. Table 22 systematically presents the correct or appropriate formulation of concepts alongside some of their misconceptions, together with each of the thinking skills – either pre-set or emergent – divided into the four areas of leadership competencies. The erroneous adoption of conceptual skills is represented in 24 positions, as well as the positive representation of concepts shown in 26 positions.

Table 23: Erroneous conceptions in leading change – Comparison between the advanced level of adoption of conceptual skills and the lower level

Conceptual skills	Related theories	Subject discipline	Conceptual skills that might be essential	Positive leadership for the conceptual skills	Negative leadership for the conceptual skills (conceptual erroneous)
Self-regulation competence	SDT (Self-determination/ Self-regulation theory)-	Psychology	SREGSDT1	Knowledge and experience in performing specific tasks or roles with an ability for prioritising and building confidence in dealing with the environment.	Does not evaluate their representations, coping responses, and consequences in order to estimate how well their behaviour aligns with their leadership of change.
			SREGSDT2	Formulating intrinsic aspirations, goals and plans which are linked to vision. Trustworthiness and trust in their judgment.	Under-regulation (lacks stable and consistent values, unclear purpose for the change, fails to set priorities, and does not sufficiently regulate their emotions).
	Authentic Leadership theory-	Leadership	SREGAUTH1	Maintaining focus on the positive features of experience in preference to the negative; follow trusted personal ethics.	Incompatibility of personal values with work values; serve their own ends, and control resources and information so that the power does not pass on to others.
			SREGAUTH2	Knowledge about self-attitudes, values, and abilities and use them in self-empowerment.	Mis-regulation (has false expectations about self and others, plus they are unadaptable).
Sensemaking competence	CTT (Cognitive Transformation Theory)	Cognitive Psychology	SENSEMCTT	Give meaning to experience and make sense of issues Consistently have a mental model and a rational account grounded in identity and used in construction of reality.	Build convictions on cognitive biases.
	Sensemaking theory	Business & Management:	SENSEM1	An intersubjective sense of shared meaning with many distinct aspects.	Driven by plausibility that is not based on their plausible accounts.

		(Organisation Behaviour, Strategy); Information Sciences & Communication Studies; (KM)	SENSEM2	- Practicing a retrospective activity that enables them to understand the potential outcomes of imagined realities and alternatives.	- Unable to reify and reinforce cues.
			SENSEM3	- Understanding and analysing the information in its context. - Expression of the unknown, and apply the continuous complexity into a state that is understood explicitly in concepts.	- May work in a hypocritical workplace environment. - Does not try to explain the unknown, while preferring prefabricated models of opinions about the phenomena.
			SENSEM4	- Ability to recognise the nature of the change from experiences, and move between feeling and thought, continuously looking for and giving an indication, and creating and examining reasons.	- Lack of ability to deal with the flexibility required by situations, and unable to cope with cognitive complexity.
			SENSEM5	- Shrewd understanding of the new reality, giving additional input to support and allocate meaning.	- Delivering other people's thoughts and senses and then trying to convince others.
Integrative leadership competence	Integrative leadership	Leadership	INTEG1	- Considering themselves as one of the channels in a more extensive process of the change.	- Silos: thinking of the leader is 'siloed' and there are continuing conflicts between departments. - Interconnected and connected goals do not serve long-term objectives.
			INTEG2	- Receptiveness to opposing views	- Surround themselves with those who support their views.
	Structuration theory-	Structuration theory	INTEGSTRUCT1	- Understanding social order and evolution, political systems, and globalisation. - Structural and system change depends on contradictions.	- Lack of identifying opportunities and limitations in diagnosis of organisational troubles.
			INTEGSTRUCT2	- Adopting self-consciousness that allows them interactively and discursively to be aware of and pay attention to a range of objects and events around the subject.	- Does not revise earlier assessments.
			INTEGSTRUCT3	- The reason rationalises the action. - Flexible purposing. Consider rejecting standardised formats for problem-solving.	- Does not consider rejecting standardised formats for problem-solving.
Innovative leadership competence	Ambidexterity theory-	Business & Management	INNOVAMB1	- Properly adapting, reconfiguring, and combining organisational abilities and resources in order to meet changing environments.	- They believe that innovation only requires the pursuit of new knowledge and ideas, with no interest in the practice and improvement of things already known. And on the contrary, there are some who do not tend towards—or even fear – diversification, risk-taking, variation in experimentation with new knowledge and organisational forms.

			INNOVAMB2	Open to experience and flexible to realising the advantages and disadvantages of the exploration and exploitation.	Lack of balancing search and stability, a tendency to invest in improving existing services but does not invest in researching new possibilities.
	Structure of Intellect (SOI)- Practical intelligence- Successful intelligence	Psychology (Psychometrics)	INNOVSOI1	Adopting a process of generating varied, diverging potential solutions, and differing ideas.	Tends to be more conservative, conventional, and suffering from complexities.
			INNOVSOI2	Healthy criticism and disdain for the status quo.	Stifles creativity. Does not offer healthy criticism; and is satisfied with the status quo.
			INNOVSOI3	Planning for innovation and able to recognise a great idea	Focusing far on the details.
			INNOVSOI4	Able to deliver success based on capitalising on one's strengths and recovering from one's weaknesses.	Somewhat arrogant about keeping ego in check.

These positive and negative elements of conceptual skills were obtained from careful analysis of the data and findings of the study, which were collected from the sample of 123 participants in the research using 12 research tools. Most of the positive skills in this aspect were obtained from the one-to-one interviews, while most of the negative conceptual skills or conceptual errors were obtained from formal and informal follow-up interviews, focus groups and document analysis.

5.4 Descriptive categories stage and coded segments

Once the coding was completed, the researcher linked these codes with the descriptive categories that were developed from the in-depth literature review of conceptual skills used in leadership. This list includes 21 descriptive categories in total for the four areas of leadership competencies under study; with four descriptive categories in the area of self-regulation, six in the sensemaking area, five in the area of integrative thinking, and six in innovative thinking. The descriptive categories of each leadership competence each received different frequencies. This section gives an explanation for this difference in frequency.

The 21 conceptual skills contained in the theoretical framework of this research were considered the descriptive categories and the essence of conceptual skills in the four areas of leadership competencies. Therefore, the sensemaking area is ranked first in the number of recurrences at the level of all participants, with 510 instances, followed by the integrative leadership area with 438 instances. This is followed by the self-regulation leadership competence area containing 372 occurrences, and finally the innovative leadership area with 341 mentions.

5.5 The four areas of leadership competence and main findings

This section presents the findings for the research question which states “How do leaders’ conceptual skills influence: Self-regulation? Sensemaking? Integrative leadership? and Innovative leadership?” The results from the empirical study indicate that public sector leaders’ conceptual skills influence the quality and extent of self-regulation, sensemaking, and integrative leadership and innovative leadership in public sector organisations. The research results suggest that these leaders employ high-level conceptual skills in leading public sector change.

These conceptual skills influence the four leadership competencies. This can be deduced from two findings; frequency of use of skills in the data collected from the research sample, and the effectiveness of adopting these conceptual skills without conceptual errors that reduce the effectiveness of these skills. In their frequency of occurrence and the number represented by the thinking of leaders, some skills have been repeated more frequently than others. Repeated evidence of the exercise of these conceptual skills also indicates the importance of each area of leadership competencies in leading change. The underlying order of these areas according to the frequency and strength of its presence in the sample of the research is as follows: 372

references to self-regulation; 510 references to sensemaking; 438 references to integrative leadership; and 341 references to innovative leadership.

It is clear that the majority of conceptual skills rank in descending order in the four areas as follows: first in sensemaking leadership competence, then in integrative leadership competence, and then in the relative proportions of self-regulation and innovative leadership competencies. Furthermore, the results also clarify that the conceptual skills within these four areas also differ in the strength of their possession, along with their frequency of use and presence in the thoughts and actions of leaders of change. Hence, the conceptual skills have been divided up into those that have high and low frequencies of occurrence.

5.5.1 Conceptual skills within the four areas of leadership competencies

The conceptual skills (descriptive categories) can be divided into groups with more frequent and less frequent codes. The most frequent mention of a conceptual skill was 90 incidences and the least frequently mentioned are those with fewer than 40 proofs.

The results show that, within 21 sets of descriptive categories, the four conceptual skills that were the most frequent in each area of leadership competence were; *“Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning”* in the area of sensemaking. Also, the *‘Systems thinking’* conceptual skill scored the highest frequency in the area of integrative leadership. In the self-regulation competence, the highest frequency was for the skill of *‘Competence: effective in dealing with the environment’*, and the least was *‘Leaders’ practices follow their values consistently, and they lead with their hearts and heads’*. In the area of innovative leadership, the skill of *‘Organising resources, people, and relationships through innovative*

processes of idea generation, idea structuring, and idea promotion’ scored the highest frequency and the lowest frequency was the skill of *‘Divergent thinking characterised by fluency, flexibility, originality, and elaboration’*. Table 23 lists the most and least frequent descriptive categories.

Table 24: Highest and least frequent conceptual skills

Descriptive category	Coded segment	Area of leadership competence
The highest frequent conceptual skills		
Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning	155	Sensemaking
Competence: effective in dealing with the environment	145	Self-regulation
Systems thinking	119	Integrative leadership
Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change	111	Sensemaking
Knowledgeability	103	Integrative leadership
Descriptive category		
The least frequent conceptual skills		
Divergent thinking characterised by fluency, flexibility, originality, and elaboration	39	Innovative leadership
Processes of adaptation, shaping, and selection	44	Innovative leadership
Deal with organisational ambidexterity (SSSC)	46	Innovative leadership
Creating new concepts and solutions out of opposing ideas and debates	47	Integrative leadership
Structuring the unknown by ‘placing stimuli into some kind of framework’ that enables us ‘to comprehend, understand, explain, attribute, extrapolate, and predict’	55	Sensemaking
Use both sequential and simultaneous modes of exploration and exploitation	58	Innovative leadership

The following are the four areas of leadership competencies and the variations in the emergence of conceptual skills and the sub-conceptual skills (codes/essence of conceptions) starting with the most critical area of these four competencies which is sensemaking, then in order of significance according to their frequency,,: integrative leadership, self-regulation, and innovative leadership.

5.5.2 Sensemaking leadership competence findings

The largest of these areas where the coded segments were recorded was the area of sensemaking competence, the dimension repeated in total more than 394 times, and the conceptual skills within this leadership competence have recorded significant recurrences as follows.

These frequencies are the highest among all of the areas of leadership competence. However, the conceptual skills within this area were unevenly coded, the most significant recording was the skill of 'Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning'. This was followed by the skills of 'Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change'. These two conceptual skills obtained a number of codes that are represented in Table 24.

Table 25: Coded segment of conceptual skills within the sensemaking leadership competence and its essence of conceptions

Descriptive category The highest frequent Conceptual skills in the sensemaking leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning	155	Sense-giving (51 times); Understanding the new reality (39 times); Meaning construction (33 times); Enactive of sensible environments (32 times).
Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change	111	Give meaning to experience and make sense of issues (43); Grounded in identity construction of reality (34); Rational accounts (29); Cognitive biases (5);
Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness	67	An intersubjective sense of shared meaning (29); Many distinct aspects (19); Driven by plausibility (19).
The least frequent conceptual skills in the sensemaking leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Understand how to create order from the overflow of experiences and interactions. Builds on extracted cues that we apprehend from sense and perception	62	Notice and apply meaningful patterns from lived experience (33); Organise overflow of experience (29).

A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives	60	Understanding the potential outcomes of imagined realities and alternatives (26); Make plausible sense retrospectively (20); Reify and reinforce cues and add to the repertoire of retrospective experience (14).
Structuring the unknown by 'placing stimuli into some kind of framework' that enables us 'to comprehend, understand, explain, attribute, extrapolate, and predict'	55	Placing stimuli into some kind of framework (33); Encouraging the clarification of expectations (22).
Total	510	

The second group of conceptual competence in frequency level is the group of three skills listed in the previous table.

Order and number of occurrences of 'codes/essence of conceptions' in sensemaking codes segment

The results indicate that 'sense-giving' obtained the largest frequency although at a similar rate to 'Give meaning to experience and make sense of issues', 'Understanding the new reality', 'Meaning construction', and 'Grounded in identity construction of reality'. In contrast, the least frequent of all these sub-skills were 'Reify and reinforce cues and add to the repertoire of retrospective experience', 'Many distinct aspects', 'Driven by plausibility', and 'Cognitive biases'.

Table 26: Sub-skills of sensemaking conceptual skills and the number of repetitions of their occurrence

Coded segment	Code/essence of conception
51	Sense-giving
43	Give meaning to experience and make sense of issues
39	Understanding the new reality
34	Grounded in identity construction of reality
33	Meaning construction
33	Placing stimuli into some kind of framework
33	Notice and apply meaningful patterns from lived experience
32	Enactive of sensible environments
29	An intersubjective sense of shared meaning

29	Rational accounts
29	Organise overflow of experience
26	Understanding the potential outcomes of imagined realities and alternatives
22	Encouraging the clarification of expectations
20	Make plausible sense retrospectively
19	Many distinct aspects
19	Driven by plausibility
14	Reify and reinforce cues and add to the repertoire of retrospective experience
5	Cognitive biases

Discussion of the sensemaking findings

The results showed that ‘sensemaking’ is the most important of the leader's conceptual skills. Within this skill, the skill of ‘Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning’ is the most salient and most frequently mentioned in the study with 155 references. In comparison, the skill of ‘Sense-giving’ is the most important within the skill of ‘Making the intractable actionable’. This sub-skill was explained by participants in more than one way, as one of them said: *“Use the language of inspiration to inform everyone about all aspects of the change process, take into account everything that would make the communication successful”*. Another said, *“Writing a report and presenting it to the Minister is in itself a way of thinking because she expands your perceptions and gives you broader dimensions of thought”*. Also, one of the leader’s subordinates described her sense-giving ability saying *“She has an ability to convey and transfer these meanings, due to her great external practice, which gives her great ideas”*. He added *“The clarity of her ideas, ambition, and goals has a clear reflection on the team success”*. Interestingly, one of the more effective leaders acknowledges that, *“Regardless of the values the leader possesses, the skill of persuasion and the ability to give sense to others are what makes the difference”*.

‘Understanding the new reality’ is one of the abilities of leaders who possess the conceptual skills for ‘Making the intractable actionable’. Participants explained it thus: *“The most important attribute of the leader is to hear from all and take the decision; that is the new reality of leadership”*. Another leader said, *“The integrative vision of the subject before making the decision ... That is what gives a result at this time”*. Also, the ability of ‘meaning construction’ is significant when ‘Making the intractable actionable’, as one of the leaders explained, *“Previously we relied on information contained in the books being taken and set statistical forecasts for how the future could be ... Recently, our staff need more intellectual convictions than intellectual skills. I have advised others that if faced with rejection it has to calm down a period”*. It is more than just understanding the new idea; however, one participant explained: *“In such studies, it is essential to learn and examine many elements in global practice and the reality of our domestic work, not just knowing the idea applied and how successful it is”*.

The second set of conceptual skills within sensemaking is the area that Maitlis (2014) indicated, and is defined in this study as a category referring to, ‘Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change’; the essence of conceptions of this conceptual skill revolved around ‘Give meaning to experience and make sense of issues’; ‘Grounded in identity construction of reality’; and to build ‘Rational accounts’. One of the participants said, *“Young citizens were polarised through the process of gradual substitution of foreigners”*, and he summed up his experience with the process of the Emiratisation programme (replacement of expatriate employees with national employees). *“Why do we not partner with other government agencies, as long as we do not take customers from any other party?”* Another leader was considering the practices in providing government services. Also, in the field of mental models, the researcher found that

leaders differ widely in their mental models. This difference is based on convictions gained from diverse experiences, and these leaders' mental models may be highly influenced by systems of the dominant government entities systems they run. One of the participants inferred that the culture of the leader might become the culture of the organisation he runs: *"The culture of the leader, his concepts and his thinking becomes, after a while, the culture and concept of the organisation"*.

Their mental models are 'Grounded in identity construction of reality', participants explained. One of them said, *"In socialist thinking, the government is building houses for citizens not according to their needs, but according to the government's concept"*. Another participant discussed how government employees always need support from the leadership because they cannot manage a whole project; or they are not allowed to do so. He said, *"So you will not find an employee running the project from the ground up in the government sector, and this is the opposite of the private sector"*, or because the reality is that, as one leader said, *"People do not read the process that exists on paper"*, referring to the fact that employees are not interested in operations in the public sector. Most of the participants therefore demanded that there should be 'Rational accounts' both for and articulated by the leader; one participant said *"We are living in a time of constant change, you must change, just to ask what is the method of change"*. She added *"Remaining in the race of excellence is more important than winning the prize ... Setting time deadlines is one of the effective strategies ... What works best is to have a mental model"*.

5.5.3 Integrative leadership competence findings

In second place, the area of integrative thinking area also scored comparatively high frequencies. With a total of 438 occurrences for the competencies, the top coded frequency

segment was the skill of ‘Systems thinking’, followed by ‘Knowledgeability: ‘to put things into words’, and ‘Having reasons for one’s actions and being able to elaborate discursively upon these reasons. These three conceptual skills accounted for a larger number of codes than the others. These are listed first in the following table and then the rest of the conceptual skills in the area of integrative thinking competence are set out. The details of these conceptual skills are as follows.

Table 27: Coded segment of conceptual skills within the integrative leadership competence and its essence of conceptions

Descriptive category The highest frequent Conceptual skills in the integrative leadership area	Coded segment	Code/Essence of conception of the skill and coded segments
Systems thinking	119	Whole causal picture (42); Causal relationships/merging systems (32); Interconnected Variables/ Isolate one system from others (30); Art of thinking (12).
Knowledgeability: ‘to put things into words’	103	Central value on learning (41); Information and whole context (28); Perceive and discrimination (24); Shape and order (10).
Having reasons for one’s actions and being able to elaborate discursively upon these reasons	95	Elaborate on one's reasons (41); Reason for action (31); Flexible purposing. Consider rejecting standardised formats for problem-solving (23).
Adopting discursive consciousness	74	Proceeding by reasoning (34); Compare and contrast (26); Revise earlier assessments (19).
The least frequent conceptual skills in the integrative leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Creating new concepts and solutions out of opposing ideas and debates	47	Embrace complexity (20); Robust choices (19); Multiple perspectives on a problem (7).
Total	438	

Order and number of occurrences of ‘codes of essence of conceptions’ in the integrative leadership codes segment

The ‘Whole causal picture’ obtained the highest frequency although in a similar amount to ‘Elaborate on one's reasons’, and ‘Causal relationships/merging systems’. The lowest frequency for this group of sub-skills was ‘Multiple perspectives on a problem’.

Table 28: Sub-skills of integrative leadership conceptual skills and the number of repetitions of evidence

Coded segment	Code/essence of conception
42	Whole causal picture
41	Elaborate on one's reasons
41	Central value on learning
34	Proceeding by reasoning
32	Causal relationships/ merging systems
31	Reason for action
30	Interconnected variables/Isolate one system from others
28	Information and whole context
26	Compare and contrast
24	Perceive and discrimination
23	Flexible purposing. Consider rejecting standardised formats for problem-solving
20	Embrace complexity
19	Revise earlier assessments
19	Robust choices
12	Art of thinking
10	Shape and order
7	Multiple perspectives on a problem

Discussion of the integrative leadership findings

Within the integrative leadership competence, there are five conceptual skills. The most important of them is the ‘systems thinking’ skill. This skill was repeated 119 times during the process of data collection. The highest capacity of the conceptual skill of systems thinking was the capacity to relate to the ‘Whole causal picture’, ‘Causal relationships/Merging systems’, and ‘Interconnected variables/Isolate one system from others’. The interviews showed that the ‘Whole causal picture’ can be defined, as one Minister said, ‘*Systems thinking is to consider the organisation as a comprehensive view without exception any part thereof*’, and further reflected that, “*The Ministers may decide to reduce the procedures of the process of any government service, based on data available in other entities ... each part of government affects others*”. One CEO said, “*Align with who contribute to my output ... Leaders need to know that networking of mental relationships comes before the reality*”.

networking”. Another general manager added, “*Knowing the scope of information is the first to change, I am dealing with 11 information dashboards for Dubai activities*”.

‘Causal relationships/Merging systems’ is in the same overall public sector context, as a participant said, “*To solve problems dig into the systems*”, or as other one said “*Unfortunately, there is lack of shared goal between Government entities ... We need cooperation not competition ... We need cooperation between government entities*”. In totality, this skill can be described as “*Systems thinking is considering carefully and from all angles to the organisation’ resources,*” as one CEO said.

Furthermore, the ability of ‘Interconnected variables and isolate one system from others’ is not far from this description of conceptual skill. One of the leaders described systems thinking by saying “*Systems thinking is achieving the goals with a mindset that is not lost on all work with the vision and mission of the organisation*”. She added, “*There was a capacity to link the vision of the government, the functions of the Ministry, and the goals of departments, and this is what distinguishes the way of thinking of the Minister*”.

5.5.4 Self-regulation competence findings

The third category was descriptive of self-regulation which obtained a frequency of 267 incidences in total and the following table presents the coded segments for each conceptual skill.

Table 29: Coded segment of conceptual skills within the self-regulation leadership competence and its essence of conceptions

Descriptive category The highest frequency for conceptual skills in the self-regulation leadership area	Coded segment	Code/ Essence of conception of the skill and coded segments
Competence: effective in dealing with the environment	145	Building Confidence (57); Multiple perspectives/ flexible (27); Prioritising (15); Self-control (13);

		self-motivation (11); Time management (12); Self-determination (10).
Leaders demonstrate ‘Self-awareness and self-knowledge’ (values, cognition, emotions) likely to involve use of conceptual skills	95	Knowledge about self-attitudes, values, and abilities (34); Organise self-thinking and emotion (24); Adoptability (17); Personal empowerment (16).
Formulating intrinsic aspirations, goals and plans	72	Trustworthiness (42); Well-being enhanced by attainment of intrinsic goals (14); Goal linkage to the vision (9); Trust in his own judgment (7).
The least frequent conceptual skills in the self-regulation leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Leaders’ practices follow their values consistently, and they lead with their “hearts and heads”	60	Personal Ethics (35); Decision making by heart and mind (25).
Total	372	

Order and number of occurrences of ‘codes of essence of conceptions’ in self-regulation codes segment

‘Building Confidence’ gained the largest frequency and in a similar rate to ‘Trustworthiness’, and ‘Personal Ethics’, while the least frequent among these sub-skills were ‘self-motivation’, ‘Prioritising’, ‘Time management’, and ‘Trust in his own judgment’.

Table 30: Sub-skills of self-regulation competence and the number of occurrences of evidence

Coded segment	Code/essence of conception
57	Building confidence
42	Trustworthiness
35	Personal Ethics
34	Knowledge about self-attitudes, values, and abilities
27	Multiple perspectives/ flexible
25	Decision making by heart and mind
24	Organise self-thinking and emotion
17	Adoptability
16	Personal empowerment
15	Prioritising
14	Well-being enhanced by attainment of intrinsic goals
13	Self-control
13	Self-control
12	Time management
11	Self-motivation
10	Self-determination
9	Goals linkage to the vision
7	Trust in his own judgment

Discussion of self-regulation findings

In the field of self-regulation competence, ‘Competence: effective in dealing with the environment’ came first regarding the number of occurrences with 145 incidences. This skill consists of several abilities; most notable is the ability of ‘building confidence’. For instance, one of the participant’s subordinates said that his manager builds trust in his team: *“She knows how to reward the employees for their achievements, and she did not hesitate to give thanks to those achievers or hard workers ... She does not distinguish between the positions of employees and their grades. Sometimes she may take the opinion of a new employee who has an opposite view of the undersecretary of the Ministry. When there is a delegation headed by her, you feel that you are going out with a team, loving and composed, and never feels like a minister with subordinates”*. Also, one another employee described his boss as concerned and thinking about team confidence by saying *“I noticed when there was a lot of pressure on him, and a mistake is made he does not blame anyone for this error, but looks for solutions”*.

Also, ‘Multiple perspectives/Flexible’ occurred repeatedly in the data. This skill is about how to have a flexible mindset with a broad range of choices. One leader said: *“I do not say I am strong in training courses, but I have a lot of knowledge and could share it with them in a way that suits them”*; and another said, *“The nature of the situation governs the way the leader behaves”*, *“Savvy in dealing with employees, dealing by the minds of employees”*, and *“He is willing to be convinced of the opinions of others in the discussion”*.

‘Leaders demonstrate ‘Self-awareness and self-knowledge’ (values, cognition, emotions) likely to involve the use of conceptual skills’, was one of the conceptual skills mentioned by many leaders. For example, one of the participants said, *“I’m a believer in self-development and cognitive development”*. Another leader said, *“Expert Sayed: “You have nothing but*

thinking”, he added, *“My role as a manager is to bear the mistakes, experiences, and failures of my staff, otherwise how will I become innovative and how will I come up with innovative ideas”*, in reference to the importance of having a mentality about ‘Knowledge about self-attitudes, values, and abilities’. One of the participants confirmed that he continually quotes one of the authors: *“I invoke this quote constantly: “You have to know who you are and stay synchronised with your identity all the time”*. In the same context, Daskal (2017) verifies that the leader cannot be a perfect leader without also recognising and working with the polarities within his own sense of identity and individual style of leadership.

One of the conceptual skills that fall under this skill, that should be present in an effective leader, is to be ‘adoptable’. This refers to a capacity to adopt more options when dealing with a situation; *“Convince your manager that you are experienced or otherwise the alignment with the management style is better for you”*, one leader said. It is the ability to adopt a flexible mindset in different situations, as a leader explained, *“Time is precious, so do not procrastinate nor be perfect”*. Furthermore, it is the ability to adopt the views of others if they are true and when they are appropriate: *“Consulting people means sharing their minds”*, one of them said.

These leaders have another concept, also revealed multiple times, which is ‘trustworthiness’. One of them said, *“What makes me trust in myself is that I dream about something and make it real. Pursuing my belief, caring about our work gives us a passion for doing it well”*. One employee recognised that about his boss: *“Her goal when she received the job was to learn about the best of her staff experiences and ideas through long meetings; these meetings offered a way to everyone to give his opinion”*.

The results showed that conceptual skills in self-regulation competence are essential when leading change, but conceptual errors in this area will prevent the benefits of these skills from being reaped. Under-regulation happens when a leader lacks clear, stable and consistent values. One participant described his peers by saying, “*We suffer in the government sector from those managers who lack stable, consistent values, and clear purpose of change*”.

Baumeister and Heatherton (1996) discussed how there is under-regulation and mis-regulation. Often under-regulation first happens when leaders fail to monitor their actions, or lack the strength to dominate the replies and responses they wish to control. Meanwhile mis-regulation occurs due to false expectations about self and the world, and when leaders are trying to control things that are uncontrolled. Mis-regulation in these cases occurs because they give priority to emotions and neglect significant problems.

5.5.5 Innovative leadership competence findings

Finally, the leadership competence of innovation achieved the least number of incidences, with a total of 341 occurrences of all conceptual skills falling under this competence.

According to the descriptive categories, ‘Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion’, have been stated and restated more so than associations to other descriptive categories (i.e. ‘think out of the box’; ‘horizontal thinking’). Further, two more descriptive categories emerged, which are ‘future shaping’ and ‘emotional intelligence’.

These data emphasise the importance of these categories in the use of conceptual skills (the principal research phenomenon) compared to others. In the same context, the results of the emergence of conceptual skills in the competence of innovative leadership are as follows.

Table 31: Coded segment of conceptual skills within the innovative leadership competence and its essence of conceptions

Descriptive category The highest frequent conceptual skills in the innovative leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion	90	Envisions the path (55); Healthy criticism and disdain for the status quo (35); Stifle creativity (17).
Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence	65	Anticipating a need (28); Ego in check (23); practical intelligence (16).
Use both sequential and simultaneous modes of exploration and exploitation	58	Exploration and exploitation (38); Not frightened by challenges (10); Fine-tuning (10).
The least frequent conceptual skills in the self-regulation leadership area	Coded segment	Code/essence of conception of the skill and coded segments
Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)	46	Synchronising incremental and discontinuous improvement (33); Balancing search and stability (13).
Creating fit between leaders and their environments through processes of adaptation, shaping, and selection	44	Focus far too much on the details (26); Recognises a great idea (26); Planning for innovation (18).
Divergent thinking characterised by fluency, flexibility, originality, and elaboration	39	Different way of thinking (18); Flexibility of thinking in an investigation of creative thinking (11); Have an interest in a wide range of related and divergent fields (9).
Total	341	

Order and number of occurrences of “codes of essence of conceptions” in Innovative leadership competence

The number of sub-skills (skills that represent and constitute each conceptual skill) differed among these conceptual skills for innovative leadership competence as shown in the following table. These codes are sorted from highest frequency to lowest frequency, with the results indicating that ‘Envisions the path’ helps to consolidate conceptions of conceptual skills, and clarify the sparse meanings of these skills by providing such reasoning skills those are articulated in the model of conceptual skills.

‘Exploration and exploitation’, ‘Healthy criticism and disdain for the status quo’, ‘Synchronising incremental and discontinuous improvement’, and ‘Avoid focusing far too much on the details’. The least frequently occurring among all the sub-skills were ‘Not

frightened by challenges’, ‘Have an interest in a wide range of related and divergent fields’, and ‘Fine-tuning’.

Table 32: Sub-skills of innovative leadership conceptual skills and the number of occurrences of evidence

Coded segment	Code/ Essence of conception
55	Envisions the path
35	Healthy criticism and disdain for the status quo
38	Exploration and exploitation
33	Synchronising incremental and discontinuous improvement
28	Anticipating a need
26	Avoid focusing far too much on the details
26	Recognises a great idea
23	Ego in check
18	Different way of thinking
18	Planning for innovation
17	Encourage (not stifle) creativity
16	Practical intelligence
13	Balancing search and stability
11	"Flexibility of thinking" in an investigation of creative thinking
10	Fine-tuning
10	Not frightened by challenges
9	Have an interest in a wide range of related and divergent fields

Discussion of innovative leadership findings

In this group of conceptual skills, the researcher found that despite the importance of ‘Envisions the path’, most leaders in this sample did not focus on the skill of ‘Encourage (not stifle) creativity’ as a way of thinking and method of reflection to ascertain what disrupts innovation or kills the spirit of innovation in the work environment. Possibly, it is most important for leaders to ensure that they maintain a ‘Healthy criticism and disdain for the status quo’, which is one of the most significant conceptual skills categorised under ‘Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion’. However, ‘Creating fit between leaders and their environments through processes of adaptation, shaping, and selection’ as a conceptual skill was strongly advocated as present in the mind of leaders, particularly the skill of ‘Detail

focus'. Most emphasised that there is a need to avoid focusing far too much on the details. It could though be interpreted that government work may be doomed to focus on details, as one participant said: "*We are constantly familiarised with the various knowledge streams associated with the Ministry's work*". It was evident that some sub-skills of this competence are stated and restated within data collection, (e.g., 'Recognises a great idea' and 'Planning for innovation').

As can be seen from these results, conceptual skills in innovative leadership competence concerning leaders in the public sector are considered to be of variable success in their descriptions of leading change. Although this group of public leaders recognises that conceptual skills in integrative leadership play a vital role in leading change, they have only some of the conceptual skills important for innovative leadership and are weak in others. As one of the research participants explained, he concentrates on processes for maintaining flexibility in the negotiation and acceptance of new ideas, and advocated abandoning the more traditional methods of leadership: "*Government leaders lack the flexibility to accept the new and speed up the exploitation of opportunities and the need to abandon the traditional methods of leadership*". He added, "*We are lacking in negotiation skills and marketing ideas, especially in government services*".

The lack of flexibility may be due to low propensity for risk taking combined with a fear of negative outcomes. However, intelligent and successful leaders are known to take risks as a way to succeed. Even so, the most innovative leaders do not ignore risks – rather they manage them (Gerham-Leviss, 2016). The data collected on UAE public sector leaders confirmed that innovative leaders foresee what may go wrong, but do not become boxed in to a rigid way of thinking or behaving. Curiosity, seizing opportunities, and striking a balance between

exploration and exploitation are some of the conceptual skills valued and emphasised by the more innovative leaders in this study. This research found that the best leaders of change practice the conceptual skills of self-confident, curious and independent thinking, supporting the assertion of Gerham-Leviss (2016).

The lack of flexibility of some leaders can lead to a lack of thought and reflection across a wide range of related and divergent fields. This was demonstrated by the results of the study, where the skill of 'Have an interest in a wide range of related and divergent' was least in evidence, being referred to only nine times in this study.

Conceptual skills within innovative thinking includes 'Envisions the path', which was referred to more than 55 times. This skill supports the ability to orchestrate resources, people and relationships through innovative processes of idea generation, idea structuring, and idea promotion. One of the research participants stated that, *"My role as leader lies in obtaining talented people, because talent narrows down the way the organisation collects, evaluates, and applies ideas"*. Most of the research participants indicated that public sector leaders should synchronise incremental and discontinuous change and improvement. One director manager said that *"The ability to meditate where the original and contextual knowledge is a constant knowledge and always need to continue according to the tracking follow-up processes and field visits. Fortunately, the Government started a process of radical change, and this was a general trend."*

Discussion of Ambidexterity Theory

In the literature review, high-level approaches to attaining ambidexterity were discussed.

'Sequential ambidexterity' (Tushman and O'Reilly, 1996) refers to organisational changes

from one leading strategy to another, frequently in response to a shift in market situation. The second type is ‘structural ambidexterity’ (O’Reilly and Tushman, 2004) where aspects of exploration and exploitation aspects are organised and run distinctly. Finally, ‘contextual ambidexterity’ (Gibson and Birkinshaw, 2004) is defined as a behavioural response including both predefined and adaptable goals based on the leader’s judgment at the time and according to the requirements of the situation.

In this study, however, the researcher did not identify the skills to cope with change in sequential and simultaneous modes, since most of the innovative processes discussed with participants referred to structural and contextual ambidexterity types. This was confirmed by the eight focus groups, where the approach to dealing with change was described as follows:

We have a strategic planning department, which usually adopts the process of analysing the problem and aggregating its main causes, and then we address the most important 20% of the problems that necessarily affect 80% of the other problems at work. Also, our business in the organisation is based on the Deming Circle "Plan, do, check, and act", what is currently being restructured is due to real problems in the old structure.

Therefore, most of the change processes in government entities are the result of the concept that exploration and exploitation are generated from the problems and obstacles that hinder work goals and tasks, and are considered to be separate practices usually implemented separately and in individual mode.

Discussion of Structure of Intellect (SOI), practical intelligence and successful intelligence

Guilford’s Structure of Intellect (SI) theory addresses intelligence in operations, content and products. Guilford (1967) also emphasised the difference between convergent and divergent thinking. Guilford presented his developed model of Divergent Thinking as a core component

of creativity. Guilford's Divergent Thinking Model consists of four characteristics for creativity – fluency, flexibility, originality, and elaboration. Application of the formal test to all of the participants and some of their peers indicates that the majority of public sector leaders in the research sample lack some of the innovative characteristics. The formal test required the leaders to draw forms within two minutes using the circles; that is, the circle is essentially or part of the prescribed form. The results of participants can be analysed, for example, as follows; some of the participants were able to draw many shapes in two minutes, using many interconnections between the circles, as they drew glasses in two circles and a car in another two. However, the ability to produce as many ideas as possible (Guilford calls this “fluency”) and the speed or ease of generating ideas was not clear. Also, some circles have drawn with a grid connecting them with straight lines, as a attempt to be flexible, but the ability to simultaneously offer a diversity of approaches and mobility from one field to a certain problem (where it qualifies as “flexibility”), and to stay away from conventional and fashionable ideas was not clear from the drawings. The participants produced between one and three unique drawings (originality), where, for example, they drew a face with its details, a coin with two sides, and so on.

One of the participants demonstrated excellent attention to detail and was able to complete the shape that he drew, organising the details of the circle in a head and composing it proficiently (Guilford calls this “elaboration”). Creativity involves the capability to move flexibly from side to side and from idea to idea (flexibility). He produced many ideas within the time allowed (fluency), although they were not especially unique or authentic ideas (originality).

Another leader was not able to complete all of the circuits promptly, so that the ability to produce as many ideas as possible and the speed or ease of generating ideas was not apparent

(fluency). However, this participant did paint 10 different forms - one that had high (flexibility) in mobility from one field to another - and was also able to keep away from common and fashionable ideas. This leader has an original mindset and produced authentic ideas that were not repeated or equalled by the other participants (originality). In addition, this leader demonstrated an interest in details; an ability to make additions and increase and provide more details; for example, drawing a clock with full minutes on it, representing the sun with its total set of rays and painting the details of a flower (elaboration).

In summary, these results show that almost everyone in this sample of public sector leaders could come up with many ideas and had the ability to diversify, but they lacked unique ideas and the ability to elaborate on the concept moving forward. However, the results of these pencil-and-paper tests do not apply to the *Advanced* level of leaders, who showed that they are adept at formulating unique ideas and are able to refine and move ideas on to the final stages of detail.

5.6 Overview of the research results

Analysis of the results of the empirical research for this thesis show that conceptual skills in managing change in the public sector are of great importance. Where there is successful change and effective leadership, conceptual skills are held and exercised by the leader. In particular, the successes of quality programmes, strategic planning, and all government development programmes are the result of the leader's thinking skills and conceptual approaches to leadership activities. The results confirm that the effectiveness of change leaders is directly related to their acquisition, ownership and exercise of conceptual skills; moreover leaders' use of conceptual skills has varying degrees of effectiveness.

The selection of individual leaders in this research sample was based on the assumption that all participants of the sample would possess a range of these conceptual skills, but would exhibit them to varying degrees of familiarity and proficiency. The first level defines the importance of the formation of concepts and possesses all its aspects and dimensions, and this group of leaders practiced conceptual thinking and applied it consistently and efficiently in leading change. At the second level, this group of leaders possesses these conceptual skills but their practice and achievement does not reach the *Expert* level of the first group. In the third level, some conceptual skills seem to be absent from some of this group of leaders' repertoires of thinking and action, or they are incomplete in some aspects. This does not mean that conceptual skills are not used at this level, but they are less likely to be exercised clearly or effectively when leading change.

The study clearly shows that the four areas of conceptual skills – namely self-regulation, sensemaking, integrative leadership, and innovation leadership – are all important and required areas in leading change. These four areas of conceptual skills are acknowledged by the sample of public sector leaders as areas of responsibility and accountability. However, some areas of leadership competence are more significant than others. Repeated mention and discussion by participants during the data-collection stage suggests that sensemaking and integrative thinking are the most critical and effective competencies in building the leader's attitudes and conceptual skills. The second most important, according to the data analysis, are self-regulation and innovative leadership.

5.6.1 Participants' differentiation toward employment of conceptual skills

A number of academic studies posit that conceptual skills and competencies are paramount in leadership. However, the findings of this research distinguish leaders by different levels of

understanding and practicing conceptual skills. Hence, this cognitive, attitudinal and behavioural differentiation determines the role and contribution of the enactment of these skills when leading change. The findings show that change leaders can be grouped into three levels according to conceptual skills uniqueness and their role played in leading change.

During data analysis, the researcher searched for patterns in terms of practices or experiences, examining how the use of conceptual skills varies across events and results for leadership and organisational change initiatives. The findings show that leading change in the government sector requires seeing conceptual skills as a priority policy area. Leaders differ in their adoption, understanding, and application of conceptual skills from one level of leadership to the other. At the top level, leaders apply a wide range of these skills, and this research has identified the contents of this set of conceptual skills in four areas of leadership competence. In reference to the literature review, these skills have been repeatedly referred to by researchers; and the contribution of this empirical study is that it builds a model for adopting these skills in leading change. This model states that the highest level of leading change in the government sector requires a set of conceptual skills that are essential to achieving the desired change, then the middle level has a lower set of conceptual skills, and progressively fewer still at the third level. It is important to note that the highest level of leaders make fewer conceptual errors that hinder the influence of their conceptual skills in leading change. For instance, the top-level change leaders are adopting mental models, sensemaking processes that give meaning to experience, and making sense of issues when leading change, while leaders who are at the lower level in adopting these skills build convictions on cognitive biases, and are driven by ideas of plausibility that are not the conceptually most plausible of accounts of organisational change. When these conceptual errors are further increased, they reduce the

level of impact of these skills and competencies on the success of the change initiatives.

Figure 12 below briefly illustrates these three levels of leadership competence.

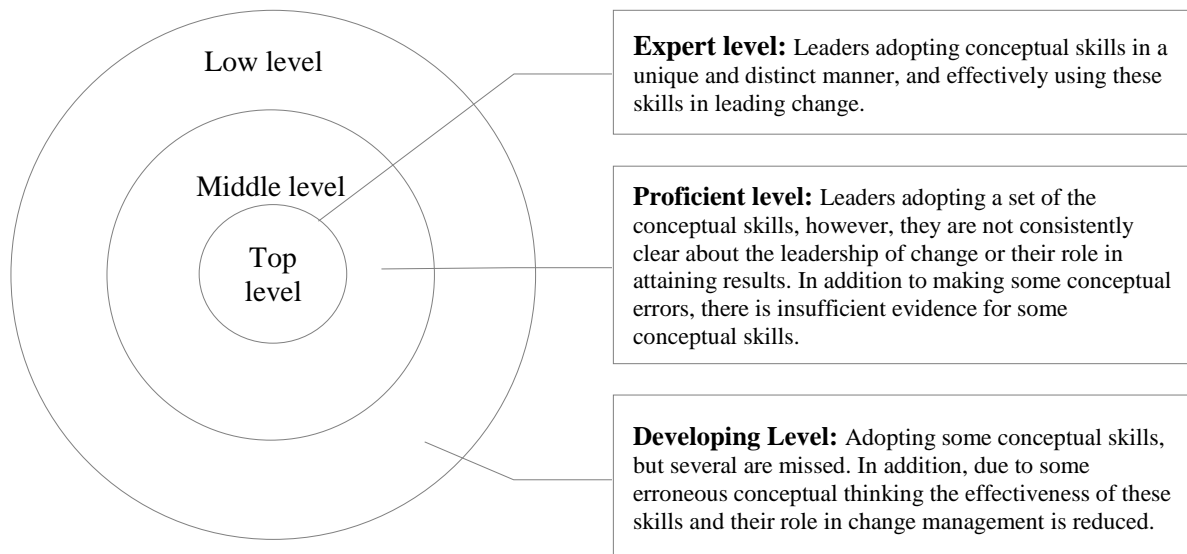


Figure 12: Levels of adopting conceptual skills

The *Expert* Level is extraordinary capable leadership based on extensive knowledge and performance in conceptual skills. The leaders at this level continue to deepen their understanding of conceptual challenges to optimise performance in the leadership of change.

The *Expert* group stands out for representing a sophisticated set of conceptual skills, knowledge, understanding and experience of the fundamental role of conceptual skills in leading change. When adopting and implementing conceptual skills their effectiveness in leading change is influenced – like all other leadership levels – by many complex factors. Their application of conceptual skills in similar contexts appears to achieve almost identical performance. This is the highest level of all participants in the research sample and included three leaders.

Next, the *Proficient* level represents a forward move towards understanding the role and contribution of conceptual skills. They are expert in relationships with people and hold core

business skills. The *Proficient* group of leaders is characterised by the fact that they are using conceptual skills, however, in some of these aspects they are not sufficiently clear about the leadership of change or their direct role in attaining outstanding achievements. Seven participants are included in this level. A limitation of this category is that some of the conceptual skills were not backed by sufficient evidence possibly arising from the need for other methods and research tools not used in this empirical study.

Finally, there is the *Developing* level of leaders who are good at and practiced in using conceptual skills; however, they make some conceptual errors when building ideas and perspectives on organisational change. Often, these individuals have the ability to use their conceptual skills so that tasks can be performed successfully. The direction of their attention and level of concentration requires improvement for them to employ these skills as intended. While the *Developing* group's use of conceptual skills has been monitored, talked about and demonstrated in one way and another, some of the leaders at this level are adopting conceptual skills in three areas but these skills are not apparent in the fourth field, and so on. This group does not appear representative of how *Expert* and *Proficient* change leaders perform and use their conceptual skills. In some areas, the *Developing* group leaders are committing erroneous actions based on a lack of some conceptual skills; this is a fundamental impediment to realising a more meaningful leadership of change. Eight participants were categorised as typical of this level of development.

While the *Expert* level are understanding and practicing their conceptual skills differently, The *Proficient* level shares many similar skills with the *Developing* leaders, but the *Proficient* level also practice some of their conceptual skills in qualitatively different ways than the *Expert* and *Developing* groups do.

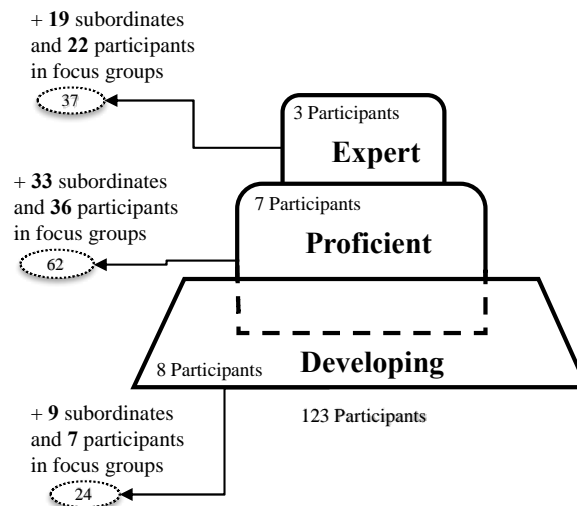


Figure 13: Three levels of adopting leader's conceptual skills

5.7 Levels of mastery of conceptual skills in government sector leaders

The following table explains in detail the reality of conceptual skills in the three levels of leaders in the government sector. These conceptual skills are distributed across the four areas of leadership competence.

Table 33: Conceptual skills' adoption in the four areas of leadership competencies

Level of mastery of conceptual skills	Expert	Proficient	Developing
Self-regulation	<ul style="list-style-type: none"> Competence: effective in dealing with the environment. Also, are self-motivated, exert self-censorship, and have knowledge and experience in performing specific tasks or roles. They are experienced in prioritising, using multiple perspectives, which keeps them flexible. Often building confidence in dealing with the environment. Formulating intrinsic aspirations, goals, and plans which are linked to vision. Also, they are characterised by high trustworthiness for many reasons including the fact that they trust in their own judgment. Maintaining focus on the positive features of experience in preference to the negative, as well as, they follow trusted 	<ul style="list-style-type: none"> Competence: effective in dealing with the environment, also, they are self-motivated, and building confidence in the environment they are working through. However, a lack of prioritising. Formulating intrinsic aspirations, goals, and plans, also, well-being enhanced by attainment of intrinsic goals which is linked to the vision. They are capable of trustworthiness; however, they lack trust in their own judgment. Lead with hearts and heads with pride in personal value, also, balanced decisions made by heart and head. Self-awareness, self-knowledge, and strong knowledge about self-attitudes, values, and abilities. They organise self- 	<ul style="list-style-type: none"> Competence: effective in dealing with the environment, and building confidence; however, do not evaluate their representations, coping responses, and consequences in order to estimate how well their behaviour aligns with their leadership of change. Also, lack of self-motivation, and multiple perspectives/flexible modes. They sometimes exhibit under-regulation (lack stable, consistent values, clear purpose of change, setting priorities, and regulating their emotions). Formulating intrinsic aspirations, goals, and plans, often well-being enhanced by attainment of intrinsic goals, and associate goals with a clear vision. Although they are capable of trustworthiness, they lack trust in their judgment.

	<p>personal ethics and balanced decisions made by heart and head.</p> <ul style="list-style-type: none"> Adaptable to their own change, and familiar with self-attitudes, values, and abilities, using them to empower the self. 	<p>thinking and emotions. However, they are sometimes prone to mis-regulation (has false expectations about self and others, plus they are unadaptable). Lack self-empowerment.</p>	<p>Incompatibility of personal values with work values, where they serve their own ends, and also control resources and information so that the power does not pass on to others. Knowledge about self-attitudes, values, and abilities. However, mis-regulation (has false expectations about self and others, plus they are unadaptable). Also, lack of self-empowerment, and lack of organising self-thinking and emotions.</p>
Sensemaking	<p>Consistently have a mental model and a rational account grounded in identity and used in the construction of reality.</p> <ul style="list-style-type: none"> Give meaning to experience and make sense of issues; however, they may occasionally build convictions on cognitive biases. Find a way of thinking about diversity, complexity and incompleteness, as well as have an intersubjective sense of shared meaning with many distinct aspects. However, may be driven by plausibility that is not their own plausible accounts. Practicing a retrospective activity that enables them to understand the potential outcomes of imagined realities and alternatives. Understanding and analysing the information in its context. Structuring and expressing the unknown by placing stimuli into some kind of framework, and applying the continuous complexity into a state that is understood explicitly in concepts. Also, they reify and reinforce cues to enhance their repertoire of experiences, and make plausible sense of change situations, retrospectively. Sometimes, a lack of encouragement of the clarification of expectations. Have an ability to recognise the nature of the change from experiences, and move between feeling and thought, and continuously looking for and giving an indication – sense-giving - in addition to creating and examining reasons. 	<p>Have a mental model and a rational account, and are able to build a construction of reality, give meaning to experience and make sense of issues. However, they may build convictions on cognitive biases.</p> <ul style="list-style-type: none"> Lack of finding a way of thinking about diversity, complexity, and incompleteness. Many distinct aspects, but lacking an intersubjective sense of shared meaning, and may be driven by plausibility that is not their own plausible accounts. Practicing a retrospective activity that enables them to understand the potential outcomes of imagined realities and alternatives. However, lack of making plausible sense retrospectively, and lack of ability to reify and reinforce cues and add to the repertoire of retrospective experience. Structuring the unknown; however, lacks encouraging the clarification of expectations. Build on extracted cues and organises overflow of experience; however, lacks attention to noticing and applying meaningful patterns from lived experience, and lack meaning construction. Making the intractable actionable, where they are enactive of sensible environments. Understanding the new reality, and are concerned by sensegiving. 	<p>Have a mental model, and are able to build a construction of reality, however, a lack of rational accounts; lack of giving meaning to experience and making sense of issues; and they may build convictions on cognitive biases.</p> <ul style="list-style-type: none"> Lack of finding a way of thinking about diversity, complexity, and incompleteness. Lack of an intersubjective sense of shared meaning, and lack many distinct aspects. Driven by plausibility that is not their own plausible accounts. Lack of a retrospective activity. Lack of understanding the potential outcomes of imagined realities and alternatives. Lack of making plausible sense retrospectively. Lack of ability to reify and reinforce cues and add to the repertoire of retrospective experience. Structuring the unknown; however, may work in a hypocritical workplace environment that prevents the explanation of the unknown. Also prefers prefabricated models of opinions about the phenomena, and lack of encouragement of the clarification of expectations. Builds on extracted cues and organises overflow of experience; however, requires more attention to noticing and applying meaningful patterns from lived experience, a lack of meaning construction, and lack of ability to deal with the flexibility, and cognitive complexity. Making the intractable actionable, also, enactive of sensible environments; however, often delivering other people's

	<ul style="list-style-type: none"> Shrewd, where they are understanding the new reality, giving additional input to support and allocate meaning - meaning construction, building on extracted cues through noticing and applying meaningful patterns from lived and overflow of experience. Making the intractable actionable, where they are enactive of sensible environments. 		<ul style="list-style-type: none"> thoughts and senses and then trying to convince others. Concerned by sensegiving, but, a lack of understanding of the new reality.
Integrative thinking	<ul style="list-style-type: none"> Systems thinking, considering themselves as one of the channels in a more extensive process of the change. They are looking at the whole causal picture and relationships, and are able to combine interconnected variables. Receptiveness to opposing views, embrace and enhance complexity, have multiple perspectives on a problem, and ready to create new concepts and solutions out of opposing ideas and debates. Since they have robust choices. Knowledgeable, where they able to perceive and discriminate, shape and order. They are understanding social order and evolution, political systems, and globalisation through information and whole context as well as put a central value on learning. Believe that structural and system change depends on contradictions. Adopting self-consciousness that allowed them interactively and discursively to be aware of and pay attention to a range of objects and events around the subject. They are also open to elaborate discursively upon their own reasons, compare and contrast, and revise earlier assessments. Proceeding by reasoning, and have a reason for action, in which the reason rationalises the action. They have flexible purposing and consider rejecting standardised formats for problem-solving. 	<ul style="list-style-type: none"> Systems thinking, looking at whole causal picture, and causal relationships. But lack of interconnected variables, and art of thinking. Creating new concepts and solutions out of opposing ideas and debates. Have robust choices, and embrace complexity. Also, a lack of multiple perspectives on a problem. Knowledgeable, where they are concerned by information and whole context, and able to shape and order. Also, put a central value on learning. However, lack of elaborate application of conceptual skills to perceiving and discrimination. Adopting discursive consciousness, elaborate discursively upon one's reasons, and have a reason for action. Proceeding by reasoning, but lack of adequate comparing and contrasting of ideas. Revises earlier assessments. Lack of flexible purposing, and does not consider rejecting standardised formats for problem-solving. 	<ul style="list-style-type: none"> Systems thinking, however, they are characterized by <i>silos</i>; the thinking of the leader is 'silos' dominated and based on continuing conflicts between departments. Interconnected and connected goals do not serve long-term or whole causal picture, a lack of causal relationships, interconnected variables, and art of thinking. Creating new concepts and solutions out of opposing ideas and debates; however, surround themselves with those people who support their views. Embrace complexity, but lack of multiple perspectives on a problem, and do not make robust choices. Knowledgeable, where they concerned by information and whole context, and able to shape and order. Also, put a central value on learning. However, lack of sufficient skills in perceiving discriminating, shaping and ordering. Adopting discursive consciousness, and have a reason for action. Lacks the tendency to elaborate discursively on one's reasons, and does not revise earlier assessments. Proceeding by reasoning, but, a lack of sufficient use of compare and contrast. Lack of flexible purposing, and does not consider rejecting standardised formats for problem-solving.
Innovative thinking	<ul style="list-style-type: none"> Use both exploration and exploitation, where they are fine-tuning and properly adapting, reconfiguring, and combining existing resources 	<ul style="list-style-type: none"> Use both exploration and exploitation, where they invest in improving existing services, researching, and new possibilities, also, not 	<ul style="list-style-type: none"> They believe that innovation only requires the pursuit of new knowledge and ideas, with no interest in the practice and improvement of things already

	<p>and new possibilities to meet changing environments. Also, they are not frightened by challenges.</p> <p>Deal with organisational ambidexterity in different ways (SSSC), where they are synchronising incremental and discontinuous improvement, and balancing search and stability. As they are open to experience and flexible to realise the advantages and disadvantages of the exploration and exploitation.</p> <p>Divergent thinking characterised by fluency, flexibility, originality, and elaboration. They are adopting a different way of thinking, and a process of generating various, diverging potential solutions, and differing ideas.</p> <p>Organising diverse resources through innovative methods of idea generation, idea structuring, and idea promotion. They practice healthy criticism and disdain for the status quo, as well as, they are able to envision the path.</p> <p>Experiencing processes of adaptation, shaping, and selection, where they are planning for innovation and can recognise a great idea. However, focusing far too much on the details.</p> <p>They have successful intelligence, where they can achieve a balance of analytical, creative, and practical intelligence.</p> <p>They can anticipate a need and deliver success based on capitalising one's strengths and recovering one's weaknesses. Also, they are open to keeping their ego in check.</p>	<p>frightened by challenges. However, focusing on one of either exploration or exploitation, and a lack of fine-tuning.</p> <p>Deal with organisational ambidexterity (SSSC), where they are synchronising incremental and discontinuous improvement. However, lack of balancing search and stability, where invest in improving existing services but not investing in researching new possibilities.</p> <p>Lack of divergent thinking characterised by fluency, flexibility, originality, and elaboration.</p> <p>Lack of adoption of different ways of thinking, and absence of having an interest in a wide range of related and divergent fields. Also, tends to be further conservative, conventional, and suffering from complexities.</p> <p>Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion.</p> <p>They practice healthy criticism and disdain for the status quo, as well as, they are able to envision the path.</p> <p>Experiencing processes of adaptation, shaping, and selection, where they are planning for innovation and can recognise a great idea. However, focusing too much on the details and lack of ability for recognising a great idea. A tendency towards practicing what stifles creativity.</p> <p>Practicing processes of adaptation, shaping, and selection.</p> <p>Successful intelligence, where is able to achieve a balance of analytical, creative, and practical intelligence.</p> <p>Anticipating a need, and often keeping their ego in check; however, a lack of practical intelligence.</p>	<p>known (a lack of using both exploration and exploitation). Also, there are some who do not tend to-or even fear-diversification, risk-taking, variation in experimentation with new knowledge, and organisational forms. They are also frightened by challenges, and demonstrate a lack of fine-tuning.</p> <p>Deal with organisational ambidexterity, where they are synchronising incremental and discontinuous improvement; however, lack of balancing search and stability, where they invest in improving existing services but do not invest in researching new possibilities.</p> <p>Tend to be further conservative, conventional, and suffering from complexities. Also, lack of different ways of thinking, and lack interest in a wide range of related and divergent fields.</p> <p>Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion. However, may stifle creativity.</p> <p>Does not offer healthy criticism and does not show disdain for the status quo.</p> <p>Practicing processes of adaptation, shaping, and selection. However, a lack of planning for innovation. Also, they are focusing far too much on the details, and does not show recognition of a great idea.</p> <p>Successful intelligence, where is able to achieve a balance of analytical and creative intelligence.</p> <p>Anticipating a need, but a lack of practical intelligence, and somewhat arrogant about keeping their ego in check.</p>
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The findings show that there are some conceptual skills that some public sector leaders do not possess, or are challenged when they have to exercise them. The most difficult conceptual

skills to apply are only held by leaders at the *Expert* level and are lacking in the other levels such as ‘Find a way of thinking about diversity, complexity and incompleteness’, and how to encourage ‘Clarification of expectations’ which is part of ‘Construction of the unknown’ conceptual skill. Both of these are components of the sensemaking area. In the innovative thinking area, only leaders at the *Expert* level are fully capable of ‘Divergent thinking characterised by fluency, flexibility, originality, and elaboration’. In addition to these three conceptual skills, there are four skills which are notably lacking at the level of developing leaders. These are: ‘A retrospective activity’; ‘Use both exploration and exploitation’; ‘Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion’; and ‘Processes of adaptation, shaping, and selection’. Hence, a total of seven conceptual skills are lacking at the *Developing* level.

The researcher in this empirical study noticed that the conceptual skills within innovative thinking are the most difficult to adopt and the most lacking among the leaders of government organisations. Also, the majority of conceptual errors appear to be committed in this area of conceptual skills and leadership competence. This is followed by the sensemaking area, where the results of the study demonstrate that it is not easy for the leaders to create an effective way of thinking to deal with diversity, complexity and incompleteness. Furthermore, it is hard for them to adopt a prospective attitude in understanding the potential outcomes of imagined realities and alternatives; it is also difficult for most of them to engage in retrospective activity such as to reify and reinforce cues and add to the repertoire of retrospective experience.

5.7.1 Lack of conceptual skills and erroneous use of conceptual skills

Table 32 shows in detail the conceptual skills and abilities that make up these skills, as well as the conceptual deficiencies and errors associated with each level of conceptual skill. These

errors for each of the levels of leaders are summarised in the table 33, which shows the number of conceptual errors and the number of omissions or lack of conceptual skills that appear at each level.

Table 34: Frequency of lack and erroneous use of conceptual skills and its sub-skills

Level of adopting CS	CS Perfection (with some simple errors)	Lack of CS	Lack of abilities/sub-skills within the CS	Errors in adopting the CS
Expert	21	0	1 Sub-skill – (impact 1 CS) – In sensemaking	3 errors - (impact 2 CS) – In sensemaking (2) – In innovative thinking (1)
Proficient	12	2	22 Sub-skills - (impact 17 CS) – In self-regulation: 4 lacks – In sensemaking: 6 lacks – In integrative thinking: 6 lacks – In innovative thinking: 6 lacks	10 errors - (impact 10 CS) – In sensemaking, 3 errors – In integrative thinking: 1 error – In innovative thinking: 6 errors
Developing	2	9	37 Sub-Skills (impact 21 CS) – In self-regulation: 6 lacks – In sensemaking: 12 lacks – In integrative thinking: 11 lacks – In innovative thinking: 8 lacks	25 errors - (impact 16 Cs) – In self-regulation: 5 errors – In sensemaking: 4 errors – In integrative thinking: 5 errors – In innovative thinking: 11 errors

Note: CS = conceptual skills; sub-skill = abilities within conceptual skills

As shown in the above table, at the *Expert* level, leaders have all of the required conceptual skills. None of them is lacking; even so they lack one of the sub-skills in the sensemaking area, and they make three conceptual errors; two of them in the area of sensemaking, and one in the area of innovative thinking. At the *Proficient* level, change leaders have 12 conceptual skills operating at full capacity and two lacking; however, there are 22 omissions/lacks in sub-conceptual skills that affect 17 main conceptual skills. Also, they committed 10 conceptual errors within ten basic conceptual skills. At the *Developing* level, there are two present conceptual skills, and nine missing conceptual skills, while the omission/lack of sub-skills is 37, which in turn affects 21 basic conceptual skills. There were also 25 conceptual errors committed in their conceptual skills.

5.7.2 Difference between a lack of conceptual skills and conceptual errors

Despite this lack of conceptual skills and existence of conceptual errors, there is nevertheless a difference between the two terms. The lack of conceptual skill is self-explanatory (means the absence of this skill), while the conceptual error does not mean lack of skill but error in understanding the conceptual skill, or adopting an erroneous concept of the skill concerned. For instance, there is a lack of prioritisation, and this is a form of conceptual skills deficiency. However, some leaders adopt conceptual error when they think in silos. It is the thinking that separates the units from each other and drives continuing conflicts between departments, which is the type of concept that conflicts with the competence of integrative thinking.

An example of erroneous practicing of conceptual skills is that public leaders often make plausible sense retrospectively. However, they are driven by a plausibility that is established by the higher-level leaders or the government. Leaders make conceptual mistakes, and lack conceptual skills. Shortages in skills can be mitigated by training, but conceptual errors are harder to avoid because they depend on attitudes and convictions, and perhaps they become human habits. Tewes (2018, p. 1176) indicates that habits include a wider range of components than skills contain; habits are ‘repeated gestures, styles of movements, character traits or addictive behaviour are also central facets of habitualized behaviour’.

Maybe the desire for, belief in and continuous practice of these conceptual erroneous are what made them ingrained habits. It takes willpower and desire to relinquish these habits with constant training, and understanding of potential negative impact on leading change. Otherwise, these intellectual habits continue to pose an obstacle to the effective leading of change. For example, the *Developing* level of leaders may adopt ‘Organising resources, people, and relationships through innovative processes of idea generation, idea structuring,

and idea promotion’ as a conceptual skill. However, they fail to ‘Envision the path’, as an ability/sub-skill within the conceptual skill. Furthermore, they ‘Stifle creativity’ through erroneous mental practices; they do not offer ‘Healthy criticism’, and are somewhat arrogant about keeping ‘Ego in check’. Hence, the lack of rational capacity needs training, but the existence of misconceived conceptual practice requires understanding, desire and training to eliminate this erroneous practice.

Conceptual errors are limiting the work of conceptual skills. Therefore, the conceptual errors of the *Expert* level are minor and only occur in four conceptual skills – the rate of lack of one of the sub-skills and three conceptual errors. These lacks and errors gradually increased to 22 lacking sub-skills and 10 errors at the *Proficient* level, and 37 lacking elements of conceptual skills and 25 errors at the *Developing* level. The researcher found only two conceptual skills full of sub-skills at the *Developing* level, where errors increase and decrease according to the strength of adopting conceptual skills.

The following table summarises the problems of the three levels against all conceptual skills and their secondary abilities.

Table 35: Problems of the three leader types' levels versus conceptual skills and abilities

Conceptual Skills	Sub-skills of CS	Expert	Proficient	Developing
Competence: effective in dealing with the environment	Self-motivation	√	√	Lack of self-motivation
	Self-control	√	√	Do not evaluate their alignment with change
	Time management	√	√	√
	Prioritising	√	Lack of prioritising	
	Building Confidence	√	√	√
	Multiple perspectives/ flexible	√	√	Lack of multiple perspectives/ flexible modes
Formulating intrinsic aspirations, goals and plans	Well-being enhanced by attainment of intrinsic goals/ goals linkage to the vision	√	√	Well-being enhanced by attainment of intrinsic goals
	Trust in his own judgment	√	Lack of trust in their own judgment	
	Trustworthiness	√	√	Under-regulation
	Personal Ethics	√	√	Incompatibility

Lead with “hearts and heads”	Decision making by heart and mind	√	√	√
‘Self-awareness and self-knowledge’ (values, cognition, emotions)	Adoptable	√	Lack of adoptable thinking	
	Personal empowerment	√	Lack self-empowerment	
	Knowledge about self-attitudes, values, and abilities /organise self-thinking and emotion	√	√	Mis-regulation
Mental model	Rational accounts	√	√	Lack of rational accounts
	Cognitive Biases	May build convictions on cognitive biases		
	Grounded in identity construction of reality	√	√	√
	Give meaning to experience and make sense of issues	√	√	Lack of give meaning to experience and make sense of issues
Find a way of thinking about diversity, complexity and incompleteness	Driven by plausibility	May be driven by plausibility that is not their plausible accounts		
	An intersubjective sense of shared meaning	√	Lack of an intersubjective sense of shared meaning	
	Many distinct aspects	√	Lack of many distinct aspects	
A retrospective activity	Reify and reinforce cues and add to the repertoire of retrospective experience	√	Unable to reify and reinforce cues and add to the repertoire of retrospective experience	
	Understanding the potential outcomes of imagined realities and alternatives	√	√	Lack of understanding the potential outcomes of imagined realities and alternatives
	Make plausible sense retrospectively	√	Lack make plausible sense retrospectively	
Structuring the unknown	Placing stimuli into some kind of framework	√	√	Lack of placing stimuli into some kind of framework
	Encouraging the clarification of expectations	Lack encouraging the clarification of expectations		
	Work in an environment free of Hypocrisy	√	√	May work in a hypocritical workplace environment
Builds on extracted cues	Organise overflow of experience	√	√	√
	Notice and apply meaningful patterns from lived experience	√	Lack of noticing and applying meaningful patterns from lived experience	
	Enactive of sensible environments	√	√	√
Making the intractable actionable	Understanding the new reality	√	√	Lack of understanding the new reality
	Meaning construction	√	Lack of meaning construction	
	Sense-giving	√	√	Lack of sense-giving; Delivering other people thoughts and senses
Systems thinking	Interconnected variables/ Isolate one system from others	√	Lack of interconnected variables	
	Whole causal picture	√	√	Silos
	Causal relationships/Merging systems	√	√	Lack of causal relationships; Interconnected and connected goals do not serve long time
	Art of thinking	√	Lack of art of thinking	
Creating new concepts and solutions out of opposing ideas and debates	Robust choices	√	√	Lack of robust choices
	Multiple perspectives on a problem	√	Lack of multiple perspectives on a problem	
	Embrace complexity	√	√	Surround themselves with those who support their views
Knowledgeability	Information and whole context	√	√	Lack of identifying opportunities and limitations
	Perceive and discrimination	√	Lack of perceive and discrimination	
	Central value on learning	√	√	√
	Shape and order	√	√	Lack of shape and order
Adopting discursive consciousness	Compare and contrast	√	Lack of compare and contrast	
	Proceeding by reasoning	√	√	√

	Revise earlier assessments	√	√	Does not revise earlier assessments
Elaborate discursively upon one's reasons	Reason for action	√	√	√
	Flexible purposing. Consider rejecting standardised formats for problem-solving	√	Lack of flexible purposing	
		√	Do not consider rejecting standardised formats for problem-solving	
	Elaborate on one's reasons	√	√	Lack of elaborate discursively on self-reasons
Use both exploration and exploitation	Not frightened by challenges	√	√	Frightened by challenges; No interest in the practice and improvement of things already known
	Fine-tuning	√	Lack of fine-tuning	
	Exploration and exploitation	√	Focusing on one of exploration and exploitation	
Deal with organisational ambidexterity (SSSC)	Balancing search and stability	√	Invest in improving existing services; Lack of balancing search and stability	
		√	Not investing in researching new possibilities	
	Synchronising incremental and discontinuous improvement	√	√	√
Divergent thinking characterised by fluency, flexibility, originality, and elaboration	Different way of thinking	√	Lack of different ways of thinking	
	Have an interest in a wide range of related and divergent fields	√	Lack of interest in a wide range of related and divergent fields; Tend to be further conservative, conventional, and suffering from complexities	
Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion	Healthy criticism	√	√	Keeps away from criticism and does not accept it
	Disdain for the status quo	√	√	Satisfied with the status quo
	Envisions the path	√	√	Lack of envisioning the path
	Stifle creativity	√	Stifles creativity	
processes of adaptation, shaping, and selection	Recognises a great idea	√	Lack of recognition of a great idea	
	Focus far too much on the details		Focusing far on the details	
	Planning for innovation	√	√	Lack of planning for innovation
Successful intelligence (Achieving a balance of analytical, creative, and practical intelligence)	Anticipating a need	√	√	√
	Practical intelligence	√	Lack of practical intelligence	
	Ego in check	√	√	Somewhat arrogant about keeping ego in check
Total of erroneous applications of conceptual skills		3 errors	10 errors	25 errors
Total of lacks/omissions		1 lack/ 70	22 lacks/ 70	37 lacks/ 70

5.8 The developed emergent codes regarding the levels of conceptual skills adoption

In Section 5.3.3 the researcher highlighted the emergent concepts that were developed in the initial descriptive framework. It was possible to review these emergent codes from another angle, dividing them according to the three levels of adoption of conceptual skills. Thus, the results show that there are more skills and concepts that have been adopted at the level of *Experts* then there are at the level of the *Proficient* group of leaders, while almost no new

concepts and few comprehensive conceptual skills emerged at the level of the *Developing* group. This means that there are different uses and applications of conceptual skills and also additional conceptual skills practiced by *Expert*, *Proficient* and *Developing* levels of public sector leaders. The following tables demonstrate these emergent codes divided into three levels.

The highest level of leaders exercising additional conceptual skills that emerged from the research:

Table 36: Expert level emergent codes

Expressed conception/ source of information	The conceptual skills	Area of competence	Descriptive category closest to the skill
<i>Stimulation using emotional reward is essential to persuade employees. (1:1 interview)</i>	Emotional intelligence	Self-regulation	'Self-awareness and self-knowledge' (values, cognition, emotions).
<i>Goals linkage to the overall vision. (1:1 interview)</i>	Goals linkage to the vision	Self-regulation	Formulating intrinsic aspirations, goals and plans.
<i>Pre-empt and forestall risks, to prevent attack with effective decision-making process. (1:1 interview)</i>	Pre-emptive mind	Sensemaking	Structuring the unknown.
<i>She insists on asking for innovative ideas from her employees. (Formal interview)</i>	Run the minds of others	Sensemaking	Sense-giving – making the intractable actionable.
<i>Invest the time and effort necessary to carry the members of this team the features of innovative thinking and the ability to design thinking. (Doc. Review)</i>			
<i>Sensemaking is examining information from a number of perspectives. This will need adopting and applying knowledge from throughout one's experience. (1:1 interview)</i>	Collective thinking	Sensemaking	Mental model.
<i>Regional spread of work. (1:1 interview)</i>	Constructing references to the mental systems	Sensemaking	Mental model.
<i>Integrative mindset is alignment and clarity. (1:1 interview)</i>	Alignment and clarity	Sensemaking	Find a way of thinking about diversity, complexity and incompleteness.
<i>Integrative thinking is adaptive thinking. (1:1 interview)</i>	Adaptive thinking, reasoning based on pattern	Sensemaking	Builds on extracted cues.
<i>Representing interchangeably with others. (1:1 interview)</i>			
<i>Silos: The most serious factors of change management failure are that the thinking of the leader is 'Silos' and continuing conflicts between departments. (1:1 interview)</i>	Silos thinking; Isolate one system from others	Integrative thinking	Systems thinking.
<i>Alignment between local and federal output. Integration with other government entities. Benefitting from each other. (1:1 interview)</i>	Aligning thinking	Integrative thinking	Systems thinking.
<i>We should create – at the top level of management – a healthy team, where there is</i>	Team work thinking	Integrative thinking	Systems thinking.

<i>robust debate of ideas, real trust, commitment to, accountability and focus on results. (1:1 interview)</i>			
<i>Think out of the box. (1:1 interview)</i>	Think out of the box	Innovative thinking	Divergent thinking characterised by fluency, flexibility, originality, and elaboration.
<i>Balancing lateral and horizontal thinking. (1:1 interview)</i>	Adopting lateral and horizontal thinking	Innovative thinking	Successful intelligence (Achieving a balance of analytical, creative, and practical intelligence).
<i>Future anticipating skill is helping the leader to predict and study the future he wants to reach before the change he will be working on. (1:1 interview)</i>	Anticipating the future/Future shaping	Innovative thinking	Processes of adaptation, shaping, and selection.

The second level – *Proficient* level – uses additional conceptual skills that are presented in the following table:

Table 37: Proficient level emergent codes

Expressed conception/source of information	The conceptual skills	Area of competence	Descriptive category closest to the skill
<i>In our innovation discussions we aim to analyse information objectively and make a reasoned judgment. (1:1 interview)</i>	Critical thinking	Innovative thinking	Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion.
<i>In leadership skills, we lack the skills to anticipate the future; it's an important intellectual skill. (1:1 interview)</i>	Future shaping/ Future foresight/ anticipating the future/ shape the future/ Have a future orientation/	Innovative thinking	Processes of adaptation, shaping, and selection.
<i>Future foresight and preparing for it. (1:1 interview)</i>			
<i>It was also keen that the new departments and their functions reflect the future vision and requirements of the government. (formal interview)</i>			
<i>Take care of my constant presence and active participation with all teams. (1:1 interview)</i>	Have an opinion, present at my entry with teams	Sensemaking	Mental model.
<i>The most important features of this school are to take advantage of all existing strengths and people in the completion of development projects. (formal interview)</i>	Take advantage of all existing strengths and people	Innovative thinking	Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion.
<i>The courage to admit wrong, accept failure without withdrawing, but correcting the mistakes that led to failure/ new conceptual skills. (1:1 interview)</i>	Have self-confidence and trust in their own judgment	Self-regulation	Formulating intrinsic aspirations, goals and plans.
<i>Always sees the cup as half full. (formal interview)</i>	Positive thinking	Self-regulation	'Self-awareness and self-knowledge' (values, cognition, emotions).
<i>I reported to him information about an incident that was published in the media, and was able within minutes to deny it to me by accessing the source of the information. (shadowing)</i>	Ability to access and verify the source of information	Integrative thinking	Knowledgeability.

Also, at the third level – *Developing* – there are several new emergent conceptual skills, which are presented in the following table:

Table 38: Developing level emergent codes

Expressed conception/ source of information	The conceptual skills	Area of competence	Descriptive category closest to the skill
<i>Do not enter into the conflicts of other departments, but watch them. (1:1 interview)</i>	Keep away from inter-departmental conflicts	Integrative thinking	Systems thinking.
<i>Focus on your role and do not interfere in the work of any department. (1:1 interview)</i>	Respect the specialisation of other entities	Innovative thinking	Deal with organisational ambidexterity (SSSC).
<i>Future shaping is innovation. (1:1 interview)</i>	Have a future orientation/ future shaping	Innovative thinking	Processes of adaptation, shaping, and selection.

The *Expert* level is characterised by the vigorous existence of the four areas of leadership competencies in the thinking of these leaders. It is evinced that they are exercising these conceptual skills most persuasively and effectively, which indicates their ability to understand the ways they think and the reasons for their choices of this way or that way of thinking. It is also clear that there is uniqueness in their form of thinking that is not related to collective thinking, or what everyone else thinks.

Meanwhile, at the second level it is clear that uniqueness of thinking is lacking, and that the leaders' focus is more on thinking which could be considered innovative, because the Government is very interested in the subject of innovation.

At the third level, this group of leaders exhibited fewer, the same or only slightly more conceptual thinking skills than were specified in the initial descriptive framework. There were two skills that appeared only twice; 'Respect the specialisation of other entities' and 'Keep away from inter-departmental conflicts'. The second expression is inconsistent with systems thinking. One of the participants stated that he "*avoids participating in resolving administrative issues when there is a conflict, and instead leaves them to wrestle themselves*

until they find a solution”.

Also, in general, it was apparent that some skills were repeated several times, like future shaping, future foresight, anticipating the future, and have a future orientation. All of these skills are about how to build readiness for the future. This was one of the skills talked about by almost everyone across the three levels of leaders. It was evident from the document review that future shaping as a prospect is a programme launched by the UAE Government, placed as one of the axes of the fourth generation of Government excellence, and is mandatory for all Government entities. This indicates that the normative culture of employment in the public sector is likely to be rooted in leaders' perceptions and practices whenever the Government consolidates them by adopting common programmes and promulgating a list of shared values. As a result, over time, these values or skills become part of the composition of the qualities of workers in the Government sector, and particularly so for the leaders of the sector.

5.9 Research tools and the impact of their use

The use of a variety of research methods has been an important resource in the study of this complex subject of conceptual skills in leading public sector change. These methods and tools have been used extensively for in-depth data collection and analysis and have applied several different perspectives to investigate conceptual skills and four areas of leadership competence. The following table explains and summarises the benefits and disadvantages of each research method.

Table 39: The contribution and impact of multiple research methods

N.	Research Method	Area Investigated	Benefits	Obstacles
1	<i>1:1 Formal Interviews</i> with leaders of UAE Government entities	SREGAUTH2 SENSEMCTT SENSEM2 SENSEM4 INTEG1 INNOVAMB2	It was an excellent opportunity to sit down with the leaders in the Government and discuss their reflective diary. The interviews were enriched by many examples mentioned by the leaders. Their examples illustrated and demonstrated a lot about self-awareness and self-knowledge combining elements of personal ethics, reasoning, and self-reflection. All of these interview accounts communicated a wealth of knowledge in the ways and methods of leadership, and without these interviews, the researcher could not have reached in-depth results on the subject of conceptual skills.	The most prominent problems were getting the interview approved, setting the date, postponing or changing the appointment more than once. Some interviewees were not enthusiastic about sound recording, and one of the leaders insisted on writing his answers and sending them after the interview was conducted. Finally, the topic of the research needed to be fully explained, so that the interviewees knew what was meant by conceptual skills used in leading public sector change.
2	<i>Formal and informal Interviews</i> with staff who are present at events attended by the researcher with the leader, or with those nominated by the leader for interviews.	SREGSDT1 SENSEM5 INTEGSTRUCT2 INTEGSTRUCT3 INNOVAMB1	The researcher interviewed people who were able to describe the leader's leadership competence. The researcher tried to identify and discuss new ideas/projects/plans with all of the staff encountered. These interviews were rich in information, as the researcher noticed that government employees do not hesitate to express their opinions about their managers. On the contrary, they are very willing to present their opinions and analyses of job positions and organisational situations. The answers of subordinates and peers are usually more accurate in the description of the leader, and the researcher found in many of their answers confirmation of what their leader said, and sometimes the researcher discovered some of the misconceptions in the skills of the leader. This was particularly the case within the leadership competencies of self-regulation, sense-giving, and innovative thinking.	The elements of the research phenomenon need not be entirely novel or unfamiliar to participants of the research. However, the researcher used questions that involved some discernible change or challenge to the status quo for more reliable and authentic information.
3	<i>Focus group</i>	INNOVAMB2 INTEG1	It was a useful method to retrieve detailed information about group perceptions, feelings, and views. Focus groups can save time compared to individual interviews as they provide a comprehensive range of data and extend the opportunity to seek clarification on the leader's competence in leading change. Particularly worthwhile information was provided by focus group members on their leaders' conceptual skills in systems thinking and exploratory and exploitative thinking.	The majority of obstacles that the researcher faced with the focus group related to the emergence of one person who tries to facilitate the discussion and who by dominating the conversation could change or censure the views of other participants thus making it harder for the researcher to obtain accurate data. Also, some of the participants did not interact perhaps due to an introverted personality. In addition there was a personal bias based on the fear there would be some transfer of what was said in the meeting to parties outside the focus group. The researcher acknowledged these difficulties and sought to avoid influencing the results and encouraged all of the

				participants to express their opinions freely and openly.
4	Diary	SREGSDT1 SREGSDT2 SENSEM2	One of the starting points in the interviews was to encourage the research participants to keep a journal or diary. However, the researcher found out that one of the most difficult resources to get was individual diaries, with the majority of the leaders interviewed refusing to write up a diary record, and several who reluctantly agreed at first eventually did not comply with the required routine. The good thing about the diaries is that the researcher was able to get primary documents which contain spontaneous data. The interviewees tried to give the researcher a lot of articles and books that they had written and produced themselves.	Even those who handed the researcher their diaries did not provide much rich information that would benefit the research substantially. However, some of their diary entries and references did give meaning to what was previously discussed in the interviews. So, the researcher analysed and interpreted in the interviews and diaries what leaders focus on and how thinking, reflection, self-determination, and self-regulation assisted their successful performance.
5	Documents review	SREGSDT1 SREGSDT2 SREGAUTH2 SMSM2 SENSEM3 INTEGSTRUCT2 INNOVSOI1 INNOVSOI2 INNOVSOI3	The researcher found these documents just as they expanded the scope of the research sample and while they were relatively low-cost data, they at the same time allowed the researcher to approach some inaccessible areas of leaders' interview accounts. Since most of them provided files prepared by them, such as articles published in internal magazines of their organisations as well as secondary documents expressing leaders' convictions, they were useful to the researcher for identifying some of their ways of thinking and what they believed in related to work and management. These documents helped to reduce the researcher effect and problems of bias. Also, the researcher found some of these documents, like articles that were written by the leaders themselves, were very detailed in conveying leadership thinking.	Some documents were not fully completed at all or simply were just left on leaders' desks for long periods of time. So, the researcher found some of these documents may provide information that is informed about one period and not for continuous periods. So, the type of source was an issue in this research. Also, the researcher found that it is better to access more documents for the leader's accounts of leadership activities. Some of them were not always willing to talk in the research interview about particular subjects or simply it was difficult in some of the areas of leadership competence to track down their specific set of conceptual skills. To avoid making an overly subjective assessment, the researcher asked participants to provide him with files and documents that explicitly expressed their way of thinking in specific places and work tasks, in order to keep the individual views of the researcher as far as possible away from over-interpretation.
6	Formal test	INTEG2 INNOVSOI1	The formal test used to assess overall divergent thinking of the leaders, to compare a leader's innovative abilities with others, and to identify skills on a comparable basis with peers. The test was a useful source of information based on Guilford's theory, while providing a clear indication of how leaders have mastered the four innovation skills. It was also fun for leaders to tackle and try to solve this test during their interview.	During the interview, some of the leaders were afraid of this test and asked for an example of the solution, but linking the test to its goal, which is to illustrate the four innovative skills make it easy and enjoyable for them to complete. The test used always needs to match the object of study.
7	Narrative analysis	INNOVSOI4 SENSEMCTT SENSEM3	The researcher requested the interviewees to place characters in a comprehensive sense, and make sense of and give meaning to one of the situations of	The sharing of narratives about situations in which narrative meaning has been presented to themselves and to others is open to

			change they had experienced or even heard about, in order to analyse their way of thinking. The way they related their narrative of what happened in those stories was helpful in identifying conceptual skills in the area of innovative thinking, particularly explanation and normalisation, and how they were achieving a balance of analytical, creative, and practical intelligence. Also, this tool adds to the research data many considerations about how the leaders are making sense of situations during the change cycle. They were explaining their mental models by giving meaning to experience and make sense of issues, as well as, understanding and analysing the information in its context. Also, the narrative method led the interviewees to provide exciting insights into the associations between the narrative shape, content and strategy.	reflection and interpretation to both storyteller and researcher. The meaning that both teller and researcher may take from the narrative content may vary significantly, hence, the researcher decided to focus mainly on the leader's conceptual skills considered in relation to the conditions of change in which the story communicates contents and meanings through narrative performances.
8	Shadowing	SENSEMCTT1 INNOVAMB2	Shadowing methods enables the researcher to know about the leader through personal observation and interpersonal interactions within the workplace. It is a useful tool to investigate the participants in real interaction and communication with their teams. The researcher tried to conduct the shadowing sessions before the interviews to know and understand in more depth how the participant acts when he is dealing with issues of change in the workplace. Principally, shadowing was effective for understanding how he/she is self-regulating in the presence of others, and how he/she leads as an ambidextrous leader.	Shadowing can present the researcher with difficulties in identifying what is really happening based on minimal knowledge of the background and context regarding the professional and behavioural activities and patterns of actions. Also, shadowing challenges the participant to sometimes function outside of his/her comfort zone which may be irritating for him/her to one the one hand been observed and on the other hand act spontaneously whenever there is a sudden change in the business or work environment.

5.10 Some obstacles and their solutions during the data collection

During the stage of conducting the interviews, the researcher arranged a preliminary meeting with most of the research participants before their actual interview. The researcher conducted such pre-meetings approximately one to two weeks before their interview. These preliminary meetings were an opportunity to create trust with the participants, review ethical considerations, and obtain consent forms. Throughout these initial meetings with most of the participants, the researcher had the opportunity to review the research questions. Moreover, regarding their interview performance, the researcher found these initial meetings gave the

participants the time to relax, reflect on and consider the experience. The researcher believes that this way of initiating the interviews helped in getting a richer description during the interviews without having to ask too many questions. The researcher noticed that the interviewees started to self-interpret their experiences without having to be prompted first by the interviewer. Their pre-reflective contribution and freely offered self-interpretations increased the evident richness of the research data, which was particularly useful since this research concerns the psychological meaning of the participants' self-interpretations, knowledge and understanding of their own and others' thinking skills.

The activity of member checking relies on the assumption that there is a stable truth and reality that can be represented by a researcher and affirmed by a participant. In this study confirmation was based on an interpretive perspective where understanding is co-created, and there is no objective truth or reality to which the study's results can be compared. A number of researchers (e.g., Angen, 2000; Morse, 1994; Sandelowski, 1993) have criticised the use of member checks for establishing the validity of qualitative research and offer a comprehensive view on what the member check could be. To avoid confusion that may occur because participants may change their mind about an issue, the researcher engaged in more discussion about their beliefs, and also used the voice recorder to assure their verbal accounts of experiences during the interviews. However, the possibility of new experiences intervening after the interview remains.

Although Angen (2000), Morse (1994) and Sandelowski (1993) have all explained the weaknesses of member checking, the researcher attempted to deal with some of these points by going back to the voice recordings to bring up the views between the member and the researcher and then to confirm the issue. However, some difficulties remained – for example,

when the member disagreed with the researcher's interpretation, whose interpretation should then stand on the matter inevitably becomes an issue. Also, those leaders who were struggling with abstract synthesis might deny such issues and ask for the evidence to be removed from the transcript; or simply may not be in the best situation to check the data; or may forget what they actually said and meant. Also, it is known that some people may participate in the checking process desiring to be seen as a 'good' participant and simply agree with an account to please the researcher (Angen, 2000; Morse, 1994; Sandelowski, 1993). Inevitably, what hampered the analysis somewhat was the fact that different participants sometimes expressed very different views even about the same data.

Discussion

6.0 Introduction

This chapter provides a discussion of the main research questions and themes analysed throughout the thesis. Firstly, it presents an argument based on findings from the literature review. The subsequent sections then reflect on this argument to present a debate in the light of the data and main findings from the empirical study for this thesis. Specifically, it advocates in favour of dividing public leaders into three levels according to the standards of adopting conceptual skills. Then, the next section discusses the structure of the outcome space. The last section explains the results of erroneous adoption of conceptual skills by public leaders. During this chapter, the implications of the findings are deliberated upon concerning issues of both theory and practice.

6.1 The potential influence of conceptual skills on leading change in the public sector - argument on findings from the literature review

Since the 1970s scholars have discussed the prominence of conceptual skills in leadership and their impact on the effectiveness of change and the future of organisations, in a context of increasing diversity and rapidity of change where the results of interventions are becoming more unpredictable. The literature review focused on various studies emphasising those by two researchers who have focused on leadership skills including conceptual skills; Katz (1974) and Mumford et al. (2000). A basic assumption made in this thesis is that individual effectiveness in leadership essentially depends upon conceptual skills. Furthermore, this thesis aims to develop a new model on the role and contribution of the leader's conceptual skills in

leading public sector change. The scope and ambition of the research strategy and research design are confined to a single framework including four areas of leadership competence (self-regulation, sensemaking, integrative leadership and innovative leadership).

6.1.1 The proposed model of conceptual skills – Structure and reliability of the four areas considered as a composite and functional group

Based on a review of the literature, self-regulation, sensemaking, integrative leadership and innovative leadership were identified as likely to be high priority areas for competence in leadership. The attributes, actions and processes that constitute conceptual skills are essential to change leadership. Groups of researchers have examined each one of these four areas of competence in depth and developed theories on leading change. Competence in self-regulation has been examined by scholars such as Deci (2010), Gagné and Deci (2005) and Vonasch et al. (2015), explained in more depth in section 4.2.3. Competence in sensemaking/sensegiving has been explored by numerous researchers including Agarwal (2012), Gioia (1996), Gioia and Chittipeddi (1991), Maitlis and Christianson (2014) and Smerek (2011). Those integrative public leadership theorists addressing issues of competence in leadership include Crosby (2014), Huxham and Vangen (2000), Silvia and McGuire (2010) and Wart (2003), and competence in innovative leadership has been addressed by researchers such as Elenkov (2005), and Jung, Chow and Wu (2003).

Whereas many social scientists have discussed these four areas, and stressed the importance of competence in leading change, their links to conceptual skills have not always been made so obvious. For example, Goleman (2017) and Rahschulte (2010) indicate that truly effective leaders are distinguished by a high degree of self-regulation, particularly in times of change. Ancona (2012), Gioia and Chittipeddi (1991) and Higgs (2003) all propose that sensemaking

is highly linked to leadership effectiveness, more so than any other leadership skill. Through sensemaking, leaders provide the vision for change to others through meaning-making processes (of sensemaking and sensegiving). Day et al. (2009), Gill (2002), Martin (2007), Moynihan and Ingraham (2004) and Vurdelja (2011) all advance the importance of integrative thinking when leading change, and conclude that integrative leadership has been central to government reforms during recent years. They propose that leaders ‘choose, promote, institutionalise, and use public management systems’ (p. 427) actively in their decision making to achieve high performance and results. Horth and Buchner (2009) and Pieterse et al. (2009) argue that what leaders need nowadays is innovation leadership. They refer to innovative thinking as a critical requirement for change, for future sustainability, and for what is new and better. They have argued that transformational leadership is positively related to innovative behaviour in the context of high psychological empowerment.

Key specialists in each of these four competencies who stressed the importance of conceptual skills each within one of the four areas of competence were selected. First, for self-regulation, the main theoretical focus in this thesis is on Self-Determination Theory (Deci & Ryan, 2010) and authentic leadership (Avolio & Gardner, 2005). Second, for sensemaking, ideas particularly those developed by Dervin (1998) and Weick (1995) were drawn upon. Third, for integrative leadership, based on the suggestions for future research made by Crosby and Bryson (2010), the scope is broad and includes integrative leadership (Monyihan & Ingraham, 2004) and structuration theory (Giddens, 1994). Fourth, for innovative leadership, ideas are taken from ambidexterity theory (O’Reilly & Tushman, 1996, 2011), Structure of Intellect Theory (Guilford, 1963, 1988) and Practical Intelligence Theory (Sternberg, 1986).

Many more scholars have contributed to the selected theories than the ones mentioned here, and so the list of key thinkers is inevitably broader than the few landmark publications identified in this chapter. In both the areas of self-regulation and innovative leadership, it is frequently argued in the literature that leaders need to self-regulate and innovate in thought and action (e.g., Mostovicz, Kakabadse & Kakabadse, 2009; Mumford, Watts & Partlow, 2015; Mumford et al., 2015). Interestingly, in the context of self-regulation, work by Jean Piaget (2015) conceptualised the human structure of thinking and learning as based on three key ideas: the idea of wholeness, the idea of transformation, and the idea of self-regulation. There is also a smaller but still important group of publications that assert the value of sensemaking in leadership – for example, during crisis (Olcott & Oliver, 2014; Oliver, Calvard & Potocnik, 2017) – and the concept of integrative leadership is an important contemporary topic within public management (Crosby & Bryson, 2010; Moynihan & Ingraham, 2004).

These four areas of competence were reviewed from multiple scientific angles, including attention to publications from a range of subject disciplines; notably leadership, psychology, cognitive psychology, business and management (organisation behaviour, strategy), information sciences and communication studies, knowledge management, structuration theory, and psychology (psychometrics). Selected noticeable pioneers are also considered in this research, such as Eysenck (1963); Thorndike (1920) and Thurstone (1927) for psychometric measurement approaches, in addition to Guilford (1956, 1961, 1963, 1967) and Sternberg (1999, 2005, 2007) for holistic, human intelligence theorists, along with occupational psychologists known for their psychometric research studies (e.g., Cattell, 2014; Dulewicz & Higgs, 2000). Finally, psychologists with a reputation for research on human development and problem-solving are included with Piaget (1952) perhaps being the most

notable.

A number of researchers have developed frameworks for leadership and management that are inclusive of conceptual skills and related to one or more of the four areas of competence addressed in this thesis. Several of the pioneers in this field include Katz's (1955, 1975) Three Skills Model: Technical, Human, and Conceptual; while Hicks' (1975) and Mann's (1965) three-skill typology contains administrative, human-relations and technical competencies to designate the critical functions of a manager. Also, Strand (1981) subdivided competencies into three types; conceptual, human, and technical. Gill (2002) proposed an integrative model of leadership highlighting the contribution of the cognitive dimension to well-managed change, along with other critical dimensions (spiritual, emotional and behavioural).

Noble (2000) developed a cognitive model constituting three primary competencies – self-regulation, simulation, and situation understanding – which he called the 'S3 Model'.

Mumford et al.'s (2007) Strataplex model lists a group of conceptual skills in the strategic skills category. In their analysis of some common concepts of leadership available in the literature, Mumford et al. (2007) categorised skills under the headings of cognitive, interpersonal, business and strategic. More recently, other researchers (e.g., Moore & Rudd, 2005; Tonidandel et al., 2012, p. 652) decided to use the terms 'administrative skill' and 'conceptual skill' interchangeably. Krieger and Martinez (2012, p. 253) asserted in the context of experiential learning and conceptual competence: 'Experts do not simply perform well. They must also reason well'.

Sixth, the results of the research show that the four areas of competence are central to frameworks of conceptual skills in leading change. In their replies to a question asking which areas of leadership competencies are likely to contain conceptual skills, the majority of the

participants identified the four areas in this study as representing core dimensions for articulation of conceptual skills. These participants also stated that they were uncertain which other fields could be appended to these four areas of leadership competence. This issue is explained and considered further in the next section.

6.1.2 Four areas of leadership competence in which conceptual skills might be essential

In response to the question posed to all participants in this research on what areas of leadership competencies are likely to contain conceptual skills, one of the participants expressed the following viewpoint: *'I think the four leadership competencies covered all areas that might contain skills. I have thought long about finding other areas for these four, and every time I return to the same result, where all skills I have acquired can be included under these areas'*. This response is typical of many of the other participants' views and opinions on conceptual skills.

This study draws attention to the importance of these four areas of leadership competence. In the area of self-regulation, 10 participants and many of their subordinates stressed that conceptual skills within self-regulation represent the basis of change leadership and asserted that those who cannot regulate themselves cannot organise others or manage performance.

One of the leaders said:

If I were not self-disciplined and self-regulated, I would not have been able to reach what I had achieved. Self-regulation for me is the whole story of success in the endeavours of change that I have worked on ... It is the meaning that moves from the leader to his followers without being done to explain or speak about it, but it is scenes and tentative.

Furthermore, one of the followers of the research participants said in a formal interview: *'One of the reasons we are convinced of many of the change initiatives that the director has managed is that he is disciplined and able to be what he asks of us and applies to himself*

before he asks us'. The study's result confirms Moss, Dowling and Callanan's (2009) findings where they explained that self-regulation is the fundamental, if not only, means by which leaders can improve performance. However, in this research, the focus has been exclusively on the conceptual skills that contribute to self-regulation.

The value of a leader's self-regulation was confirmed by more than five participants in the interviews who discussed the impact of a leader's self-regulation on subordinates. The literature on leadership asserts that followers are usually affected by leaders' self-regulation and inspired to refine, adapt and regulate their own behaviour (Collins & Jackson, 2015; Tylor-Bianco & Schermerhorn, 2006; Vonasch, 2012). A participant described his leader's influence on self-regulation by saying, *'one of the qualities of the leader is that he knows how to arrange things, place attention, put concern, and where to concentrate, that is what entirely inspires us'*.

The scope of this research is not only to understand the importance of self-regulation, but also to demonstrate the role of conceptual skills that are likely to be part of the framework of self-regulation in leading change. Therefore, the skills of formulating intrinsic aspirations are a competence which indicates how effective the leader is in dealing with the environment, goals and plans, and that he or she leads with 'hearts and heads'; all of these conceptual aspects were talked about by the participants who emphasised their importance in the competencies of Government leaders.

The participants continually made assertions that conceptual skills, particularly 'competence: effective in dealing with the environment', self-awareness, and self-knowledge (values, cognition, emotions), are skills characteristic of the most prominent leaders in the government. The justification for this high degree of importance ascribed to self-regulation is

due to the fact that leaders in the Government are usually at the forefront of Government activities, and therefore should be most committed and competent in executing their roles and responsibilities. *‘The leader in the Government is always under the lens of society. The mistakes are monitored and rejected, so we are required to be more aware of our attitude and knowledgeable about ourselves’*, says one Government leader. In addition, one other director said: *‘If I were the manager of a private company, I would do what I could do without fear of blame or the Government's accountability for its reputation’*.

In relation to sensemaking, the results were even more salient for their emphasis placed on the importance of use of conceptual skills in this area of leadership competence. The results of the empirical research indicate the utmost importance of sensemaking as a means to succeed in leading change. This competence received the highest frequency of appearance and repetition. According to the results, the sensemaking competence constitutes the broadest area of leadership competence containing conceptual skills. This skill includes many conceptual skills that create the mindset of the leader of change, determine how he or she thinks, asks, and analyses to lead everyone towards a more comprehensive and accurate understanding of their situation.

In one of the focus groups, one of participants praised the competence of his leader with the following account:

For example; we were reviewing a report to be presented to the Executive Board on the performance of the Dubai Plan. This report contains elements for the Roads Authority. He does not look at the details but on key issues. He asks about the issues that the organisation has a direct impact on, for example, benchmarking with other cities? Is the comparison intact? He does not ask about the number, but asks about the basic process, about the input numbers, or about the way the report works, and that is the leader's thinking skill.

Sensemaking was portrayed by participants in this research as highly influential, enabling leaders to present persuasive and rational accounts and create mental models that distinguish the leader of change from other leaders; as a member of the focus group described his manager, *'when everyone is exasperated he is unperturbed, he is non-emotional when others are'*. Most of the participants in this study repeatedly asserted that a leader must be able to coordinate retrospective activities and encourage new ways of thinking about diversity, complexity and incompleteness. The leader should possess an ability for structuring the unknown, and making the intractable actionable. These are all sub-skills of sensemaking competence. In summary, without an adequate degree of conceptual skills contributing to overall competence in sensemaking, a public sector leader cannot lead change successfully.

Also, the results confirm the importance of integrative leadership thinking. Competence in integrative leadership involves a wide range of conceptual skills and the top level of leaders, in this study, are experts proficient in using and understanding these skills when leading change. As one participant puts it, integrative competence is the first and most important evidence of successful Government action. If Government leaders did not have integrative thinking, then the UAE Government would not have achieved what it has done; he said:

'Government accelerators have an integrative approach, and there have been successes and progress due to integrative thinking'.

Finally, according to the results of this research regarding innovative thinking, it was clear that a group of conceptual skills exists within this competence. In general, this competence was the least prevalent of the four. However, it is a powerful indicator of the best leaders in change, and is a sign of the emergence of a set of sub-skills that identified the top level as adopting conceptual skills most competently and effectively in leading change. The errors or

deficiencies in this area of leadership competence appear to be significant, and the prevention of innovation was a feature of several leaders at the *Developing* and *Proficient* levels of leadership. The formal interviews have shown many errors can be made by these groups of leaders. One participant said: *‘Our manager lacks the ability to balance between search and stability where he invests in the improving existing services but is not investing in researching new possibilities’*. Another said: *‘We have a manager who tends to be rather conservative, conventional, and suffering from complexities’*. Furthermore, a third follower said:

The main problem of the innovation in our organisation is that the managers do not offer healthy criticism, they do not like disdain for the status quo. In addition, most of them lack different way of thinking and lack interest in a wide range of related and divergent fields.

6.2 Mapping the model of conceptual skills to other theories: Similarities? Differences?

Inconsistencies and gaps?

The model of conceptual skills applied within this research and the competencies that are held by leaders of change in the public sector share common ground with many theories presented by other researchers.

For example, in his list prepared in the book *Riding the waves of change*, Morgan (2013) presents several essential aspects of conceptual skills in the field of self-regulation, sensemaking, integrative leadership, and innovative leadership. Morgan’s list of leadership behaviours and competencies and related skills are similar to the conceptual skills examined in the research for this thesis.

Table 40: Similarity to Morgan’s (2013) leadership behaviour

Morgan’s leadership competence	Conceptual skills derived from this research
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Refraining from creating problems to create new solutions as a skill of <i>Developing contextual competencies</i>	<ul style="list-style-type: none"> - A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives (McNamara, 2015).
Managing many things at once as a skill of <i>Managing complexity</i>	<ul style="list-style-type: none"> - ‘Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness’ (Dervin, 1998, p. 39).
Planning with evolution in mind, and information management mindsets as part of <i>using information technology as a transformative force</i>	<ul style="list-style-type: none"> - ‘Structuring the unknown’. - Knowledgeability: ‘to put things into words’ (Giddens, 1981).
Helicoptering; Managing ambiguity as part of <i>Skills of remote management</i>	<ul style="list-style-type: none"> - ‘Structuring the unknown’ (Waterman, 1990, p. 41) by ‘placing stimuli into some kind of framework’ that enables us ‘to comprehend, understand, explain, attribute, extrapolate, and predict’ (Starbuck & Milliken, 1988, p. 51).
Striking a balance between chaos and control as a skill of <i>Promoting creativity, learning, and innovation</i>	<ul style="list-style-type: none"> - Achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence (Sternberg, 2003, p. 142).
Valuing people as key resources as a skill of <i>Human resource management</i>	<ul style="list-style-type: none"> - Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion (Mumford et al., 2002).
Communicating an actionable vision as a skill of <i>Leadership and vision</i>	<ul style="list-style-type: none"> - Formulating intrinsic aspirations, goals and plans, and achieving them (Gagne & Deci, 2005).
Developing proactive mindsets as a skill of <i>Proactive management</i>	<ul style="list-style-type: none"> - Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning (Weick et al., 2005).
Scanning and intelligence functions; Forecasting and futurism; Scenario planning; Identifying ‘fracture lines’ as <i>Reading the environment</i> competence	<ul style="list-style-type: none"> - Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change (Klein & Baxter, 2006; Klein & Zsombok, 1997; Weick, 1995). - Competence: ability to be effective in dealing with the environment (Vohs, Baumeister & Ciarocco, 2005). - Future shaping/ Future foresight/Anticipating the future/ Shape the future/ Have a future orientation.

Also, the results of the research are close to that of Noble and Fallesen (2000) who classified conceptual skills into three sections, Situation Understanding, Simulation, and Self-regulation. In this study and Noble and Fallesen’s research, self-regulation is understood as incorporating a group of conceptual skills.

In a more recent study, Graham-Leviss (2016) found that innovative leadership is better than non-innovative leadership in six skills, one being ‘Demonstrate curiosity’ which is consistent with the results of this research regarding the skill of ‘Divergent thinking characterised by fluency, flexibility, originality, and elaboration’, in the area of innovative leadership

competence. In this empirical study, the researcher found that one of the important conceptual skills to lead change is 'Political skill' where the leader develops a style of interaction that reads and understands circumstances, and presents only the correct kind of behaviour to persuade others to do what he desires. One potential problem with this skill is that some philosophers consider it to be a manipulative concept (Ferris et al., 2011) that has the potential for unethical behaviour. However, this research shows that the leader has to give meaning to experience and make sense of issues; he or she also has to consistently retain a mental model and give rational accounts grounded in identity and used in the construction of reality. This sets limits to the extent that political skill can be unethical and the skill of the leader in developing appropriate mental models is complemented by another conceptual skill that is 'Formulating intrinsic aspirations, goals and plans which are linked to vision, and trustworthiness and trust in their judgment'. Furthermore, the four areas of leadership competencies complement each other to form an integrated approach in the leader's use of conceptual skills. Political skill and action may not be conducive to sustained and sustainable change, but integrated conceptual skills play this role. Some of the participants in this research confirmed this idea; for example, one said,

Leadership without morals and self-regulation cannot continually persuade followers, as well as political skill without being governed by other conceptual skills that do not achieve long-term goals. These essential conceptual skills in leading change are the ability to sensemaking and sense-giving with self-regulation that represents the meaning of leader as a role model that followers want to support.

Consequently, it can be argued that the political skill that some leaders correctly understand is consistent with the meaning and purpose of conceptual skills applied in the public sector to enact ethically justifiable governmental and societal change. The conceptual ability and competence in leadership enables the public leader to find the 'interconnected variables' of

change parties, looking at the ‘whole casual picture’, and finding ‘causal relationships that are merging systems’ when engaged in the change process. Organisational and cultural characteristics in Government entities require a leader with the skills and abilities to analyse the external environment and play a political role linking stakeholders and the parties of interest to change and clarify its objectives. As one participant from the *Expert* level said, *‘Most of what I am thinking about is to bring stakeholders together in change and to clarify the goals of change for them. This needs to play a political role with everyone’*.

These results are consistent with many models and studies of methods of change management. These models seek to identify the practices and competencies required in leadership to manage change effectively. A number of them have been discussed in the literature review; for example, Bass’ (1987) distinction between two types of leadership, namely, Transactional and Transformational Leadership. This thesis emphasises the role of conceptual skills in promoting transformational leadership. Some of the leaders interviewed referred to concepts of transformational leadership and change. One said,

We learned and practiced transformational leadership, and what we found as leaders that this method of leadership does not give definite results if it does not have a leadership mentality that has many conceptual skills, such as systems thinking, a way of thinking about diversity, complexity, and a mental account.

The results confirm the importance of competence, in terms of the ability to be effective in dealing with the environment, and trust in the ability of followers to participate in change. This is in line with the results of Heifetz and Laurie’s (2001) research, which emphasised that change requires adaptive leadership capable of analysing the external environment, motivating staff to be more aware of external changes, and giving them the opportunity to deal with these changes.

Also, the results are informative on concepts from Stace and Dunphy's (1993) model on how leadership style varies according to the type of change applied in the organisation. Stace and Dunphy's model presents four distinct types of change – these are fine-tuning, incremental change, transformational change, and corporate transformation. In this study leaders identified at the level of expert use both exploration and exploitation skills when fine-tuning, adapting, reconfiguring and combining existing resources and new possibilities to meet changing environments.

Kotter (1996) identified the most important leadership competencies in three areas of leading and managing change – analysing and interpreting the external environment, clarifying the goals of change, and the political role. The findings from this study confirm that change leaders do understand and analyse the information in its context, which is one of the conceptual sub-skills that constitutes the skill of structuring the unknown.

With reference to the leader's political role, most of the participants (15 out of 18) proposed that skill in sense-giving is the most important competence for successfully executing their political roles. They emphasised that the successful change leader has the political skills to play a positive political role based on negotiation, persuasion and positive influence on the stakeholders. It is worth mentioning that 'a sense of urgency for change' is one of the eight components of Kotter's model. One expert-level participant said, *'The political role that I am practicing require me to negotiate, persuade and make a positive influence on the staff to create a sense of urgency for change and ensure their active participation in the process of change'*. Another leader said, *'Most of the obstacles and difficulties that have been overcome by me have been easy if you have the skill of sense-giving'*. Competence in playing a positive political role helps to build alliances with influential and experienced stakeholders. An expert-level participant indicated: *'I had to form alliances with influential and experienced people in*

order to accomplish the tasks of change. The ability to convey meaning to this group needs a lot of wisdom and knowledge in the way they think’.

In contrast, the researcher concluded that some of the leaders who are at the *Developing* level are sometimes practicing what constitutes negative political roles such as paying too much attention to personal interests, over-control of resources and information, and preventing others from gaining access to the key decision-makers. Kotter’s research has been sensitive to political astuteness and skill in leading change (Buchanan & Badham, 1999; Carnall, 2003; Kotter, 1996). Also, this research is consistent with Buchanan and Badham's (2008) Model, which identified the policy approaches of managers in the process of change. The researcher concluded that the most important of these skills for leaders in the government are:

Table 41: A comparison of the research findings with Buchanan and Badham’s (2008) Model

Buchanan and Badham’s (2008) leader of public sector skills	Similar to /included in/close to conceptual skills in the results of this research
– Building effective communication networks	– Building confidence in dealing with the environment
– Establishing good relations with those with power and influence	– Creating fit between leaders and their environments
– Winning the support of the influential people and the main expertise	– They are capable of trustworthiness for many reasons including the fact that they trust in their judgment
– Changing the rules and procedures to suit the situation	– Understanding the new reality, giving additional input to support and allocate meaning
– Spreading the successes and gains achieved	– Formulating intrinsic aspirations, goals and plans which are linked to vision

In this study, the researcher found that the conceptual errors of government leaders are: finding other people to blame for errors, claiming rewards from others, using others to spread bad news, not publishing useful information, highlighting others' mistakes and shortcomings, delaying change initiatives for fear of failure, or preventing others from knowing the plan. Even worse, in some situations the researcher found some of the participants were trying to use false information to prove false successes, to confuse others, and to spread rumours. The

misuse of these specific skills stated above are the closest ones to the conceptual errors identified in this empirical research.

6.3 The rationale for developing the conceptual model

An integrative model of public sector leaders' conceptual skills in leading change is developed and verified in this study. This model extends and builds on the previous work and endeavours by social scientists such as Katz (1974), Mumford et al. (1998, 2000, 2007, 2010, 2015, 2017), Northouse (2010) and Yukl (2006). One major difference is that this model adopts a new concept of conceptual skills used in leadership specifically within the public sector. Several new elements and characteristics have been added to this model. First, a more explicit effort is made to create a model that combines the uniqueness of the subject of research and the accuracy and diversity of research methods with specialisation in the field of the Government sector. These are all areas where scientific research findings are comparatively scarce or limited. So, second, a distinction is drawn between leading change in the public and private sectors. Third, the relationships between conceptual skills and how they affect four areas of leadership competence have been extrapolated and distinguished. Finally, the new model of conceptual skills provides a general framework to guide researchers in future research on the roles of conceptual skills in leading change.

6.4 The logic behind dividing leaders into three levels

The reasoning behind the classification of conceptual skills into three levels relies on different sources and a combination viewpoint; the following section explains this division by breaking it down into three levels.

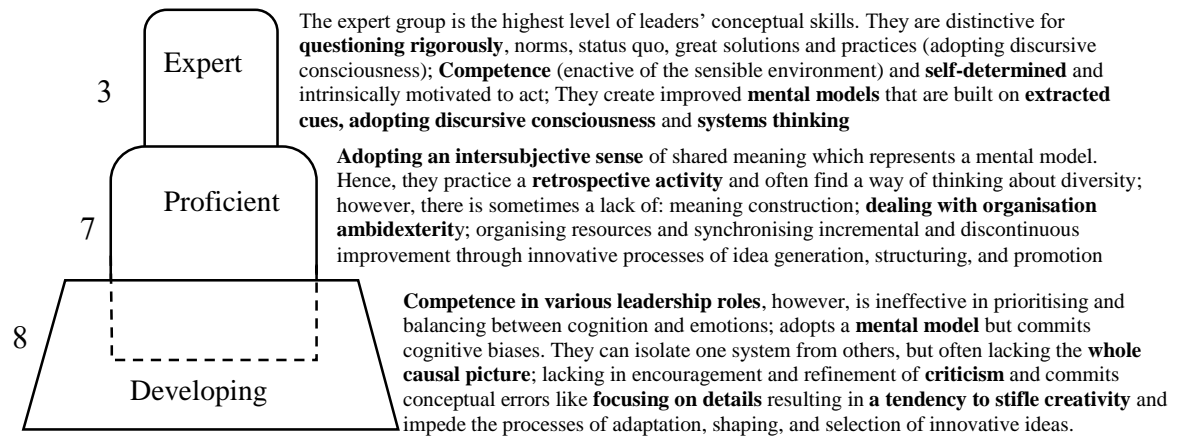


Figure 14: The three levels of leader's adoption of conceptual skills

At the first level, the application of conceptual skills is represented by leaders in its entirety, where they possess the knowledge and ability to master these skills. Evidence of the effective use of conceptual skills then begins to decrease in the other two levels, since the appearance of these skills is not as strong as it is in the first level. The research found that the first level maintains up to 21 conceptual skills in sufficient articulation. At the *Advanced* level, these conceptual skills seem to be associated and have an active role in leading change, and they appear to be appropriately practiced and understood by this group of leaders. Although leaders at the second level are practicing a significant number of conceptual skills, where they are recognised and understood by individuals, their potential to appear and be used by leaders is lower than the first level. Also, their strengths and actual outcomes are not as high as in the first level, both in terms of practicing and understanding. An example of this qualitative difference between the *Advanced* and *Proficient* levels of leadership is the skill 'Find a way of thinking about diversity, complexity, and incompleteness'. While leaders at the *Proficient* level share a part of this skill in that 'intersubjective sense of shared meaning' is a sub-skill of the main conceptual skill, they lack 'many distinct aspects'

and they may practice some erroneous forms of conceptual thinking like ‘driven by plausibility that does not represent their plausible accounts’. Thus, although some sub-skills exist, there are some abilities and dimensions of the conceptual skill missing. Hence, a leader typical of the second level may have capabilities in this skill such as an ‘intersubjective sense of shared meaning’, but these leaders’ conceptual processes and sub-skills lack ‘many distinct aspects’.

At the third level, some of the conceptual skills were evident, but some were more noticeably lacking. Not all of these skills were noticeable in the leaders' practices, nor were they all understood. Although the skills are available but incomplete for this group of leaders, where the ability does exist they lack some practices that support development of the conceptual skills on to proficient and then exceptional intensity and power. Furthermore, this group are making more conceptual errors, and adopting erroneous practices that lessen the influence of their set of conceptual skills on leading change. An example is the skill of ‘elaborate discursively upon one's reasons’; in situations where the third level leaders have a ‘reason for action’, they use the skill of ‘elaborating discursively on self-reasons’, but lack adoption of ‘flexible purposing’ and ‘considering rejecting standardised formats for problem-solving’. Consequently, difficulties can arise since all of these sub-skills are essential abilities in performing the skill to ‘elaborate discursively upon one's reasons’.

Overall, the 21 conceptual skills at the first level exist in their entirety for the purposes of leading change, while 15 skills in the second level are proficient, and six other skills exist but are incomplete. At the third level, 10 conceptual skills are proficient or expert, but 11 of the other skills are deficient. Leaders at this level may even perform counter-

practices that do not value the role of these conceptual skills thus disrupting their value and potential for making the desired change. For example, while they are exercising innovative leadership competence, such as ‘Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion’, they are practicing contrary activities and skills that ‘Stifle creativity’. This skill can interrupt ‘Organising resources of innovative processes ...’ particularly if they add this erroneous and disruptive practice to other areas of innovative competence, such as demonstrating a lack of ‘Healthy criticism and disdain for the status quo’.

6.5 Three levels to adopt conceptual skills

The three levels can be distinguished by three principal criteria:

1. *Skills uniqueness*: the emergence of conceptual skills is evident in practice and reflection, as is the expression of understanding of these skills;
2. *Skills role in leading change*: the conceptual skills’ effect and role on leading change;
3. *Conceptual errors*: practicing what contradicts the result of the use of conceptual skills and disrupts their strength and impact.

Thus, there are different ways leaders are experiencing and understanding their use of conceptual skills:

1. A leader who practices the conceptual skills and understands them correctly.
2. A leader who is only utilising the conceptual skills without considering their impact and outcome.

3. A leader who is performing some but not the whole set of conceptual skills and, also, is not realising their impact.
4. A leader who disrupts the influence of some conceptual skills through erroneous adoption of other conceptual skills, and performing conceptual errors during skill performance, that limits effectiveness when leading change.

Hence, in relation to leaders acquiring and understanding their conceptual skills, the three levels can be defined as follows.

First level: the highest level reached by a leader who is someone who can ‘apply conceptual skills professionally, correctly and without practicing what could limit the value of conceptual skills. Also, the impact of these conceptual skills on leading change is evident, and there is no apparent, major erroneous adoption of conceptual skills that disrupts change leadership. This is the top level of adoption of conceptual skills; leaders are at the *Expert* level. The researcher found that leaders at this level are extraordinarily capable with extensive knowledge and performance in conceptual skills; they also are continually deepening their understanding of their conceptual skills to create mature performance in change leadership.

Three participants represent this level; the first is the leader who is a disseminator, models the way, inspires a shared vision, challenges the process, and is able to recognise how several functions of his organisation depend on one another. He is an ambidextrous leader who generates multiple types of innovation regarding the internal process and incremental and radical service innovation simultaneously. These qualities match with Katz’s (1974) definition of conceptual skills: ‘conceptual skill involves the ability to see the enterprise as a whole, it includes recognising how the various

functions of the organization depend on one another, and how changes in one part affect all the others' (quoted in Tonidandel, Braddy & Fleenor, 2012, p. 652).

The second leader at the *Expert* level can be described as follows: process directed, managing diversity (cognitive complexity), drawing on the team's collective potential and individuality (with no single approach to address the full complexity). He can only make common goal-setting and goal-getting a team responsibility and allows a fair reward system to be lived and enjoyed. A visionary, inspired, supporter, problem solver and change leader (understand the changing context, challenge the expectations of his working groups, and able to adapt to different environments). That is one of the groups of conceptual skills within the self-regulation leadership competence. For instance, Noble and Fallesen (2000) specified that self-regulated people could adapt to changing environments, process an exorbitant amount of information, and maintain an acceptable level of control of themselves, the system and situation.

The third leader in the expert group is capable of crafting own objectives and aspirations to overcome all the difficulties through 'Mindfulness and self-information'. He retained consciously discursive and emphasised organisational thinking, understanding the requirements of the Government trends with a sense of knowing the links and gaps. He is characterised by his ability to bring together different groups of employees in ways that make everyone useful to the organisation. He is an integrative leader who is consistent with what Crosby and Bryson (2010, p. 211) described as: '... bringing diverse groups and organisations together in semi-permanent ways – and typically across sector boundaries – to remedy complex public problems and achieve the common good'.

Second level: there are seven leaders categorised by the researcher at the level of proficient. These seven leaders ranked in the level of proficient can be described as keen to understand conceptual skills, and are skilled in leadership skills in other areas of competencies, such as human skills and technical skills, but they commit some conceptual errors that may impede the effectiveness of their conceptual skills. They are conceptualised, but some of these skills are missing. In some areas of conceptual skill, dimensions have not been fully developed, or they need a deeper understanding.

A member of this level can be described in ways such as the following: she has the capacity to consciously discursively monitor her values, cognitions and emotions. She explains her reasons in detail, and has successful intelligence (achieves a balance of analytical, creative, and practical intelligence types). Another typical description of leaders at this level is: stakeholder-oriented who communicates with partners effectively, disturbance and complexity handler, promotes learning, and innovation, uses information technology and develops contextual competencies. Also found among this level of leader, members can be described as knowledge-oriented, leading with 'heart and head', and effective in dealing with the social information. Those in this level engage in retrospective activity resulting in a mental model that can elaborate discursively upon one's reasons, and processes of adaptation, shaping, and selection.

Third level: The *Developing* level of leaders are good at and practiced in conceptual skills; however, they make conceptual errors in building certain perceptions, and commit a number of conceptual errors that prevent the impact of their conceptual skills contributing positively to achieving the desired change. Also, this group of leaders can

successfully perform some of the conceptual skills that they find more difficult with concentration and determined intent.

Based on two dimensions, the uniqueness of conceptual skills and their role in leading change, Figure 15 below presents the four areas of leadership competencies; self-regulation, sensemaking, integrative thinking, and innovative leadership. The farther away from the zero point and centre coordinates, the higher the strength and intensity of the conceptual skills, and their adoption by change leaders in the government sector. Also, the closer the competencies are to the zero centre coordinates, the lower the level of adoption of conceptual skills and the lower their influence in leading change. The following figure explains how the three leadership levels differ in the execution of conceptual skills.

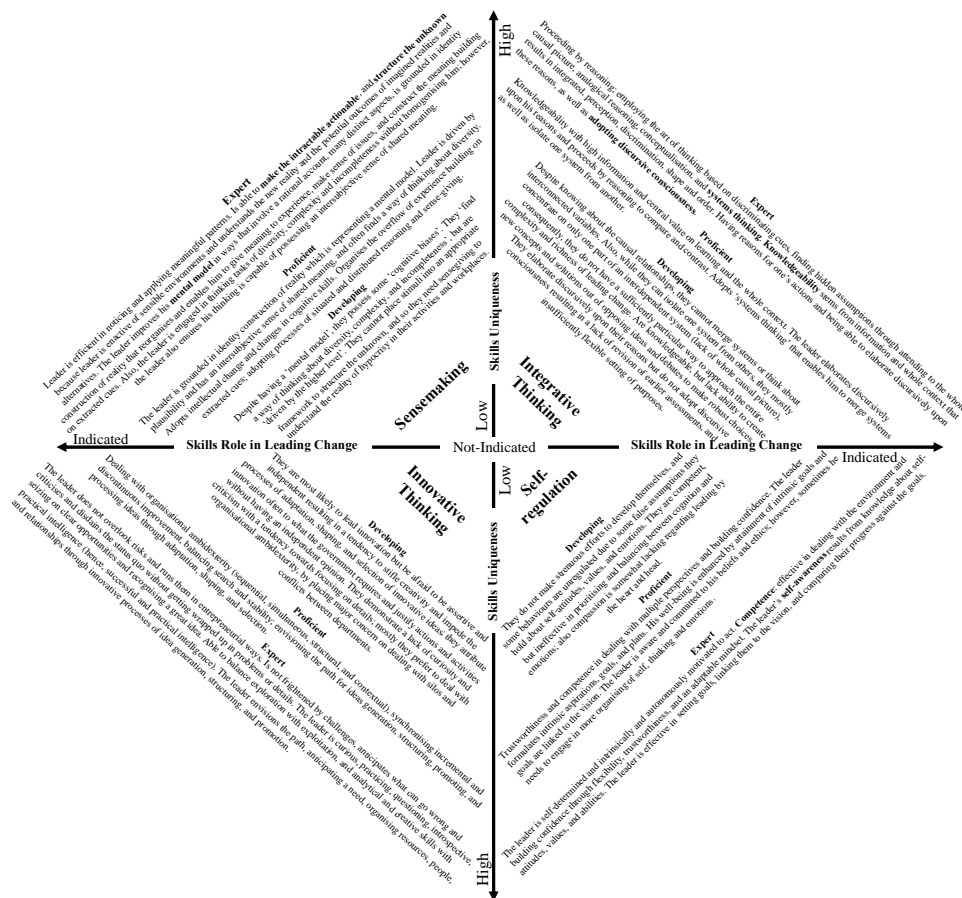


Figure 15: The three levels of a leader's conceptual skills according to the skill's uniqueness and its role in leading change

The three levels differ in their adoption of conceptual skills, and the most important of these differences in the four areas of self-regulation, sensemaking, integrative leadership, and innovative leadership is explained in the following section.

6.6 Main findings and the structure of the outcome space

Larsson and Holmström (2007) explained that the result of a phenomenographic study is not only the categories discovered by the researcher. The last step in the analysis is to investigate the internal relations between the categories. The four areas of understanding and their internal relations then constitute the outcome space. Phenomenography as a theoretical structure and methodology typically has as its outcome a combination of categories that are usually hierarchical, which are differences between the individuals' experiences of a phenomenon. The overall outcome space often indicates an increasingly broad area of general expertise.

The following is the 'Expert Outcome Space', based on participants' understanding of the phenomenon. The first outcome space is about the *Expert* higher level of leaders who employ conceptual skills almost perfectly.

A. Sensemaking

Leader is efficient in noticing and applying meaningful patterns. Is able to **make the intractable actionable**, and **structure the unknown** because leader is enactive of sensible environments and understands the new reality and the potential outcomes of imagined realities and alternatives. The leader improves his **mental model** in ways that involve a rational account, many distinct aspects, is grounded in identity construction of reality that reorganises and enables him to give meaning to experience, make sense of issues, and construct the meaning building on extracted cues. Also, the leader is engaged in thinking tasks of diversity, complexity and incompleteness without homogenising him; however, the leader also ensures his thinking is capable of possessing an intersubjective sense of shared meaning. (+6 emergent skills, -1 lack of skill, and 2 conceptual errors)

<p>B. Integrative Leadership Proceeding by reasoning; employing the art of thinking based on discriminating cues, finding hidden assumptions through attending to the whole causal picture, analogical reasoning, conceptualisation, and systems thinking. Knowledgeability stems from information and whole context that results in integrated, perception, discrimination, shape and order. Having reasons for one's actions and being able to elaborate discursively upon these reasons, as well as adopting discursive consciousness. (+ 3 emergent skills)</p>	<p>C. Self-regulation The leader is self-determined and intrinsically and autonomously motivated to act. Competence: effective in dealing with the environment and building confidence through flexibility, trustworthiness, and an adaptable mindset. The leader's self-awareness results from knowledge about self-attitudes, values, and abilities. The leader is effective in setting goals, linking them to the vision, and comparing their progress against the goals. (+2 emergent skills)</p> <p>D. Innovative Leadership The leader does not overlook risks and runs them in entrepreneurial ways. Is not frightened by challenges, anticipates what can go wrong and criticises and disdains the status quo without getting wrapped up in problems or details. The leader is curious, practicing, questioning, introspective, seizing on clear opportunities and recognising a great idea. Able to balance exploration with exploitation, and analytical and creative skills with practical intelligence (hence, successful and practical intelligence). The leader envisions the path, anticipating a need, organising resources, people, and relationships through innovative processes of idea generation, structuring, and promotion. (+3 emergent skills, -1 lack of skill)</p>
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Figure 16: The outcome space of the expert-level of conceptual skills

Figure 16 above shows that the area of sensemaking is the dominant area of the four skills. Integrative thinking had the second highest number of significant sources of evidence, followed by the integrative thinking, and at almost the same level, innovative thinking and self-regulation.

The *Proficient* level of the leader has another outcome space which differs from the first level in several ways and can be represented as follows:

<p>A. Sensemaking The leader is grounded in identity construction of reality which is representing a mental model. Leader is driven by plausibility and has an intersubjective sense of shared meaning, and often finds a way of thinking about diversity. Adopts intellectual change and changes in cognitive skills. Organises the overflow of experience building on extracted cues; adopting processes of situated and distributed reasoning and sense-giving. (+1 emergent skill, -6 lack of skills, and 3 conceptual errors)</p>
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<p>B. Integrative Leadership Knowledgeability with high information and central value on learning and the whole context. The leader elaborates discursively upon his reasons and proceeds by reasoning to compare and contrast. Adopts 'systems thinking' that enables him to merge systems as well as isolate one system from another. (+1 emergent skill, -6 lack of skills, and 1 conceptual error)</p>	<p>C. Innovative Leadership Dealing with organisational ambidexterity (sequential, simultaneous, structural, and contextual), synchronising incremental and discontinuous improvement, balancing search and stability; envisioning the path for ideas generation, structuring, promoting, and processing ideas through adaptation, shaping, and selection. (+3 emergent skills, -6 lack of skills, and 6 conceptual errors)</p> <p>D. Self-regulation Trustworthiness and competence in dealing with multiple perspectives and building confidence. The leader formulates intrinsic aspirations, goals, and plans. His well-being is enhanced by attainment of intrinsic goals and goals are linked to the vision. The leader is aware and committed to his beliefs and ethics; however, sometimes he needs to engage in more organising of self, thinking and emotions. (+2 emergent skills, -3 lack of skills, and 1 conceptual error)</p>
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Figure 17: The outcome space of the proficient level of conceptual skills

The *Developing* level has an outcome space that differs from the *Expert* and *Proficient* levels.

Figure 18 below presents the outcome space for this level of leadership.

<p>A. Integrative Leadership Despite knowing about the causal relationships, they cannot merge systems or think about interconnected variables. Also, while they can isolate one system from others, they mostly concentrate on only one part of an interdependent system (lack of whole causal picture), consequently, they do not have a sufficiently particular way to approach the entire complexity and richness of leading change. Are knowledgeable, but lack ability to create new concepts and solutions out of opposing ideas and debates to make robust choices. They elaborate discursively upon their reasons but do not adopt discursive consciousness resulting in a lack of revision of earlier assessments, and insufficiently flexible setting of purposes. (+1 emergent skill, -11 lack of skills, and 5 conceptual errors)</p>	
<p>B. Sensemaking Despite having a 'mental model', they possess some 'cognitive biases'. They 'find a way of thinking about diversity, complexity, and incompleteness', but are 'driven by the higher level'. They cannot place stimuli into an appropriate framework to structure the unknown, and so they need sensegiving to understand the reality of hypocrisy in their activities and workplaces. (-12 lack of skills, and 5 conceptual errors)</p>	<p>C. Self-regulation They do not make strenuous efforts to develop themselves, and some behaviours are unregulated due to some false assumptions they hold about self-attitudes, values, and emotions. They are competent, but ineffective in prioritising and balancing between cognition and emotions; also compassion is somewhat lacking regarding leading by the heart and head. (-5 lack of skills, and 6 conceptual errors)</p> <p>D. Innovative Leadership They are most likely to lead innovation but be afraid to be assertive and independent resulting in a tendency to stifle creativity and impede the processes of adaptation, shaping, and selection of innovative ideas; they attribute innovation often to what the government requires and justify actions and activities without having an independent opinion. They demonstrate a lack of curiosity and criticism with a tendency towards focusing on details; mostly they prefer to deal with organisational ambidexterity, by placing major concern on dealing with silos and conflicts between departments. (+2 emergent skills, -8 lack of skills, and 11 conceptual errors)</p>

Figure 18: The outcome space of the developing-level of conceptual skills

The three outcome spaces explain the main difference between the three levels of adoption of conceptual skills. The three outcome spaces all show that the largest and most important area in the use of conceptual skills for leading change is sensemaking, followed by integrative leadership.

Also, in the previous explanation of the outcome spaces of the three leaders' levels, the researcher has intentionally used the singular form for the *Expert* and *Proficient* levels but the plural form for the *Developing* level. This would emphasise the need for everyone at the *Developing* level eventually to move forward to the next levels.

6.7 Erroneous adoption of conceptual skills by public sector leaders

Despite the findings that leaders in the government sector are adopting a set of conceptual skills, this research also finds there are conceptual errors that most of the leaders make from time to time. Thus, for instance, despite the adoption of a 'mental model' for leading public sector change, many of the public sector leaders build convictions based on cognitive biases that can occasion ineffective leadership. Also, despite the fact that they are capable of 'finding a way of thinking about diversity, complexity, and incompleteness', and develop 'an intersubjective sense of shared meaning', they lack 'many distinct aspects' necessary for effective leadership of change. This is an example of a lack of effective application of conceptual skill; however, erroneous adoption of conceptual skills can be illustrated in the following case.

Based on a number of participants' statements, the researcher found that most of the public leaders may be driven by plausibility and reasonableness, and not driven by their own

plausible accounts or by higher risk decisions that may yield better results in the event of transformational change outside of the comfort zone. *'I am here to do what the Government requires'* one said. *'This is what he ordered'*, *'We are here to prove the wisdom of the Government's tendencies'* ... etc., and other statements that indicate that these are more concerned with the consent and approval of the Government and its representatives than with their conviction. Since acting solely according to the conditions of Government-required actions involves no risk, this is an erroneous adoption of conceptual skills within the area of sensemaking, and lacks initiative in finding a way of thinking that supports diversity and complexity, in order to obtain more innovative ideas.

In the next four sections of this chapter, the leaders' conceptual errors are explained for each of the four areas of leadership competence.

Sensemaking area deficiencies and erroneous use of conceptual skills

Ancona (2012) stated that sensemaking is highly linked with leadership effectiveness—even more so than any other leadership skill. Similarly, this research finds that sensemaking is very important although there is a lack of conceptual skills among public leaders in this area of competence. This shortage occurs in two aspects; a lack of skill in finding an effective way of thinking to deal with diversity, complexity and incompleteness (levels of proficient and developing), and a lack of adoption of sensemaking as a retrospective activity. This absence raises the questions as to why leaders lack these skills, and why specifically in the Government sector?

At first, so that the leader can find a way of thinking for sensemaking, he must have an intersubjective sense of shared meaning with many distinct aspects. Also, adopting

sensemaking as a retrospective activity means developing a deeper understanding of the potential outcomes of imagined realities and alternatives, and thinking in ways to reify and reinforce cues and add to the repertoire of retrospective experience. Hence, the research findings offer evidence that this group of public leaders often make plausible sense of phenomena retrospectively, and are usually driven by plausibility that does not represent their own plausible accounts of the issues. The primary problem with the structuring of meaning among Government leaders is that their measure of reasonableness is linked to the consent of representatives in the Government, rather than to plausibility achieved through reason and logic. The problematic situation for *Proficient* and *Developing* levels, and even the *Expert* level of public leaders, is that they consider the compatibility of action with what people in the Government or the higher levels of leaders want. This means that in estimating the way forward and calculating issues of uncertainty, they do not engage in sufficiently conceptual skills when thinking about how to achieve specific results. This error in application of conceptual skill happens without giving themselves – as change agents – a chance to understand more broadly or to formulate a design according to their own sense of rationality, which may hinder innovation and prevent sufficient realisation of the diversity of ideas on how to change organisations. A leader categorised by the researcher as in the *Developing* level explained this kind of thinking: ‘*When you have an opinion that is contrary to the preferences of people in the government, your idea does not reach you anywhere, so before you put a view confirm it by the acceptance of these people and support them. I am advising the safest way to achieve your initiatives*’. Through proceeding on this basis, he does not have to reify and reinforce cues and add to the repertoire of retrospective experience, because there is somebody who will justify and explain it instead of him, which is someone who represents the Government’s agenda.

This type of reasoning does not correspond to what social scientists have pointed out about sensemaking. Maitlis and Christianson (2014) explained that when leaders encounter instances of uncertainty or ambiguity, they should seek to explain the events by extracting and understanding cues that exist, using this way of thinking to build a plausible account that offers order and makes sense of what is going on (Brown, 2000; Maitlis, 2005; Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). When leading change, the public leader needs to engage in 'structuring the unknown' through using conceptual skills that Starbuck and Milliken (1988, p. 51) summarise as 'placing stimuli into some framework that enables us to comprehend, understand, explain, attribute, extrapolate, and predict'. Leaders need this conceptual skill to encourage the clarification of expectations, particularly when people's expectations are different and contradictory, and the role of the change leader is to facilitate clarification of expectations. Hence, the results of this research demonstrate that this group of public leader lacks skills in encouraging clarification of expectations which is part of 'construction of the unknown'.

Moreover, the *Developing*-level leader commits more erroneous adoption of conceptual skills through working in a hypocritical workplace environment, failing to explain the unknown while preferring prefabricated models of opinions about phenomena. A number of the leaders' subordinates, for instance, made such remarks: *'Despite the high morals of our manager, he surrounds himself with a hank those do not show him wrong and do not give him advice, but instead that they are interested in bringing their own interests'*. Another said, *'His behaviour with the staff concerning bringing them closer to him and excluding others, makes you think that he does not trust anyone but those who praise his work only'*.

The research findings show that leaders at the *Developing* level lack the ‘ability to deal with the flexibility, and cognitive complexity’, due to their inability to make enough order out of chaos. Achievement in this kind of thinking requires addressing violated expectations showing a concern for connecting cues and constructing intersubjective meaning. An *Expert* level leader explained it as follows:

Leader effectiveness emphasises noticing the pattern of change, and that requires me to adjust my expectation so that it meets the unexpected result. The expectation adjustment is what keeps expectation change in the circumstances of inconsistent and conflicting expected results.

Maitlis and Christianson (2014, p. 67) explained that a violated expectation plays a critical role in sensemaking and is what stirs and sparks the mind to make sense. They clarified sensemaking as a mental process, encouraged by violated expectations, that includes caring about and bracketing cues in their context and creating intersubjective meaning through series of interpretation and execution, and thereby creating a more organised situation from which further cues can be carried.

In this research, the researcher examined how leaders made sense of conflicting beliefs. The *Expert* level leaders were consistently having a mental model and a rational account grounded in identity and used in the construction of reality. However, the *Proficient* and *Developing* levels of public leaders mostly failed to reconcile their expectations with experienced reality. Maitlis and Christianson (2014) indicated a similar examination and findings conducted in studies by Bugental, Tannenbaum and Bobele, (1968), Manis (1978), Staw and Ross (1978) and Weick (1967). Maitlis and Christianson (2014, p. 66) indicated that Salancik (1977a, 1977b) demonstrates vividly ‘how acting on beliefs could constrain future choices and possible action’. The skill in encouraging clarification of expectations is one of the main conceptual skills of sensemaking. Meanwhile, the lower levels of public leaders fail to

distinguish and clarify differences and choices, preferring to claim that: *‘The main problem we are encountering as leaders in the government and cannot absorb is the many changes and demands, as we are almost no longer a new initiative until another initiative comes to replace that which was accepted’*.

Maitlis (2005, p. 21) affirms that sensemaking is activated when people confront issues, events, and activities that are to some extent unexpected or unclear. In the same way, Louis (1980) explained that sensemaking starts with an event that triggers a need for explanation. Sensemaking Weick (1995, p. 49) asserts is ‘focused on and by extracted cues’, in a course of action in which leaders understand and clarify a set of cues from their surroundings. In this research, the *Expert*-level leaders can recognise the nature of the change from experiences, and move between feeling and thought, continuously looking for and giving an indication, and creating and examining reasons, although the lower-levels are more characterised by a lack of ability to deal with the flexibility and cognitive complexity. Finally, regarding the skill of making the intractable actionable, the research findings reveal that the *Expert*-level leaders are shrewd; understanding the new reality, giving additional input to support and allocate meaning. However, the lower levels are adopting erroneous conceptual thinking and competence by delivering other people’s thoughts and senses and then trying to convince others that they are their own.

Hence, sensemaking is an extremely useful skill, and it is important to teach it to public leaders. This may include multiple teaching modes/models to convert this complex concept into the reality of the work of leaders, and build their competence in this area. In this context, Ancona (2012, p. 15) explained that this era is increasingly complicated, where unpredictable affairs and shifting environmental, social, political, and economic requirements confront us

daily, so what leaders and organisations need is to explicitly make better sense of these events. This involves examining further and more comprehensive methods, generating plans that are plausible representations of what is happening, and working in the system to increase our perceptions of what is going on. It is not a condition that we know everything; rather it is important to get closer to reality. What is important for increasing the effectiveness of the leadership change in the public sector organisation is to make competence in sensemaking the most critical capability for individuals and leaders so that people overcome their fears of the unknown and can lead in contexts of uncertainty and complexity.

Integrative leadership area deficiencies and erroneous use of conceptual skills

Although the leaders in the public sector consider themselves as one of the channels in a more extensive process of the change, a number of them operate in *silos*, in which the thinking of the leader are 'silos' creating continuing conflicts between departments. This mindset exists whenever the departments do not want share information with others in the same organisation. This mentality diminishes efficiency in the overall process, decreases morale, and is likely to impact negatively on the organisational culture (Glesson & Rozo, 2013). Scholars refer to this mindset as often the result of a conflictual leadership team, and incompetence, lack of cross-functional systems, not involving young employees in the workplace, and incapability to collaborate. Lencioni (2006) recommends that leaders demolish silos by moving beyond behavioural concerns and approaching the contextual issues that arise at the centre of the organisation. A leader from the *Developing* level said, '*We want to communicate with other managers, but when others do not communicate clearly with you and hide the results of their departments so that you do not know their achievements, then you can only compliment them*'. It is possible that this leader chose to isolate himself from others on the pretence that others

detach their successes from him. Hence, if the situation continues to be such that each leader is separated from others because he believes they do not want to participate, then there can be no systems-thinking mindset within the organisation. Also, in these situations, the systems thinking is not properly interconnected and connected goals do not serve the long term, which is one of the conceptual errors that affects the harmonisation and alignment of the department's objectives with the goals of the organisation and the Government policy orientation.

Receptiveness to opposing views is one of the qualities of leaders at the *Expert* level. One of the erroneous uses of conceptual skills, most typical of the *Developing* level, is that leaders surround themselves with those who support their views, without paying attention to those who disagree with them. They do not trust dissenting opinion and tend not to bring dissenters closer to the decision-making circle. *'It is hard for me to deal with those who want to give you their opinion on everything'*, said one *Developing*-level leader, *'So, I prefer harmony in the discussion meetings that there are no contradictory views that lead to divergent views and spoil the atmosphere of the meeting'*.

In the same mode of thinking, the researcher found that there are *Developing*-level leaders who lack the skills of identifying opportunities and limitations in the diagnosis of organisational troubles. In contrast, the *Expert* and some of the *Proficient* leaders are more skilled in understanding the social order and evolution, political systems, and globalisation. Furthermore, they know that structural and system change depends on working with contradictions.

The *Expert*-level leaders adopt self-consciousness that allows them interactively and discursively to be aware of and pay attention to a range of objects and events around the

subject. However, the *Developing*-level leaders use fewer conceptual skills when they neglect discursive consciousness and do not revise their earlier assessments.

I should not be too tired to go back to the decisions that have been taken. We should not always go back to the starting point to think about our previous assessment of positions and decisions. We must go a long way, and it is okay to go wrong because, in the end, they are new experiences.

This is one of the convictions of a leader categorised by the researcher as in the *Developing* level.

In integrative leadership competence, leaders in the lower levels do not consider rejecting standardised formats for problem-solving, which is a conceptual error. While the *Expert*-level leaders demonstrate stronger belief that reason rationalises the action, they continuously have flexible purposing and consider rejecting standardised forms for problem-solving. The *Developing*-level leaders prefer to have ready problem-solving standards, so they are continually asking about business models. This type of thinking usually leads to dead ends. The researcher asked one participant about the importance of having reasons and justification for success or failure, and designing a model for work suited to the work of his institution. He responded:

The role of advisors is to provide us with ready-made solutions to solve problems. When you work on a business model that others have used, you will shorten the steps and achieve the same result as those who have used this model. There is no need to state your reasons for success or failure.

The apparent failure of a standard is not examined so much by leaders at the *Developing* level. Neither is the specification of the standard nor even its implementation; rather, the examination is usually based on the opinion of whether the participants attained their objectives by practicing this standard. So, the potential from a standardisation process might differ according to the level of leadership exerted. Cargill (2011) asserts that a collapse of

standardisation is a concept that permeates most popular organisations with an interest in standardisation. There is no standard by approval – or, if there is, the standard is one that is either so fundamental or so common that consideration of it and the experience to realise it are both almost non-existent. Increased competence in conceptual thinking about standards and their outcomes is important for effective integrative leadership.

Self-regulation leadership area deficiencies and erroneous use of conceptual skills

In the self-regulation leadership competence area, public leaders committed four conceptual errors. First, the *Developing*-level leaders do not evaluate their representations, coping strategies, and consequences in order to estimate how well their behaviour aligns with their leadership of change. Three individuals at this level were almost identical in their answers to the question: What does it mean for you to adapt to the environment during the process of change? *‘As long as I am convinced of what I do, I do not care about the opinions of others around me. I always believe I am right’*, one participant said. Second, the lower levels of public leaders are characterised by under-regulation; most of them lack stable, consistent values, clear purpose for change, and do not set priorities or regulate their emotions enough. One of the leaders of the *Developing* level spoke to me with this conviction,

When you work ten years in the government you reach the conviction that you are unstable, so you need a decision only, and this happens suddenly. Therefore, setting goals and values and working according to them is not essential, although the goal always leads to different results, even your priorities are ultimately subject to the many changes in the government.

Third, the *Developing*-level leaders experiences significant incompatibility of personal values with work values. The researcher found that amongst this group of leaders some consider their presence in leadership an opportunity to achieve quick personal gains because, according to their belief, they will not be able to do much to contribute to what the Government wants to

achieve. So, they appear to primarily serve their own ends. Moreover, the objectives of their leadership position remain to be achieved whenever competitor appointees disappear from the area they represent. To preserve their position, these leaders control sources and information so that the power does not pass on to others. Finally, some leaders at the developing-level are mis-regulating their behaviour, thoughts and feelings, since they have false expectations about self and others. Moreover they are unadaptable to change. Boss (2016) has discussed how, in order to stay relevant, the leader needs to think and perform adaptively. They do not adapt to changes in the environment, remain detached from positive change initiatives and their development becomes more limited by such inactivity.

Innovative leadership area deficiencies and erroneous use of conceptual skills

One important result of this research is its clarification on how innovative leadership is realising that the change process is itself a great opportunity to generate innovation. For instance, it addresses how leaders are using both sequential and simultaneous modes of exploration and exploitation, and how they deal with organisational challenges. The results in this aspect are many; however, the research findings are limited to considering how innovative thinking enables accomplishment of leading change from the perspective of effective use of conceptual skills. This discussion has emphasised the implications of the major theme in the literature on innovative leadership and classified significant theoretical and methodological opportunities for the area of conceptual skills.

Deficiencies and erroneous use of innovative conceptual skills can hurt the process of innovation during public sector change, and can even prevent conceptual thinking. Some of the most important findings of this research are these conceptual errors, such as the fact that some leaders believe that innovation only requires the pursuit of new knowledge and ideas,

and they have no interest in the practice and improvement of things already known. On the other hand, there are some leaders who fear diversification, risk-taking, variation in experimentation with new knowledge, and innovation in organisational forms. A number of *Developing*-level leaders have confirmed in one way or another that ‘*as long as we innovate there is no need to maintain old models and systems. Innovation is contrary to preserving anything old. We have acted to leave our old systems and build a new system directed at innovation*’. They also lack sufficient skills for balancing search and stability, where some of them invest in improving existing services but do not invest in researching new possibilities. A leader said, ‘*Future forecasting studies are just research that disrupts planning*’. He added, ‘*What matters most to us today is the development of our services*’. In contrast, the researcher found that *Expert*-level leaders are open to experience and flexible enough to realise the advantages and disadvantages of both exploration and exploitation.

In the field of divergent thinking, there were errors committed by the *Development*-level leaders, who tended to be more conservative and conventional, and more complex. ‘*When you manage the process of change, do not let the confusion that some of you have by dealing with different and different ideas to block you, you only need advisers, but you do not need to put you in an endless cycle of ideas*’, is what one manager said about obstacles to change. So, when leaders prevent differences of opinion they stifle innovation, preferring only to develop services without thinking or studying the future. These approaches disrupt innovation, and are often linked to erroneous adoption of conceptual skills. If we add to this the inability or unwillingness of leaders to critique their opinions or to allow their opinions to be subject to criticism by employee feedback, then these leaders commit more conceptual errors. Overall, some public leaders do not offer healthy criticism, but never show a disdain for maintaining the status quo. A leader from the *Proficient*-level group commented that: ‘*When you are in the*

best case, what is your need to open the fronts of criticism, just pray to God to perpetuate the grace’.

One of the most critical errors found by the researcher through field observation, follow-up interviews, and document review, as well as focus groups is the attention of the leaders in the Government to detail, and their propensity to get into the detail of the issues that concern their organisation. Aspects of the plans and operations need time, and this time is taken from other problems and roles that are more important for the leaders to spend more time on, such as building relationship networks and monitoring strategic performance indicators. Focusing far too much on the details is one of the conceptual errors that disrupt the leadership of change, negatively impacting on efficiency and effectiveness. Finally, some of the public sector leaders seem somewhat arrogant about keeping their ego in check. For example, one leader confirmed that, *‘I think that only the weak leader is inclined to criticise himself’.*

6.8 The difference between the leaders in the public and private sectors

What distinguishes the leader in the Government sector from the leader in the private sector is that the first is committed to work tasks, while the second is more committed to the desired target. In the public sector, leader has specific tasks, and is required to prepare reports of his achievements, while in the private sector the leader must set a goal and achieve a result. In the public sector there are many committees and teams, while in the private sector there is only a board and an executive committee making many of the major business decisions.

In the Government sector, innovation is less evident, and one reason is the absence of competition, which is the primary catalyst for innovation in the private sector. Innovation is part of competition: companies in the private sector will become extinct due to low levels of

innovation. Examples are many, but in the public sector no matter how weak innovation is, the services that are offered to the public do not stop. Innovative thinking is part of the survival of private companies, while in the public sector innovation is seen as optional by leaders. However, public leaders are required to have the skill of sensemaking to recognise and identify the companies that will deliver the services and choose the best offers out of hundreds of possible tenders.

In the public sector, the leader may be chosen not primarily for his competence, but for social or even political reasons. He may be from a family with high social status or a family engaged in politics. Self-regulation may not seem to be a central issue in the leader's position, but it is a critical issue in the success of public sector leaders who are responsible for leading change. The government deals with the weakness of potential self-regulation among some leaders through strict regulation to ensure compliance such as attendance and departure systems, control systems, and governance. However, those who lack self-regulation cannot continue to succeed or even remain in their leadership positions if they do not make up for their lack of achievement and distinctive results. This analysis may not apply to the leader in the private sector in the same way since the choice of leader in this sector is subject to different criteria and systems of organisational governance and control.

There are exceptions in some Government organisations where the work in these entities is somewhat similar to the private sector, such as the Roads and Transport Authority, where there are commercial, customer-directed, and innovative products. One of the participants told me that he had *'already worked in the private sector inside and outside the country, but he did not see an organisation where he could not drink a cup of coffee or even read a page of a book due to a large number of work assignments; While it is a governmental entity'*.

These differences between leaders in the public sector and the rest of the business sectors are broadly consistent with the findings of researchers such as Kempster (2009), Pagon (2008), Pinnington (2011) and Van Wart (2013) and others (the contributions of these authors have been mentioned in Chapter 1). In summary, Kempster (2009) performed a comparison of managers from the private sector with those from public sector organisations, and found that there exist different leadership identities and images, different career pathways, and organisational cultures and attitudes, including gender. Also, Pinnington (2011) concluded from his empirical survey study that what is seen as valid in the private sector does not necessarily fit the public sector, and Van Wart (2013) agrees that distinguishing between public and private sectors is relevant to the future development of public sector leadership theory. However, Pagon (2008) pointed out that more studies are needed comparing and contrasting leadership elements and abilities between private, public and non-profit organisations.

These research findings align with Allison's (1986) findings from an early study of the differences between individuals who have been general managers in both business and Government. Where time in Government is extended and broader than in the private sector, performance measures vary regarding the impact of regulations and laws, and complexity of goals and roles. This study's results are close to what Allison recognised in his research.

6.9 The linkage between the four areas of leadership competencies

In each sector of Government work, depending on the nature of the sector's work, the leader must have four leadership competencies of conceptual skills: the first and most important is the adequacy of the meaning, because knowledge of Government directions is the most important part of the leader's thinking. The needs of customers are often primarily the work of

organisations, and what is subsequently required of the leader is just to ensure that decisions and public sector operations support the satisfaction of customers and the interests of citizens.

It is a particular task of the public leader to be an integrative leader because the Government usually requires Government entities to coordinate and cooperate with each other. Within every governmental organisation, the work usually will not succeed without the integrative thinking and the whole picture of the organisation. Therefore, in cases where the leader might not be particularly skilled in integrative thinking, he is still obliged to perform successfully in this area of competence. The nature of the work of the public sector requires leaders to lead in coordination with others both in vertical and horizontal structures of the organisation.

The relationship between these four areas of leadership competence and the overlap of their conceptual skills can be composed in the following expression.

Without knowing the certainty of what is happening and finding the meanings that stand after the reactions of others and the motives of people in adopting particular stances, the leader will not be able to formulate a mental model of his own. Accordingly, other mindsets will affect the decision of the manager, which concerns the decision-making method. *‘If I was not the decision maker, and who can analyse the condition and identify its meaning; certainly others will take this role, which, as a leader in the Government, I do not want others to make the decision on my behalf’.*

The ability to consider the sense needs to recognise the subsystems that each system consists of. *‘The organisation that I manage is, in fact, a system with its inputs, operations, and outputs, it is my role in distinguishing all these things’.* But in a fast-changing business environment where competition for everything is threatening, the leader needs a mindset that

constantly innovates or sustains innovation because it is a hyper-thinking approach that delivers everything new. The leader, who is capable of leading, also needs values that give him the trustworthiness and support him to develop trust in others who work with him. *‘If you do not raise your skills to regulate yourself, you will not be capable of regulating what is around you. If you cannot empower and manage yourself, how can you manage others? Those who lose something cannot give it to others’.*

The results of this study demonstrate that sensemaking is an essential skill in the adoption of conceptual skills. It does not succeed without systems thinking supported by divergent thinking and the capacity to allocate resources for innovation. Also, these capabilities do not serve alone without proper reflection, wherein which the leader can be competent in dealing with the environment and leading by head and heart and robust self-regulation.

Conclusions and Recommendations

7.0 Introduction

This chapter presents the conclusions from the research in six parts. First, the overall conclusion and main findings are presented. Second, the robustness of the selected research methodology is shown. Third, an analysis of the achieved objectives is undertaken and linked to the findings. Fourth, research limitations are stated, and fifth the contributions to knowledge are presented. Finally, recommendations for future research and utilisation of the findings in the field are made.

7.1 The coherence of research tools and methodology integrity

The scope of this research has presented a new way to investigate conceptual skill and its comprehension in leading change using the phenomenographic exploratory method. Through outcomes spaces in the represented investigation, the researcher has shown that phenomenography successfully creates unique ways to understand conceptual skills among public sector leaders. Through the study of the interviews' transcripts and the results of the 10 different qualitative methods, among three levels of Government leaders who adopted and understood conceptual skills, 21 different conceptual skills were identified, analysed and interpreted.

The methods applied in this research have shown that leaders' one-to-one interviews were particularly successful for examining their conceptual skills, but the interviews alone were not sufficient to infer all aspects of conceptual skills in terms of understanding and adoption.

Therefore, the use of an integrated set of qualitative research methods and tools was confirmed to be the best way to achieve the desired results. Each of these tools has been used to investigate and explore a number of conceptual skills as described in the Methodology chapter. Although individual interviews with leaders added much to the role of conceptual skills in leading change, the interviews and focus groups with subordinates and peers added other dimensions and were more accurate in revealing leaders' descriptions of their understanding and adoption of conceptual skills. This was particularly the case in some aspects, such as self-determination, self-regulation, and sense-giving, where data collected from subordinates were more able to show aspects that need to be scrutinised externally by those around the leaders.

7.2 The study environment and the validity of the research sample

Supporting the research was the great interest of the government organisations that participated in this study on change and development. Where the leaders involved in the study are aware enough and know what areas of change are required, they are able to implement the changes and lead effectively. Government entities have launched a number of development initiatives and several campaigns to consolidate and expand the concepts of development in the field of business management. In the UAE, the most important of those initiatives at the time of this research are excellence, innovation, strategic planning, and happiness, all of which seek change and organisational development. However, the results of this research show that the success of organisational excellence, strategic planning, customer happiness, and all the development programmes, projects and initiatives of the Government are the result of the mentality and the conceptual skills of the leader. Successful change dependent on how the leader thinks in those areas mentioned above and is based upon the leader's way of

thinking in these concepts; sensemaking and sense-giving to the people and community; how to think about a framework that integrates systems; how to think about and orchestrate innovative ideas and processes; and how to organise the self to bring about change.

7.3 Renew the definition of conceptual skills

There are many definitions of conceptual skills in the literature, the most important of which can be summarised in the following description:

Conceptual skills show the capacity of the leader to conceptualise and visualise the big picture instead of a series of details. Conceptual skills embody ideas in a shifting perspective; they enable leaders to perceive and predict the future, and to conclude and reflect on the crucial elements of various sub-skills and their dependence on each other. Conceptual thinkers are fascinated by concepts, relationships among abstract concepts, ideas, and patterns. They think critically, intuitively and creatively while also understanding and formulating complicated processes. It is a type of thinking that allows seeing what others may miss.

However, these definitions in their entirety are not sufficient to illustrate the meaning of conceptual skills. They are not comprehensive and lack several essential aspects to define the concept in the field of leadership; also, they lack procedural and practical concepts. The researcher asserts that the concept of conceptual skills is more complex than the simplicity of the definitions found in the literature, and proposes a more inclusive definition that considers leadership as a whole and that explains the practical actions of these conceptual skills.

Adopting conceptual skills has several outcomes, which are elaborated below.

Through the adoption of such skills, a leader has an ability to give meaning to experience and make sense of issues through mental models, systems thinking, divergent thinking,

retrospective activity, and specific ways of thinking about diversity, complexity and incompleteness. It helps them to build extracted cues, structure the unknown, and make the intractable actionable. It offers the ability to create new concepts and solutions out of opposing ideas and debates, adopt knowledgeability, embed a discursive consciousness, and have reasons for one's actions. It enables the leader to be competent in dealing with the environment, to demonstrate self-awareness, and to be able to formulate intrinsic aspirations, goals and plans, and adhere to one's own values consistently. Conceptual skills offer the leader the ability to use both sequential and simultaneous modes of exploration and exploitation, deal with organisational ambidexterity, orchestrate resources, create fit between leader and his or her environments, and achieve a balance between analytical, creative and practical forms of intelligence. This definition may be somewhat long but the construct of 'conceptual skills' and its meanings is multifaceted.

7.4 The model of conceptual skills in leading change

The literature review for this research indicated that, in the field of change management, several studies had been conducted to identify critical competencies and leadership skills for leading change and effectively implementing it (Cameron & Green, 2004). Higgs (2003) noted that the extensive literature on the role of leadership in change contains many visions that seek to redefine the concepts as defined by the philosophers and authors. This research provides a new model of conceptual skills for leaders in the government sector and consists of four main dimensions under which 21 conceptual skills fall. The aim of building a framework of conceptual skills in this research was to create an academic foundation on which researchers' questions about the reality of the conceptual skills required of public-sector leaders might be addressed.

That said; the philosophy of this framework does not try to provide answers – but to create the appropriate conceptual framework for consideration in order to understand its complexity more insightfully. This research examined the philosophy and practice of conceptual skills, by exploring how public leaders think and act in their work. Consequently, the main aim of this research was to create a model of conceptual skills in leading change. The model emerged from several theories examined on a sample of government sector leaders and was found to be very useful in leading change. It was found that change leaders can be divided into three levels in their adoption of conceptual skills; the *Expert* level, the *Proficient* level, and the *Developing* level.

Of all the data collected, the most valuable information was found by considering the vast disparity between leaders' mentality — inconsistencies between what leaders say and the idea they then convey to subordinates and peers. Differences were found where leaders would talk about the importance of conceptual skills, yet their subordinates would provide an example of the erroneous ways in which such skills were adopted. This result does not apply to all government leaders, as three levels of leaders have been identified. At the first advanced level, what the leader thinks of himself in terms of his conceptual skills, what he does and what others think about his thinking skills are consistent – this is the *Expert* leader. The model shown below elaborates on how *Expert*-level leaders of change are achieving such change.

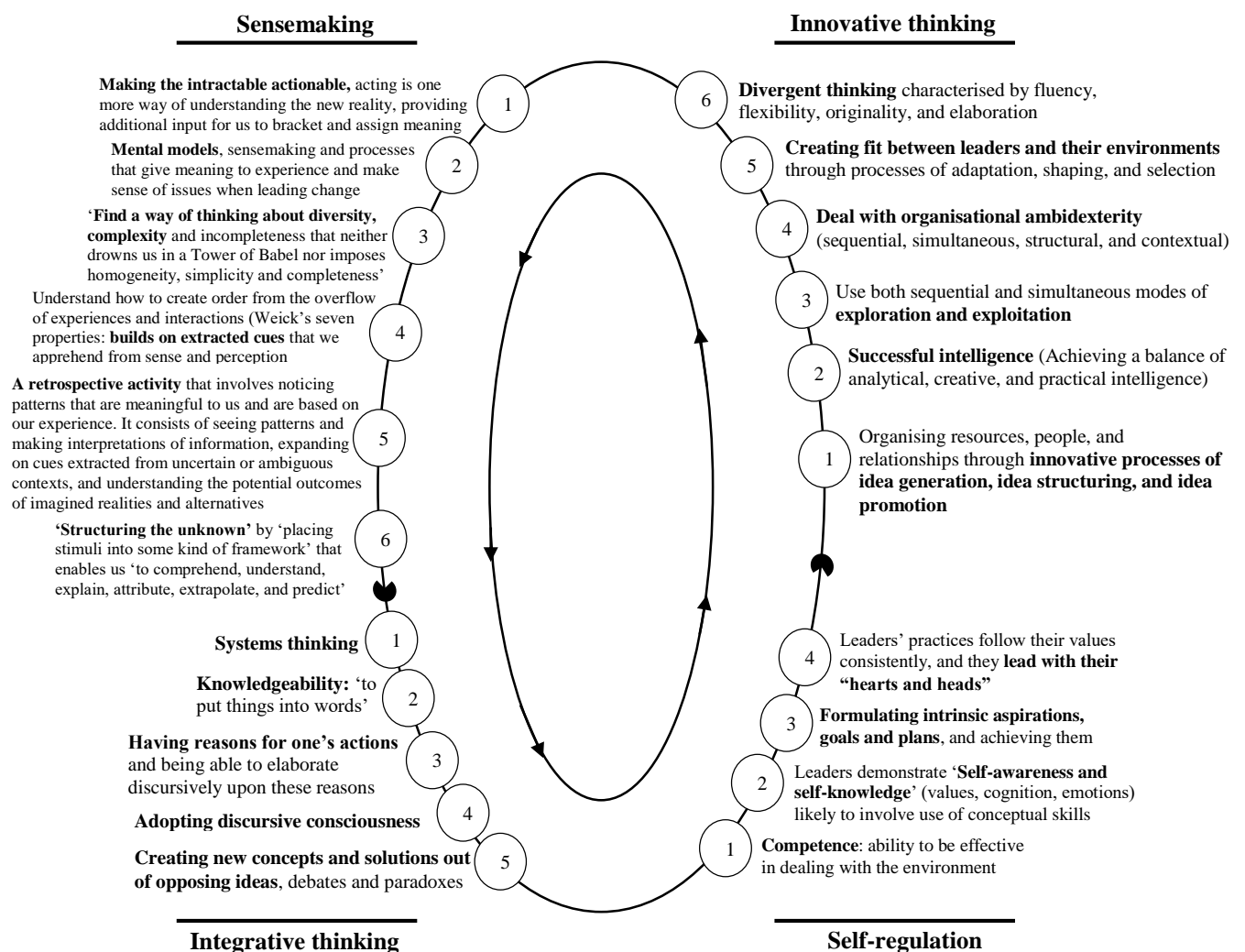


Figure 19: Model of conceptual skills in leading change

The second level-leader has sound conceptual thinking, but it is deficient in some aspects—as demonstrated by the results of this research—ranging from the lack of possession of some conceptual skills and erroneous ways of adopting the conceptual skills. These problems are more typical of the *Proficient* and *Developing* leaders.

Also, the *Developing* and some of the *Proficient* leaders were unfamiliar with conceptual skills that are not directly represented in daily tasks contributing towards the change they were looking for. Using multiple qualitative methods helped the researcher to establish

whether these leaders possessed the conceptual skills that were under study or whether they were maintaining the errors that disrupt exercise of those essential conceptual skills. The following sections explain in detail the reality of the four areas of leadership competence adopted in this research.

7.4.1 Conclusions on self-regulation leadership competence and its conceptual skills

The result of this research confirms that the majority of public leaders are often self-aware, self-confident, self-regulated, trustworthy, and conscientious; where the balance of conceptual skills measured in this aspect is clear. Fifteen (15) of the 18 participants are clearly characterised by self-regulation which was verified through several research tools. The highest level of leaders is marked by a high degree of self-regulation; they view self-regulation as the gateway to success and the path to every change they explore. However, in this research, the emphasis was placed on the conceptual skills involved in self-regulation; it found that self-regulation in its general sense – that is, as a behaviour – does not succeed in the long term if it is not based on authentic beliefs and concepts in the personality of the leader. This uniqueness comes through ‘effectiveness in dealing with the environment’, ‘formulating intrinsic aspirations, goals and plans’, their practices in following their values consistently, leading with their hearts and heads’, and ‘self-awareness and self-knowledge (values, cognition, emotions)’. These convictions are the conceptual skills that have been measured in this study. *‘Some leaders extend their strength and increase their commitment to work towards a certain outcome, and I know many of them soon return to their character and do not abide by commitment simply because they are not convinced of commitment’*, says one participant. In the same context, another leader added; *‘The core of the commitment is based*

on organising mental concepts; These are the skills that some are unaware of, so they continue to fail’.

In leading change, many leaders fail as many studies suggest. One of the findings of this research is that there are *Expert*-level leaders who devote considerable resources to planning change management in their organisations, but what distinguishes these leaders from others is that they start the process of change – not in the organisation, but in themselves. As one leader expressed, ‘*God does not change what people do until they change what they themselves are, the real change is what happens within the same leader before it actually happens*’. The researcher found that this level of leaders — *Expert* and some *Proficient*— believe that personal transformation is the cornerstone of any successful change. It is worth saying here that the ability of the leader to achieve change in the organisation depends on his ability to make a change in himself first. Also, the researcher found that the leaders in the other levels of adopting conceptual skills want to achieve the transformation quickly, which is unrealistic, and that this change affects everything but themselves. *Expert*-level leaders know very well that features of self-regulation, such as patience, positive thinking, and optimism, are all ‘stimulating narratives’.

Expert-level leaders have the ability to observe many patterns of behaviour, and hence can build self-awareness, particularly when working on decision-making, communicating and conflict management. According to Goleman (1998), self-awareness and self-management are components of emotional intelligence, a set of linked competencies that support the ability to manage and create all types of relationships effectively and to communicate appropriately in a diversity of interpersonal conditions. Five of the *Expert* and *Proficient* leaders emphasised emotional intelligence as an important conceptual skill, through which they were able to reach

a wider range with their staff to convince them of the change they wanted. One of the leaders said that:

...the leader of the government needs a lot of emotional intelligence, because he is required to deal with a variety of bodies, starting with employees and not ending with partners, as there is a spectrum of other parties concerned with the work of government organisations', he went on to explain that 'know that this emotional intelligence can be modified, learned, and practiced, unlike the intellectual intelligence that is cannot be changed much after early infancy.

The research findings verify that public leaders – particularly leaders at the top level – have self-awareness and self-knowledge (values, cognition, emotions) which is one of the conceptual skills within the area of self-regulation, and are active in this skill. They are also aware of their impact in leading change. One of the participants stated: *'Concentrate on what you can do to face the most horrific intrigues, the dangers around you will not end, your attention to your goal is what will bring you to safety'*. The researcher found that in times of change, all types of emotions are amplified: fear of loss of control and power, or fear of failure. Leaders, on the other hand, respond: either consciously responding to these feelings in order to adapt to the change and control their emotions before they seek to change employees' attitudes. What they have to do is to look at the roots of this ineffective behaviour. The participant told me that *'he was looking for a 'stimulating narrative', that is, the subconscious mind that drives the unwanted behaviour. What lies behind the behaviour of the incompetent leader is the obsession with perfection. 'He would hold himself accountable by saying: 'If I make the mistake of making a decision, all blame will be on me'. So, the beginning of the change began with the inner change of the soul and the reshaping of those 'motivational narratives' that could otherwise lead to negative behaviour.*

The ongoing process of conscious reflection means that the leader continually takes notes, determines patterns of thinking, and corrects the path. *'The leader also needs to seek feedback*

from others, and learn about the impact of his behaviour on those around him and the amount of compatibility between his actions and purposes’, as one leader expressed. It is important for the leader (according to one of the participants) to ‘begin the transition process by accepting the fact that his organisation will change him as much as he will change it’. Also, another CEO said, ‘The more the leader knows what his reaction will be during the process of change, the more willing he will be to accept real change in himself, others and the organisation’.

One Expert-level leader said, *‘My role as director is to bear the mistakes and failures of my staff. If I do not cultivate confidence in them how they will innovate and contribute to the suggestion of innovative ideas?’* So, they are concerned about building confidence and being trustworthy. Another leader stated, *‘I changed my workplace, not because of salary but because I am always looking for challenges. Challenges are the greatest opportunity for leaders to learn and sharpen their skills’.* Self-awareness is one of the qualities of Expert-level leaders; A CEO explained that one of the most important qualities of self-regulation is to control emotions and support emotional intelligence. *‘Yes I am punishing as I am encouraging employees, but I do not hold a grudge against anyone, I am clear with everyone. What I need to lead people is a lot of emotional intelligence’.*

What is more evident within the top level is their self-empowerment. Most of the leaders within this study were emphasising that they have done put in significant effort to build their personalities and empower themselves with knowledge and skills; as one said: *‘I am a believer in self-development and cognitive development’.* Self-empowerment can be attributed to the motivation of leaders in the Government sector, where staying in a job is not permanent and where continuity of the leadership position to some extent is tied to self-knowledge and

continuous development. So, these leaders want to leave a mark and impact behind them, and build a special image to be remembered by those who come after them. A leader describes the subject of the possibility of changing the leader by saying, *'They call the director's chair 'the barber's chair', because they see someone sitting on this chair as non-permanent. Every year they send him to another place'*. The research findings have also shown that *Developing-level* leaders lack self-empowerment.

As a conclusion to the preceding, the results of the research show that the self-regulation area contains a number of conceptual skills that are important for leaders of change. These skills have a robust presence at the advanced levels of government leaders. Conceptual skills begin with skill 'competence: effective in dealing with the environment' as the most powerful conceptual skill in this area, and end with the skill of 'practicing following their values consistently, and leading with their hearts and heads'. Also, there are errors in adopting self-regulation; the most prominent of these errors is under-regulation, incompatibility of personal values with work values, and mis-regulation. The most critical conclusion of this research is that the self-regulation that involved in this competence is one of the factors of success in leading the change.

7.4.2 Conclusions on sensemaking leadership competence and its conceptual skills

Sensemaking leaders are those who can make sense of complicated environments. Ancona (2011) explained that sensemaking — the capacity to make sense of what is going on in a complex and changing context — is a particularly significant predictor of the effectiveness of leadership at present. A key contribution of the participants in this study is to emphasise the close link between *sensemaking* and *change-making*. The participants were assured time after time that sensemaking is a fundamental competence to lead change in current times.

From the participants' point of view, sensemaking is encouraging the clarification of expectations. A leader said: *'If you do not know then ask me. If you do not agree, then argue with me; if you do not like the task then tell me. But do not start judging me silently'*. Or as other said: *'I am asking everyone to tell me what job he is doing right now, what he is doing and does not suit him, or not in his comfort range, and what things he expects'*. Rather, it is important to understand and analyse the information in its context, as other leaders said: *'There is a problem in understanding the information, where some believe that he can analyse the information even if it is removed from its context, or without placing it in the right context'*. Another leader expressed how leaders can place stimuli into some framework by saying, *'Change needs to be dealt with, and you have to accept the change and adapt to it. That all depends on your ability to turn the continuing difficulty of the environment into a state that is understood clearly, otherwise get out of it altogether'*. This understanding is the basis of the conceptual skill of structuring the unknown. Also, it is one of the critical skills of sensemaking competence, and the one most clearly adopted at the *Expert* level.

Conversely, the lower levels of adopting conceptual skills may be erroneous in the skill of structuring the unknown. They often work in a hypocritical environment, and perhaps they are encouraging this hypocrisy. One leader's follower said in a formal interview, *'His behaviour with the staff concerning bringing some of them closer to him and excluding others makes you think that he does not trust anyone but those who praise his work'*. Another subordinate said: *'Despite the high morals of our manager, he surrounds himself with a group of staff those do not show him wrong and do not give him advice, but instead that they are interested in their own interests'*. Also, the researcher noticed during shadowing that one participant talked about how he was to build a work environment that supports open discussions and freedom to express opinions. However, at the same meeting, he was curbing the views of the staff

members, by disagreeing with or diminishing their opinions, and used his influence as a manager to impose his opinion.

Also, Weick (1995) clarified sensemaking as a challenge to the leaders to let go of their traditional mental models as well as some of their core beliefs; to diversify and expand their data resources; to apply the knowledge they have to create with a new map and account of thinking; and to support and renew the mental map with further experience. The research findings evinced that rational accounts, are based on the ability to communicate ideas grounded in identity construction of reality, give meaning to experience and make sense of issues, along with the ability to overcome cognitive biases; all of these are the elements of conceptual skills of mental models. The research participants stressed that the public leaders should develop and express their own mental accounts: *'When everyone is angry, the leader should not get mad, and should not be worried. When others use their emotions before their minds, the leader should not only be emotional in deciding. Be independent in the use of reason and emotions; it is your mind that distinguishes you as a leader'*.

Another said: *'His presence with the staff does not mean he is losing his prestige, he is available but aggressive towards the issues of work and accuracy in the reports, and is not influenced by the views of others. There is a combination of distinct skills in the brilliant leader that you cannot find in another leader'*. Also, one leader emphasised such an attitude as grounded in identity construction of reality; he explained that, *'The attitude controls people's thinking and behaviour, there is no control; it's just attitude'*. Another said: *'The leader is the leader even he works on the front desk'*. Furthermore, one leader said: *'In socialist thinking, the Government is building houses for citizens not according to their needs, but according to the Government's concept'*. In the area of giving meaning to experience and

making sense of issues as a conceptual skill, a leader suggested: *‘Why do we not partner with other government entities, as long as we do not take customers from any other party?’* In the area of erroneous adoption of conceptual skills, the cognitive bias is one of the most common conceptual mistakes, and committed by leaders in both *Developing* and *Proficient* levels. It has also been warned about by a number of research participants; one of them explained: *‘Do not honour the first prize, but who is progressing from his original status’* Also, the researcher observed during the shadowing that one of the leaders that ‘even if she appears to be listening to everyone, her cognitive bias is evident and could be noticed in many situations’.

Finally, despite the importance of sensemaking as the most critical area of conceptual skills, and although it is the most obvious area in the adoption of conceptual skills, conceptual errors in this region occur at the highest rate. The most important of these errors are, for example, building convictions on cognitive biases; driven by plausibility that is not their plausible accounts; unable to reify and reinforce cues; and do not try to explain the unknown, while preferring prefabricated models of opinions about the phenomena.

7.4.3 Conclusions on integrative leadership competence and its conceptual skills

Integrative leadership is a perspective which directly emphasises individual features or political dealings with the environment. The area of integrative leadership examined in this research is focused on how public leaders adopt use conceptual skills in integrative thinking to lead change. These conceptual skills are systems thinking; creating new concepts and solutions out of opposing ideas and debates; knowledgeability; adopting discursive consciousness, and elaborate discursively upon one's reasons. The research literature argues that effective leadership is demonstrated through understanding and experiencing integrative

challenges and opportunities in ways that improve their conceptual abilities and create improvements in organisation systems.

Arnold and Wade (2015) explained that by using the systems thinking skill, one can hope to better understand the deep roots of the outcomes of the complex systems that always occur in the environment in order to better forecast them and, eventually, regulate their consequences.

This is also what leaders in this research emphasised. One leader explained:

You only can influence and change the organisation when you know what is going on inside your organisation' systems, when you are aware of all the complexities of the parts of your system, when you can differentiate between inputs and outputs in your system, and when you can know the relationship of each system to others.

The findings show that public sector leaders adopt most conceptual skills in the integrative thinking competence, but to varying degrees, where it was clear that their adoption of the skill of systems thinking, followed by ability to have reasons for one's actions, and being able to elaborate discursively upon these reasons and other conceptual skills. The participants' perceptions differed about these skills. Concerning systems thinking, one explained the negativity of some public leaders in this regard: *'We want to communicate with other managers, but when others do not communicate precisely with you and hide the results of their departments so that you do not know their best practices, then you can only compliment them, not cooperate with them'*. Also, another leader described silos thinking, which is one of the errors of adopting conceptual skills. Regarding the skill of interconnected variables, one said: *'Change cannot succeed in government organisations without all parties being affected internally and externally'*. Another leader defined the overall picture by saying that, *'consultation meetings between government entities give the leader the opportunity to see the practices of others and even their way of thinking'*. Also, a leader emphasised the significance of systems thinking, by saying, *'systems thinking is the basic capability of leader for success'*.

This conceptual skill briefly is *'to work with others; is an unpleasant state of mind to most public leaders, this is the most challenge they have to skip it before proceeding to lead the change'*. Another said, *'systems thinking is the skill of analysis, integration, and interdependence; it is how to link work with the whole parts of the project'*, and it is as simple as one described it.

There are small things for the success of our plans, we may not be able to do some tasks, but certainly there are others who can, so why not do it together?', and 'change' causes must be based on figures and enhanced by statistical data. I'm very much counting on reading the data in any decision I made.

Some also described the art of thinking within systems thinking.

The public leaders are also adopting knowledgeability as a conceptual skill. A leader's subordinate explained the integrative thinking of his director: *'She has managed to get out of one media problem with wisdom and communication with the parties over the problem, and the art of the extraction of accurate information from the source'*. He was describing the thinking of the leader regarding information and whole context.

Also, public leaders adopt robust choices and embrace complexity. This is about creating new concepts and solutions out of opposing ideas and debates. The researcher noticed when shadowing one of the participants that he is flexible in dealing with systems and has restructured the system more than once as a result of changing tasks or overlapping, where he has flexibility in the modification and development. Also, one subordinate described his manager by saying *'he has the ability to manage disputes and conflicts effectively, as he collects the conflicting parties and makes them converge until they reach a common conviction among them'*, articulating the skill of enhancing complexity. Similarly, one leader expressed her skill by saying *'I always wrestle with her at work, but out of work, she's my best*

friend'. She added, *'I disagree with my colleagues at all levels, but I thank them for their efforts'* while her subordinate said: *'She encourages bold discussions through the challenges she poses to employees'*.

There are also conceptual errors in this area, of which the most critical is silos thinking; it is when the leader thinks about 'silos' but which instead tends to create conflicts between departments. Furthermore, the leader's interconnected and connected goals do not serve long-term-strategic purposes; they just reflect daily thinking and short-term goals. Also, the lower levels of leaders surround themselves with those who support their views and they fail to identify opportunities and limitations in the diagnosis of organisational troubles. Moreover, while the *Expert* level adopts discursive consciousness, the *Developing*-level leaders do not revise earlier assessments, and do not consider rejecting standardised formats for problem-solving. Also, the examples stated here are some of the conceptual errors.

7.4.4 Conclusions on innovative leadership competence and its conceptual skills

The area of innovative thinking area may be characterised by its application of conceptual skills, which was the least present in the data collected from the participants, despite the Government's interest in innovation, and the launch of innovation initiatives over the next few years. The Government has allocated each year to focus on an important topic that it seeks to develop and consolidate. However, the results indicate that innovation is the least considered in the mentality of public-sector leaders.

The results of conceptual skills in this area were as follows: the first skill embedded in the mentality of leaders is 'Organising resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion'. This shows that the role of

leaders in the processing of innovation requirements and the creation of innovation systems considers the integrated cycle of innovation, starting with ideas, then evaluating them, applying and modifying them – thus the development circle continues. Although the public leaders emphasised innovation repeatedly, the research results indicate a lack of this aspect. Innovative thinking as a conceptual skill was not clear enough in the thinking of the leaders; one said.: *‘Government leaders lack the flexibility to accept the new and speed up the exploitation of opportunities and the need to abandon the traditional methods of leadership’*. Here, he is indicating the state of ‘Healthy criticism and disdain for the status quo’. Also, through narrative analysis one leader explained the state of disdain for the status quo as follows: *‘So many times we went through bad experiences but "when the going gets tough, the tough get going". I believe that self-determined people do not give up when they are challenged but work harder’*.

The *Expert*-level leaders were fully aware of the importance of allowing the freedom of thought for their employees to innovate. One of the leader’s subordinates said of his manager; *‘She tells us that you do not just convey the problem to me because that is the work of the reporter, but convey it with the solution so that you will be my advisers. However, if you tell me about the problem and you start to solve it, you are indeed the leader’*. However, the main error of adopting innovative thinking is to limit innovation rather than to motivate it; thus stifling creativity. This reflects what many of the employees – particularly in informal interviews – echoed about the fact that leaders deliberately or unintentionally create work environments that decrease the chances of producing innovative ideas. This is so for many reasons, the most important of which is that the leader monopolises the ideas of the employees and presents them to the higher authorities in his name, not on behalf of the team.

Also, there is frequent theft of ideas by other employees, where no system preserves the intellectual rights of innovators.

Moreover, when leaders constrain innovation among their subordinates, this may be shown in the form of non-appreciation of employees with innovative ideas, which may lead to a lack of confidence in innovation among the staff, and lack of conviction in the usefulness of generating innovative ideas. One leader said:

I was very disturbed by the lack of interest in ideas and suggestions. So, when I took over the management, I was keen to create a robust system to receive, evaluate, study, and apply innovative ideas - if they were meaningful - with the emphasis on honouring ideas owners and encouraging them to continue to generate new ideas. Leadership innovation is a subject that needs the leader's conviction and his attitude towards innovators.

Also, some employees attributed stifled creativity to a lack of resources. Others attributed it to lack of laboratories by saying ‘*organisational innovation needs labs*’, but most of the employees focused on the leader's way of thinking about managing innovation, which creates an environment that does not stimulate innovation; rather it stifles it. A leader explained that by saying:

The problem is that some leaders are placing innovation in a section in the organisational structure, but innovation must be a general concept and a culture of the work, to be a value that is respected by all. Thus, when innovation is considered as a section of the organisational structure, then the message that the staff understands will be that there is a group of competent personnel has been identified on the innovation, so do not be concerned, this organisational unit will accomplish the required innovation.

Another leader explained that ‘*the organisational unit is important for managing creativity rather than generating creative ideas.*’

One of the tools used in this research was the formal test, which was only intended to measure the degree of diversity in the minds of leaders between two kinds of thinking – convergent

thinking and divergent thinking. Divergent thinking in the theory of SOI is a complicated concept, and it has been discovered through fluency, flexibility, originality, and elaboration. Divergent thinking skills are significant for leaders in the public sector (Mumford et al., 1998; Vincent, Decker, & Mumford, 2002; Zaccaro et al., 2000). The formal test findings verified that public leaders, in general, are weak in fluency (the ability to come up with many ideas in a short period), have medium ability to be flexible (the ability to move from one field to another quickly), and distinct in elaboration skills (adding detail to the idea). Finally, the leaders' capacity of bringing unique ideas (originality) is average. In short, the thinking list of government leaders can be described as follows: **low fluency; medium flexibility; high elaboration; medium originality**. This description applies to most leaders, including levels I, II and III, but there are exceptions in some leaders, as shown in the following paragraphs.

An *Expert* leader gives considerable attention to details of shapes, and has the ability to move flexibly from side to side and from idea to idea. He may not discover many ideas in the time available to him, but those he does come up with are unique and authentic. This pretty much sums up the leader's mindset as **low fluency; high flexibility; high elaboration; medium originality**. Another example, one of the *Developing*-level leaders, has a wholesome ability of fluency, as she was not able in the formal test to draw a shape using each circle, but was able to draw from each of two circles or more special form, such as drawing glasses, a bicycle, and a car. She has a somewhat flexible mindset in moving from one field to another, where the repetition of ideas was almost non-existent. Details and attention to completing the picture were not accurate. Also, she continues to be weak in these innovative skills as she has been able to draw only one distinct\original shape. This mentality is **low fluency; medium flexibility; low originality; lack of elaboration**. Also, for example, the third leader showed excessive attention to details, and he completed all shapes, can move flexibly from side to

side and from idea to idea. He could not come up with many ideas on time, but he revealed unique and authentic ideas, which indicates **low fluency; high flexibility; high elaboration; medium originality**.

It was very difficult to come up with a single description of all leaders, as there were great differences in the results of the formal test among leaders, which signifies the complexity of measuring and analysing the innovative thinking of the leaders. Perhaps this is consistent with what was suggested by Mumford et al. (2002) where they acknowledged that innovative leadership is complex and occasionally inconsistent.

Furthermore, in the innovative thinking area of leadership competence, there are also conceptual errors made by leaders in the public sector. While the *Expert* leaders are properly adapting, reconfiguring, and combining organisational abilities and resources in order to meet changing environments, the *Developing* leaders believe that innovation only requires the pursuit of new knowledge and ideas, and they have no interest in the practice and improvement of things already known. On the contrary, there are some who do not tend to engage in – or even fear – diversification, risk-taking, variation in experimentation with new knowledge, and organisational forms. Moreover, rather than being open to experience and flexible to realise the advantages and disadvantages of the exploration and exploitation, they lack the ability to balance search and stability, where they invest in improving existing services but do not invest in investigating new possibilities.

7.4.5 The correlation of the four areas of leadership competence

This section summarises the linkages among the four areas. First, a direct question was posed to all the participants, their employees and peers: How do you arrange these four areas by

knowing them, and applying this arrangement to your daily life in order to adopt conceptual skills? What is your adoption of them in reality? In the same way, this question was also addressed to the employees and the subordinates. This question was also addressed to employees and followers regarding dealing with the manager. The answers were almost too close to the area of sensemaking and integrative leadership, in the sense that they were very close – 89% (N=16). The first conceptual skills are located in the sensemaking competence area, and integrative leadership area ranked second with 72% (N=13). The self-regulation area rated by 44% (N=8) in the third place, and finally, innovative leadership competence got over 50% (N=9) for the fourth place. This arrangement sets the most significant role and importance of the conceptual skills that are in the area of sensemaking, where most participants stated that the mentality of the leader who knows how to make sense of things, and how to give sense to others, embodies the attitude of the leader of change.

The researcher was also concerned with the ranking of these four areas regarding their role in leading the change. The results revealed that sensemaking is a core area for adopting conceptual skills and is the highest in the UAE public sector, where it was ranked first by 89% according to the opinion of the participants in the research. Sixteen (16) out of 18 participants stressed that the sensemaking competence is the most capable of playing an important role in influencing the leadership of change. In second place came the integrative leadership competence, with five (28%) participants selecting this area in first place.

The self-regulation area was selected by only two participants (11%), and none of the participants chose innovative thinking as playing the most significant role in the success of change. Table 41 below demonstrates the ranking of the four areas of leadership competence and those conceptual skills' perceived role in leading change.

Table 42: Eligible ranking for each leadership competence and its conceptual skills

Leadership competence area	At the first class	No. of participants	At 2nd class	No. of participants	At 3rd class	No. of participants	At 4th class	No. of participants	Eligible ranking
Sensemaking	89%	16	11%	2	0	0	0	0	1
Integrative leadership	28%	5	72%	13	0	0	0	0	2
Self-regulation	11%	2	17%	3	44%	8	28%	5	3
Innovative leadership	0%	0	11%	2	39%	7	50%	9	4

The above table shows the ranking of each of the four areas of leadership competence and conceptual skills. The results, through the participants' affirmations and also the number of repetitions, indicate that the skill of sensemaking is the strongest and the one most adopted by the public-sector leaders in leading change, followed by the skill of integrative thinking, then self-regulation and finally, innovative thinking.

7.4.6 Similarity and overlap between the skills of the four competence areas

Furthermore, there are similarities and overlaps between some conceptual skills from the area of sensemaking and the field of integrative leadership, on the one hand, and between sensemaking and integrative leadership on the other. For example, the skill of 'Find a way of thinking about diversity, complexity and incompleteness' which is a component of the sensemaking is similar in some ways to the skill of 'Creating new concepts and solutions out of opposing ideas, debates and paradoxes' and is part of the integrative area. Also, the skill of 'A retrospective activity' within sensemaking is somewhat similar to 'Having reasons for one's actions' in the integrative leadership competence. Also, 'Creating fit between leaders and their environments' in the innovative thinking is close to 'Competence: the ability to be effective in dealing with the environment' in the self-regulation competence. This similarity is subtle and a great deal of precision is required in distinguishing between them, particularly in

distinguishing, categorising and interpreting the words spoken by the participants, and in the process of encoding the expressions of participants during data analysis.

As a conclusion, at first sight, it may be considered that there is a similarity between some conceptual skills in more than one of the four areas, however the reality, though it is entirely different. While the difference between each of these conceptual skills and the others is noticeable and significant. A deep understanding of the meaning of each skill and its applications is required, as well as the elements that constitute it. The 68 codes/essence of conception in this research is what makes the difference between each conceptual skill. They also play an essential role in making each conceptual skill a skilled unit containing a number of sub-skills.

7.4.7 Integration and coherence among the four conceptual areas

During the collection and analysis of data, a related question emerged as to whether one of these four areas is absent. Will this framework help to lead change successfully? Does each of the four areas depend on the other, or are they distinct and exclusive from one another? For example, if the area of innovative thinking is not within the group of four areas, will the remaining three be sufficient to succeed? The answer can be found by following the participants' responses. The evidence shows that the absence of any one of these areas from the model will result in an unsuccessful approach to leading change. The second question is: Is it possible to add a fifth area to these four areas of leadership competencies? The answer is also apparent – as long as other areas are sought to serve as a framework for conceptual skills; the researcher found some rationales explaining the logic of choosing this quadratic framework which consists of the four areas of leadership competencies. Participants also played a role in emphasising the importance of this framework. Through their discussions,

they stressed that there is no room for further expansion of any other area of leadership competence. Also, this was discussed in section 6.1.2. It is acknowledged that the scope of this research is limited to four areas of competence. Moreover, it is possible that other research designs incorporating different sets of skills and competences may also lead to high levels of confidence and corroboration from participants who become highly involved and committed to the ideas advanced by the researcher.

Theoretical study of the relevant literature has contributed significantly to identifying these four areas that are central to the conceptual skills of leaders of change. The literature shows that the four areas of leadership competence collectively represent a vital model of the reasoning skills of the public-sector leaders. Although, a large number of studies have covered one or more of these four areas, this thesis has examined and discussed the convergence of these four dimensions. The framework shows that they are all critical for leading change since each one complements the work of the other. The area of sensemaking represents the skills of concepts of understanding and the ability to analyse and deepen the meanings — consequently the area of integrative thinking includes concepts of connecting senses with each other; and systemic and integrated thinking. The third area is innovative thinking; where without this kind of competence, new things and ideas cannot be created. In addition, the original meanings created by others can be constructed to make a unique and distinctive change. Finally, without self-regulation, the leader cannot move forward if his/her ideas and beliefs are not ready for change, consistent in one system, or if he/she is not prepared to deal with the environment surrounding through head and heart. This understanding of the quadratic framework is fundamental because it reflects the essence of the choice of the four leadership competence areas as they collectively represent a coherent system of conceptual competencies, in which its parts are interrelated.

7.5 Robustness of the research methodology

The main aims of this thesis are to analyse the role of leaders' conceptual skills in leading change in the public sector; to suggest possible explanations for the qualitatively different ways in which public leaders understand and experience conceptual skills; and to recommend a framework as a result of the outcomes of the research. In order to achieve these aims, a qualitative phenomenographic research methodology was employed to gain an in-depth understanding of leaders' experiences in this field.

Phenomenography in general is uniquely designed to discover the distinctive conceptions held by people about a phenomenon since its main tenet is that any given concept can be experienced and understood in a number of qualitatively different approaches. Hence, in this research the goal was to discover those different approaches to understanding. The findings uncovered through multiple qualitative methods revealed great variations in understanding of the conceptual skills, which resulted in the classification of public sector leaders into three levels to understand and embrace these skills. The result of this phenomenographic study was referred to as an outcomes space, which consists of some groups of description. The outcome space portrays the relationship between these groups, generally forming some type of hierarchical structure, and represents a transition from a more complete state of understanding which is represented in the *Expert* level to a less complete state of understanding that is the *Developing* level.

7.6 Accomplishing the thesis objectives

The purpose of this research is to construct a model of leadership that demonstrates how leaders implement conceptual skills in the areas of self-regulation, sensemaking, integrative

leadership and innovative leadership. The research objectives primarily concern the theoretical development of a new model of leadership competencies. This model is designed to increase scholars' and practitioners' understanding of the roles of public sector leaders' conceptual skills in leading change; it is also useful for developing public sector leaders, and will influence the design and implementation of existing competency frameworks. The objectives of the research are as follows:

Objective 1: Explore and describe the role of leaders' conceptual skills required for leading change in the public sector, within four areas of leadership competence: self-regulation, sensemaking, integrative leadership and innovative leadership.

The objective was achieved via a review of the literature to find attributes, actions and processes where underlying conceptual skills could be essential within four areas of public sector leadership competence. Next, these conceptual skills were used as a theoretical framework to examine how leaders implement conceptual skills in the areas of self-regulation, sensemaking, integrative leadership and innovative leadership, as well as investigating their required role in leading change in the public sector. The empirical research is based in the context of the UAE Government entities and drew from multiple qualitative research methods commonly employed in case studies to generate a model of adopting conceptual skills in leading change in the public sector.

Objective 2: Understand how public leaders make sense of their experience of leading change and identify the extent to which they articulate and reflect on their use of conceptual skills.

This objective was met assuming that the model of public leaders' conceptual skills articulates three levels of adopting conceptual skills. The top level consists of those public leaders who experience a set of sophisticated conceptual skills, and who also understand the extent to which they reflect on their use of conceptual skills. The middle level of leaders experience the conceptual skills without articulating or reflecting on their use of these skills. The third level leaders exercise conceptual skills but make conceptual errors that impede or disrupt the impact of these skills in leading change.

Objective 3: Review theories of conceptual skills and competencies that are relevant to leadership roles particularly in the context of leading change.

This research objective was achieved by developing a theoretical framework that reviews most of the theories that are likely to address conceptual skills. Nine theories were then used to build the theoretical framework. Furthermore, these theories emerged from seven subject disciplines. Table 42 explains these theories and their properties.

Table 43: Theories of conceptual skills

Conceptual skills within four areas of public sector leadership competence	Related theories	Subject discipline
Self-regulation competence	SDT (self-determination/ Self-regulation theory)- 1. (Deci & Ryan, 2010, Gagne & Deci, 2005), 2. Vohs & Baumeister, 2004; Vonasch, Vohs, Baumeister, Pocheptsova, & Dhar, 2015) 3. (Day & Harrison (2007): Leadership Perspective	Psychology
	Authentic Leadership Theory- 1. (B. George, 2003), 2. (Avolio & Gardner, 2005)	Leadership
Sensemaking competence	CTT (Cognitive Transformation Theory) - 1. (Klein & Baxter, 2006)	Cognitive psychology
	Sensemaking Theory- 1. (Weick, 1988, 1995) 2. (Dervin, 1984, 1998) 3. (Gioia & Chittipeddi, 1991, 1998); (Gioia & Thomas, 1996) 4. (Maitlis & Christianson, 2014)	Business & Management: (Organisation Behaviour, Strategy); Information Sciences & Communication Studies; Knowledge Management
Integrative leadership competence	Integrative leadership- 1. (Crosby & Bryson, 2010), 2. (Moynihan & Ingraham, 2004), 3. (Martin, 2007)	Leadership

	Structuration theory- 1. (Giddens, 1984)	Structuration theory
Innovative leadership competence	Ambidexterity theory- 1. (O'Reilly & Tushman, 2011, 2013); (Tushman & O'Reilly, 1996)	Business & Management
	<ul style="list-style-type: none"> • Structure of Intellect (SOI)- (Background: Guilford, 1956, 1963, 1988) • Practical intelligence- (Sternberg, 1986), (Howell & Avolio, 1993) • Successful intelligence (Sternberg, 1977, 1985a, 1985b, 2000, 2004) 	Psychology (Psychometrics)

Objective 4: Empirically investigate leaders' approaches to leading change in the public sector using qualitative research methods in order to explore and understand leaders' roles, processes of thinking, and actions.

This objective was achieved by adopting a multi-method qualitative approach, qualitative phenomenographic research method and philosophy, and exploratory research strategy. Phenomenography typically includes contextual groups of individuals and data collection, often through the interview, which captures individuals' descriptions of their understanding. Explaining understanding and experience relied on the meaning of the constructs themselves. The researcher aimed to construct a rational overall structure linking the different purposes and sets of different meanings. The researcher collated categories of description to represent different ways of experiencing and understanding 'leader's conceptual skills.' These different ways of experiencing are consequently realised as representing a structured set, the '**outcome space**'. The exploratory research collected 21 thinking actions by public leaders, although the degrees of this mental act vary in strength, importance, and roles in the leading of change. Also, this research used multiple methods to investigate sensemaking, following calls from Maitlis and Christianson (2014): 'We encourage sensemaking researchers to draw on a wider range of methods to study sensemaking' (p. 107).

Objective 5: Explore the potential contribution of conceptual skills (identified through literature and empirical research) for leadership assessment and development, following an interpretive research approach.

The potential impact of conceptual skills varies according to the leader's practice of these skills, and as he/she understands them. The leader may apply a wide range of conceptual skills, and contemplate their impact on change with a clear understanding - this is the *Expert* leader. Then the leader may use these conceptual skills but does not consider their impact and does not understand their real influence on leading change; this is a *Proficient* leader. The third level of the application of these skills is the leader who applies conceptual skills and also practices conceptual mistakes that hinder the impact of these skills in leading change; this is the *Developing* leader. The potential contribution of conceptual skills is discussed next.

At the first level, conceptual skills are fully present in leaders; they can master these skills. These skills then begin to decrease, as the appearance of the skill is not as strong as it is in the first level. The researcher found that the first level holds 21 conceptual skills with full rates of adoption. These skills seem to be linked; they have an active role in leading change, and the leaders adopt these skills in practice and understanding. These skills have been identified in leaders at the second level, but their strength in the emergence and adoption of leaders is lower than the first level, and their strengths are not as the same as in the first level, both in terms of practicing and understanding.

7.7 Research limitations

The research was limited by a specific time duration and resources constraints. Thus, some limitations may be identified.

First, the researcher found it challenging to perfectly measure certain leaders' competencies linked to conceptual skills where academic publications fail to address this subject in a comprehensive and specialised manner, and it was also difficult to relate the subject of leadership skills to cognitive biases. Second, it was difficult to extract leadership skills that are linked to conceptual skills, due to the lack of research on this subject. Third, generalisability was an issue, since the research sample is limited to a certain number of individuals within UAE Governments. Even if the results were generalised to the public sector, it is difficult to generalise them for all conceptual skills in different business sectors. Fourth, although there are many advantages to adopting phenomenographic methodology to discover the broad conceptions of public leaders to the conceptual skills, some limitations to this approach need to be discussed.

The first limitation of phenomenography is the extent of time needed to successfully employ such a method. Data collection and developing the conditional structures categories and outcomes space took a great deal of time. Also, the researcher transcribed around 80 hours of recorded interviews in addition to analysing the results of many other research tools. The coding and categorising required the researcher to spend time becoming intimately familiar with all the transcripts, each interview was transcribed in 20-30 pages. Also, to obtain more accurate results, the analysis process began during the interview and continued more accurately after the interviews were transcribed, knowing that the interviews and their analysis took about one year.

Phenomenography requires the researcher to be adept and expert when posing questions to the interviewees. The follow-up questions to the participants' answers are what reveal the reality of the concepts. In most cases, utilising phenomenography restricts the researcher's capability of using the entire structured protocol of the interview, because of the need to verify the participants' understanding. The requirements for tracking questions depend mainly on the response provided by the interviewee, so there will be a limited chance to use the previously prepared questions. This requires the researcher to be able to modify the question form after each answer from the participants and to ask a suitable question. This is one of the most significant reasons for piloting the interview practice prior to the data collecting process. Furthermore, this approach offers an opportunity for the researcher to become familiarised with the analysis of leading figures, and understand the meanings that these leaders express.

For the efficient use of phenomenographic methods, the researcher undertook a preliminary pilot study. The purpose behind piloting the interview procedure preceding data collection is to have the necessary knowledge in the domain of conceptual skills according to the understanding and application of leaders in the field and be able to ask the appropriate questions in the time frame of an interview to investigate the knowledge of the interviewees in greater depth.

Central to phenomenography is the requirement for the researcher to think about his/her understanding and experience of the proposed concepts during the interview process.

Reflection is a critical part of any professional knowledge; yet it is a relatively hard skill to develop. Due to this accentuation on reflection, the interview convention must be cautiously created to help the participants during the time spent thinking about their understandings and

encounters, particularly if the sample of research participants includes people not used to reflective exercises.

Another potential restriction of phenomenography is that it only captures the participant's understanding or involvement at an explicit point in time. If the interview was to be held again, with the same interviewee, at an alternate time, the interviewee's reactions might be completely different from the original responses, as they are formed by his very own knowledge with the given concept. What should not change fundamentally are the developed categories and outcomes spaces, as these are constructed from the consolidated reactions of a group of participants. To address this issue, the researcher incorporated more quantity and variety between the participants to achieve an unchanging description of the ways in which the participants experience and understand the given concept.

In spite of these potential constraints, phenomenography is a promising method for exploring conceptual skills, their application and comprehension. With appropriate strategies and sufficient time, the majority of the limitations of the methodologies of phenomenography can be overcome.

7.8 Contribution to knowledge

This research assumes that a leader's conceptual skills play a significant role in leading change in the public sector. The areas of leadership competence were chosen based on a review of the literature on leadership and change in the public sector. The empirical research for the thesis is based on well-established theories of leadership competencies to increase the likelihood of developing a rigorous explanation of the role of conceptual skills. The research endeavour, therefore, intends to make both a theoretical and a practical contribution to

understanding and supporting public-sector leaders, overall, increasing their capability to lead change.

The important implications and subsequent development of the theoretical model of the role of conceptual skills, inevitably, will be influenced by its perceived relevance for practice in the public sector. Consequently, the potential contribution of this research depends on the significance of conceptual skills for the four selected areas of leadership competence.

Furthermore, the methodology and methods that were used in this research in alignment with the research findings have an energising ramification for the improvement of investigative instruments in the field of conceptual skills. The description categories help the theoretical framework to create a standard set of assessment tools, where every reaction to a given concept is attached to a different classification, including conceptual errors, which give the opposite concepts to the conceptual skills required to lead change, and must be avoided. The advancement of such a framework holds strong possibilities for examining the full scope of conceptual skills in leading change.

7.9 Recommendations

7.9.1 Utilisation of findings

The research findings suggest that the conceptual skills framework can be used as an aid for explaining the importance of conceptual skills to future Government change leaders.

Employing a conceptual skills model helps to consolidate conceptions of conceptual skills, and clarify the sparse meanings of these skills by providing such reasoning skills, that are articulated in the model of conceptual skills. Besides, a conceptual skills framework

represents a valuable model as it enables researchers to investigate the factors included in the process of leaders' thinking.

The findings of this research support the recommendation that public leaders need to adopt a particular focus on conceptual skills and their development. As versatility and adaptability become more critical for change leaders, so too will the demand for adequately developed conceptual skills. Public-sector leaders must acknowledge the expenses of practicing extremely analytic methods in a business that is highly time-restrained and continually changing.

The research mainly argues that effective leadership is not based on mimicing the experiences of expert leaders through following expert procedures, styles, and choices that can enable them to deal effectively with change management. This study suggests that public leaders should focus not on what experts' leaders are acting on, but rather what they are thinking about as they deal with change management. Accordingly, this research recommends that governmental leadership development programmes should focus primarily on leaders training to reason in practice and perform innovative assessment methods designed to appraise leaders reasoning in practice. In the long term, the model of conceptual skills developed in this research has significant implications for drafting the critical leadership competencies and standards which are likely to encourage government leaders to reach the expert stage of adoption of conceptual skills in leadership.

7.9.2 Recommendations for further research

The research in this thesis delivers a solid basis on which to consolidate future research related to conceptual skills as one of the topics that currently lacks the momentum of

scientific research in leadership, management and organisation studies. Several areas have been recognised as important for future research in the field of conceptual skills. The following is not an exhaustive list but includes some potentially worthwhile areas for critical examination and creative study:

- Examining other areas of leadership competencies using the same approach adopted in this thesis. The conceptual model and research approach can be employed as a benchmark to initiate and develop ideas for such work.

Evaluating the impact of the recommended model of conceptual skills in other countries and other sectors, can be carried out as follow-up research. Hence, there is a requirement to examine whether the model can be used in the same sector in other countries and, also, within other sectors in the same or different countries. This may lead to a significant change regarding reorganising the four areas of leadership competence and studying the impact of conceptual skills on each one.

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Appendix

Research instruments

(1:1) Interview instrument

Interview guidance

- Data collection begins with the multiple interview method (1:1, formal, informal, focus groups) that will be used with the leaders and their peers and subordinates, followed by the document analysis and leaders' diaries analysis.
- Design thinking process of leaders within leading change (Ax ---- xB); in which A: is the initiating of the change initiative, and B: is the success of leading change.
- The questions are semi-structured and open-ended.
- The interviews are digitally recorded, whenever it is permitted.
- Try to find situational conceptual skills and varied even opposing styles of thinking within leading change, as each interview is a case study approach (profiling of public leaders' change, activities, and issues).
- The cycle of interview investigation is arranged in four steps:
 1. Recognising the attributes, processes, and actions where underlying conceptual skills might be essential in the four dimensions of conceptual skills within interviews.
 2. Coding and classification of the skills for the interviews and other qualitative methods throughout the data collection
 3. Conducting theoretical sampling for the results to find the theoretical categories emerging from the data that are indicative of conceptual skills
 4. Comparison between life case interviews' findings with typologies in the literature on conceptual skills
- Validating the empirical research and the resultant conceptual skills framework and main findings.

Interview protocol:

The interviewee will be informed about the purpose of the study, that is finding out about the role of leaders' conceptual skills in leading change within the public sector. To achieve this purpose, the data will be collected from individuals in higher management in government entities, the data will be handled confidentially, and the interview will be around one hour's duration. The interviewee will be informed about all of this protocol.

The researcher considered the ethical issues as follows:

- The interviewee will be informed about the overall purpose of the study.
- The private data recognising the interviewee will not be revealed taking into account the

confidential procedures of the study.

- Assure that no risk of detriment to the interviewee could be possible as a consequence of this research.

The conceptual skills that will be investigated through interviews:

1 Self-regulation 3 Sensemaking 1 Integrative leadership 1 Innovative leadership |

Interviews	1:1 Interviews (6)	SMCT1	SRAL2	SMSM2	SMSM4	ITIT1	INAM2
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The essential list of formal (1:1) interview questions:

1:1 interview' questions	Investigating the conceptual skills of:
Q1: Select an event considered as an aspect of change in your entities, (or choose from the list). Q2: Does this change succeed in your opinion? Why it is considered successful?	Aiming to define clearly, an initiative of leading change:
Q3: Why it is considered as a project of change? Q4: Could you describe the phases of this change? Q5: Tell me your concept about conceptual skills you used in your job to deal with leading change. And to what extent you would consider your own conceptual skills have been used to contribute to leading change? Describe examples from your practices or experiences in your job. Q6: Can you give me examples of other leaders' practices that could considered as conceptual skills? Q7: What do you think is the best way to assess individual conceptual skills? Q8: What kind of skills you would consider as implementation skills to succeed the change?	<p>Aiming to define the conceptual skills that used in leading change, and;</p> <p>SMCT1: Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change</p> <p>SMSM2: A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives.</p> <p>SMSM4: Understand how to create order from the overflow of experiences and interactions (Weick's seven properties: builds on extracted cues that we apprehend from sense and perception</p>
Q9: How you can deal with the following situation during a change process in an effective way: a new manager that you will report to him/her, that management decrease your level while you expect the promotion, they doubled your tasks, or they recognised you as a manager to another new project alongside your recent tasks? Q10: What are the most important values and ethics that are demonstrated by you as a leader? Give me an example of these in practice.	SRAL2: Leaders demonstrate 'Self-awareness and self-knowledge' (values, cognition, emotions) likely to involve use of conceptual skills
Q11: What do you see as the relationship between conceptual skills and leading change in the context of integrative approaches to public sector leadership? (Prompt: What leadership roles and activities would you say require systems thinking?	ITIT1: Systems thinking

Q12: To what extent you would consider yourself as an ambidextrous leader that is capable to deal with organisational ambidexterity: 12.1 sequentially? 12.2 simultaneously? 12.3 structurally? and 12.4 contextually? And why?	INAM2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)
Q13: What do you or your colleagues lack or could do better out of these skills? And why? Q14: Is there anything you wished I had asked or expected me to ask that I did not?	Other issues / Closing the interview and; SRAL2 + INAM2 + ITIT1

Table: Questions of formal (1:1) interview questions

Research instruments (2): Formal Interviews with peers and subordinates

The second type of interviews will focus on participant's peers and subordinates, individuals and groups. These interviews questions will be aimed at gaining more in-depth information regarding the participant' leadership conceptual skills. Interview guide will be divided into five parts: (a) a primary section to gather general information about the interviewees and their relationship with the participant; (b) questions about the conceptual skills in self-regulation, how they worked together with the participant; (c) the participant's conceptual skills in sensemaking and sensegiving; (d) stories about they believe about the influence of the participant's conceptual skills in integrative leadership on the change management; and (e) they opinion about the attributes, processes and contributions that might constitute the leader's conceptual skills in the innovative leadership.

Following is the main guideline to prepare the interviews setting:

1. Prepare a setting with little distraction. interviewees may more comfortable at their own offices, whereas no loud noises or interruptions.
2. Clarify the purpose of the interview.
3. Specify how long the interview usually takes.
4. Address terms of confidentiality. Get informed consent, pronounce how their answers will be analysed and who will get access to their responses. Get their approval to use their respondents as if their comments are to be used as quotes.
5. Ask for permission to record the interview, Don't depend on memory to recall their answers. or take notes.
6. Explain the design of the interview. Clarify the type and nature of interview. specify if you want the interviewees to ask questions during the interview or they might wait until the end of the interview.
7. Ask them if they have any questions before you both get started with the interview.
8. Adhere to the time set for the interview.
9. Tell them how to get in touch with you later if they want to.
10. Try to use different type of topics in questions, as (Patton, 2002): behaviours, opinions/values, feelings, knowledge, sensory, and background/demographics. But focus on the nature of the research that is conceptual skills.
11. Follow the sequence of questions, as (McNamara, 2006):
 - a. get the participants involved in the interview and encourage their responses.

- b. ask about some facts before asking about controversial matters (feelings and conclusions).
- c. ask the question one at a time.
- d. make the question worded clearly.
- e. Ask open-ended questions to enable respondents to pick up their terms when answering.
- f. “why” question assumes a cause-effect relationship that may not truly exist, also it may also cause participant to feel defensive, so be aware asking this question.
Inhibit
- g. deal with note taking in careful manner and be careful to not influence answers in future questions.
- h. Run transition between major topics and paragraph intelligently, and do not lose control of the interview.
- i. As soon as you finish the interview, verify if the tape recorder, if used, worked throughout the interview, make any notes on your written notes, and write down any observations made during the interview.

Type of topics in interviews’ questions are focusing on the following conceptual skills:

Start with initial part of interviewees’ information and their relationship with the participant:

1. What is your current occupation/role?
2. How long have you known the leader for?
3. How do you describe your relationship with (the leader)?
4. Have you worked together before? Give some examples?
5. Can you describe any project/plan/initiative for change that has succeeded by (the leader)’ leadership?

Then continue with the other four parts of leadership competences where underlying conceptual skills that might be essential;

☐ Self-regulation ☐ Sensemaking ☐ Integrative leadership ☐ Innovative leadership |

Formal Interview (5)					
Informal interviews (5)	SRSD1	SMSM5	ITST2	ITST3	INAM1
Member checking (5)					

Following are the questions of informal interviews with leader’s subordinates and peers.

Formal Interview’ questions	Investigating the conceptual skills of:
1. Describe a time when(the leader)’ workload was heavy and how he/she handled it.	SRSD1: Competence: ability to be effective in dealing with the environment
2. How would you describe(the leader)’ effectiveness in dealing with the environment?	
3. Could you tell me how(the leader) provides additional input for you to bracket and assign meaning.	SMSM5: Making the intractable actionable, acting


<p>4. What are some of the elements of actionable content in (the leader)' leadership behaviour and action?</p>  <p style="text-align: center;">Actionable Content Pyramid</p> <p style="text-align: center;"><small>Victor Nagorny // InboundMethod.com</small></p> <p>(source: Nagorny, V. Available at: https://www.inboundmethod.com/create-actionable-content-convert-ideal-customers/)</p>	<p>is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning</p>
<p>5. In what ways does (the leader) have high skills in reflection and detailed local and contextual knowledge? Can you give some examples of (the leader)' use of habitual, widespread use of knowledge helps to make structures become more efficient, procedural and institutionalised? Do you have other examples of how (the leader) encourages thoughtful discussion and practical action? (practical and discursive consciousness)</p>	<p>ITST2: Adopting discursive consciousness</p>
<p>6. How does (the leader) role model at work purposeful and intentional behaviour? Do you have some examples of how he/she encourages diversity of thinking and collaborative ways of working in the context of work and social life?</p>	
<p>7. How could you describe(the leader)' ability to take on a range of tasks, chip in where needed, and focus on a common goal?</p>	<p>ITST3: Having reasons for one's actions and being able to elaborate discursively upon these reasons</p>
<p>8. Do you have some examples you can relate of(the leader)' ability to take on and synthesise new tasks and prioritise work?</p>	<p>INAM1: Use both sequential and simultaneous modes of exploration and exploitation</p>
<p>9. Can you give some examples of (the leader) using old ideas/ways of working and then new ways of working on a change project? Can you provide any examples of (the leader) requiring simultaneously exploring new ideas and at the same time, following existing methods and routines?</p>	

Table: Questions of formal interview questions with peers and subordinates

Research instruments (3): Informal Interviews with peers and subordinates

Informal interviews are particularly helpful for realising the story behind a participant's experiences. In these interviews I am pursuing in-depth information around conceptual skills. As well, I am using informal interviews and open-ended questions as follow-up and further investigation to understanding participants' perspectives and to analyse and interpret the answers to the research questions.

The problem that needs to be addressed using the information to be gathered by the interviews are the role of conceptual skills in leading change in the public sector leadership.

guideline for informal Interview

Informal, conversational interview - no prearranged questions have been established, in order to stay as open and flexible as possible to the interviewee's personality, background, opinions, perspectives and main concerns; the researcher intends to "go with the flow" during the interview.

The questions for informal interview are divided into five parts as the previous section (formal interviews): (a) a primary section to gather general information about the interviewees and their relationship with the participant; (b) self-regulation; (c) sensemaking and sensegiving; (d) integrative leadership; and (e) innovative leadership.

In detail, these interviews' questions are aiming to identify and understand the following areas where conceptual skills are likely to be important:

1 Self-regulation 1 Sensemaking 2 Integrative leadership 1 Innovative leadership |

Formal Interview (5)					
Informal interviews (5)	SRSD1	SMSM5	ITST2	ITST3	INAM1
Member checking (5)					

Following are the questions of informal interviews with leader's subordinates and peers.

Informal interviews' question	Investigating the conceptual skills of:
1. How do you see/describe (the leader)' personality as a leader? What are some of (the leader)' traits and qualities as a leader? What do you think the reasons for his/her success?	SRSD1: Competence: ability to be effective in dealing with the environment
2. How does he/she handle challenges conflict as a leader?	
3. Could you recall any positive and negative events that happened to the organization, at a time when(the leader) was able to understand how to create order from the overflow of experiences and interactions?	SMSM5: Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning
4. How will his/her greatest strength help the job to become more actionable?	

5. How does (the leader) exhibit sensitivity to the effects of the cultural environment, position and status within the social strata and adherence to particular belief systems?	ITST2: Adopting discursive consciousness
6. Please explain and elaborate on what you see are the reasons behind the change that have occurred recently?	
7. Tell me how(the leader) dealt with change plan by using reasons for his/her actions and being able to elaborate discursively upon these reasons.	ITST3: Having reasons for one's actions and being able to elaborate discursively upon these reasons
8. What are the procedures that you develop with(the leader) and peers to explore new ideas and possible projects?	INAM1: Use both sequential and simultaneous modes of exploration and exploitation
9. What are the procedures that you develop with(the leader) and peers to exploit existing ideas and well understood procedures and operations?	
10. Please provide some examples of change plans that have been dealt with in very different ways in some aspects based on(the leader)' leadership?	

Table: Questions of informal interviews with peers and subordinates

Research instruments (4): Member Checking

In order to achieve valid results, verify the trustworthiness and credibility of the results, the interview transcripts will be forwarded on to the participants, asking them to check the accuracy of the data and its resonance with their experiences and memory of the interview. Member checking will be used as a method for '*ensuring that the participants' own meanings and perspectives are represented and not curtailed by the researchers' own agenda and knowledge*' (Tong et al., 2007, p. 356). Aiming to enable participants to reconstruct their narratives through removing extracts they feel no longer represent their experience, or that they feel presents them in an unnecessarily negative way. The transcript of the first interview foregrounds the second interview during which the researcher focuses on confirmation, modification and verification of the interview transcript.

To help improve the accuracy, credibility, validity, and transferability of the transcripts of the interviews, member checking will be performed by the researcher during the interview process or within 6 weeks following the interview. During an interview, I will summarise and reorganise the data and then ask the interviewee to determine its accuracy. Also, after a study is completed I will share a summary of the findings with the participants involved. I aim to understand and determine what the interviewee said and intended to say during the interview. Member checking will provide an opportunity to correct errors and challenges that are perceived as inaccurate or even false interpretations. I will ask permission to visit the participant again, and will utilise paraphrasing and summarisation for clarification. I will urge interviewees to express their emotions and thoughts about their experiences. The following are the stages of preparation and procedure to conduct member checking:

What is being checked?	<ol style="list-style-type: none">1. The participants' demographic characteristics I had recorded for them2. Recall some of the discussion to validate my interpretation.3. Checking how I have seen the situation.4. Investigating the five conceptual skills that are stated in Table (5)
With whom I am checking?	The participants of the research, the interviewees.
How would I interpret agreement?	One of the objectives that can be set for a good level of participant agreement is that it demonstrated something the members could not see.
What follows if "they" agree?	If a member agrees to my account and even to its publication, it remains my responsibility to consider the implications of publication. Possibly, they will not see potential, future problems created by my published work.
How do I interpret the responses?	There are of course different situations to consider: Member checking depends on the assumption that there is a fixed truth of reality that can be accounted for by a researcher and confirmed by a participant, or (a different issue) there is disagreement between members on my interpretation. Nevertheless, the member checking does not ascertain truth of the record. The research may expose some participants' involvement in messy politics or fear. Perhaps my task

	includes confronting the participants with the analysis, and seeing whether or not they agree.
What was it they responded to?	How partial was the interpretation?

Table: Preparation stage of the member checking technique

The areas of conceptual skills that member checking are interesting in are:

☐ Self-regulation ☐ Sensemaking ☐ Integrative leadership ☐ Innovative leadership |

Formal Interview (5)					
Informal interviews (5)	SRSD1	SMSM5	ITST2	ITST3	INAM1
Member checking (5)					

Possible issues in relation to these skills that might require member checking include:

Issues that might require member checking	Investigating the conceptual skills of:
The following questions might be directed to the participants: What do you dislike in the text about your competences?, What do you feel no longer represents your experience, or that you feel presents you in a negative way?	SRSD1: Competence: ability to be effective in dealing with the environment
Returning transcribed data will both affirming and cathartic outcomes by participants to decide about examples, events, and stories which have been produced through the interviews, regarding making the intractable actionable.	SMSM5: Making the intractable actionable, acting is one more way of understanding the new reality, providing additional input for us to bracket and assign meaning
Participants may disagree with the researcher's interpretations about how it could be considered as a discursive consciousness.	ITST2: Adopting discursive consciousness
Participants may believe in practical consciousness (discursive consciousness is the way the leaders talk and express themselves according to their values and beliefs, and practical consciousness is what they say that they actually do in practice)	
Discursive consciousness is distinguished from practical consciousness; the first includes the knowledge and shared interpretations that can be (and often are) expressed in words. Practical consciousness, in contrast, includes the implicit common-sense knowledge shared among participants in a familiar social world (p. 464).	
To be a purposive leader, do you have the ability to produce reasons for your activities and are able, when asked, to elaborate discursively upon those reasons?	ITST3: Having reasons for one's actions and being able to elaborate discursively upon these reasons
In what ways would you justify your reasons and make sense of your actions?	

To ask the participants about their appropriate level of integration presents a consistent dilemma for innovating organisations (O'Reilly & Tushman, 2004)	INAM1: Use both sequential and simultaneous modes of exploration and exploitation
Exploration without exploitation results in experimentation costs without the benefits. Exploitation without exploration results in suboptimal stable equilibria. The leader's role is to find and achieve the appropriate balance (Chen & Katila, 2008, p. 198).	

Table: Possible issues in relation to conceptual skills that require member checking

Research instruments (5): Focus Group

Guideline to manage focus groups (source: Krueger, 2002)

Before the focus group session:

- Decide whether focus groups are appropriate.
- Decide who to involve. The participants should be carefully recruited, 5-10 people per group, similar type of people.
- Prepare the environment, comfortable, circle seating, and audio recorded.

During the session:

Welcome the participants: Introduce the moderator and assistant (skilful in group discussions, uses pre-determined questions, establishes a permissive, open environment) ... You were selected because ...

Opening question: The initial couple of minutes in discussion of any focus group are important. The moderator in a short amount of time should create a tolerant environment, give guidelines, and set the tone of the talk. A significant part of the achievement of focus groups can be credited to the advancement of this open-ended condition. You can use these words: Good morning and welcome to our session. Thanks for taking the time to join us to talk about leadership conceptual skills.

Use can use the following phrases:

I am ... and assisting me is ... You were invited because you have ...

Overview of topic: Our topic is ... the results will be used for ...

We have ground rules, that are ...

Ground rules: provide a clear instruction, state that are:

1. No right or wrong answers, only differing points of view
2. We are audio recording, one person speaking at a time
3. We are on a first name basis
4. You do not need to agree with others, but you must listen respectfully as others share their views and opinions
5. We ask that you turn your phones to silent mode. If you must respond to a call, email, or message please do so as calmly as possible and re-join us as quickly as you can.
6. My role as moderator will be to guide the discussion
7. Talk to each other

Asking questions that generate powerful information: use open-ended questions, prevent dichotomous questions, rarely ask why, use "think back" questions, keep participants involved by using different kind of questions, concentrate the questions, and be careful of serendipitous questions.

Ending questions: ask participants to reflect on the whole discussion and then provide their opinions on topics of essential importance, you can use such questions as: "In one minute, of all the things we discussed, what would you say?". "Is this an adequate summary?" to indicate a summary question. Ask "Have we missed anything?" as a final question.

Transcribing focus group interviews: use a recorder, reduce diversions, distinguish moderator accounts, type remarks word-for-word, note extraordinary or

unordinary sounds that could help with the analysis, and permit an adequate amount of time.

Reporting focus group results: use a systematic process of analysis (start while still in the group, instantly following the focus group, shortly following the focus group--within hours analyse the individual focus group) and prepare the report.

The areas of conceptual skills that focus groups are potential to examine are:

☐ Integrative leadership ☐ Innovative leadership |

Focus groups (2)	ITIT1	INAM2
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Topics for discussion include:

Topics for discussion	Investigating the conceptual skills of:
Why and how should leaders practice systems think?	ITIT1: Systems thinking
A change in just one part of a complex problem will cure the ills of an entire system.	
How can you focus on the system as a whole when the approach to a problem takes into consideration the surrounding system?	
Senior leaders should see not only the parts, but also the big picture. So why do not we do more of it? One reason is because we are all extremely busy, what else?	
The ability of an organization to both explore and exploit—to compete in mature technologies and providing services where efficiency, control, and incremental improvement are valued <i>and</i> to also compete in new technologies and government’ services providing where needed, flexibility, autonomy, and experimentation.	INAM2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)
What can be explored and what can be exploit in the organisation that is working on change project?	
The effects of structural ambidexterity in inter-organizational or community settings rather than simply intra-organizational contexts.	
What remains less clear is the role of leadership behaviours in attending to the contradictory demands of exploration and exploitation.	
Transformational leadership and transactional leadership, which one is associated with exploratory innovation and which one is associated with exploitative innovation.	

Table: Topics for discussion in focus groups

Research instruments (6): Primary Sources & Diaries

The purpose of documents analysis and subject diaries is to provide background information and opportunities for data triangulation. A number of documents will be analysed that relate to attributes, actions and processes where a leader's underlying conceptual skills may reside, and presents a line of argument on the role of the nine proposed areas for exercise of conceptual skills in leading change.

Purpose of the research: The focus of the research is to investigate the roles of conceptual skills in leading change, as well as to analyse the impact of these kind of skills on leader's roles.

Below are the guidelines on what diary topics are to be recorded and how often

Diary guide

What is a diary:

A document created by an individual who maintains regular recordings about events in their life, at the time that those events occur. Diaries should be used, when the goal is not to test a hypothesis, but rather to learn more about the situations or behaviours that are not well-understood (Alaszewski, 2006)).

Purpose of diary:

The purpose of using diary analysis method is to understand what leaders experience but otherwise seem ordinary and unremarkable to the leader. I have been researching the area of public sector leader' conceptual skills and I am interested to know more about how a leader designs and implements his/her thinking in the events and activities that he/she encounters as a change leader in daily life or at work. The scope of my research is broad-based covering any relevant attributes, actions and processes of leadership where underlying conceptual skills might be essential.

The diary method provides a complementary method between interview and field observation in a natural setting, while sometimes it is not possible to observe the leader in his/her natural settings, a diary allows the leader to record the data in his/her own setting. Diaries are considered to be particularly appropriate for "fluid data", i.e. data that may change over time, and data that does not require accurate measurements.

The diary will provide me with important information about the conceptual skills, and the people/activities/processes that are involved in them, how the participant thinks about these experiences, and in what ways he/she thinks they have affected his/her performance and results.

The daily diary:

The participant will be asked to make entries into this diary for at least month from ... (date) to ... (date).

Diary themes guidelines:

For the first day or two, some of these elements below may not seem obvious, but after 2-3

diary writing sessions, these elements will be more observable and come to the surface. It is important to also capture any of these that the participant feels allow him/her to exercise conceptual skills, or have challenged his/her thinking skills, or limited his/her thinking skills. This can also include leadership lessons that he/she learned in the process.

1. **Events and Activities:** identify any significant events and activities, no matter how small, that you believe influence your conceptual approach to leadership (you're your leadership paradigm). This includes both negative and positive experiences. These can include meetings, conferences, organisational events and celebrations, team activities involving planning and evaluating, research and administration, etc. It is important to identify the type of thinking/concept and its purpose involved in each that you are recording.
2. **The people involved:** this can include key figures or peripheral individuals, as well as group/partner experiences. These can also include negative and positive interactions either with you or among the group. The range of interactions can be with one other person or in a group/entity setting.
3. **Organisational culture:** The diary entry can also capture organisational culture elements (based on Edgar Schein's work) in describing the events/activities and interactions such as:
 - a. *Artifacts* like furnishings, pictures, posters, documents, refreshments,
 - b. *Espoused beliefs and values*: speeches, comments or arguments that are made, mission and goals statements, strategic plans, briefing notes, codes of conduct, etc.
 - c. *Basic underlying assumptions* that are not consciously or explicitly presented or verbalised: behaviours, styles of interaction, communication styles, ways of organising and delegating work and decision-making, consultation and collaboration, etc., including any cross-cultural and cross-organisation experiences.

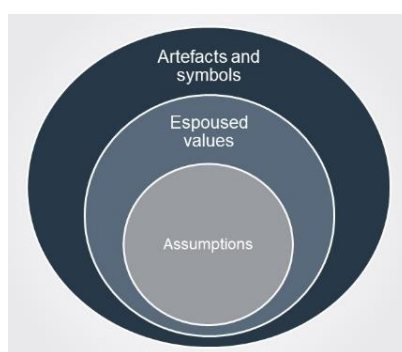


Figure: Organisational Culture Model (Schein): Mulder, P. (2013). Organizational Culture Model by Edgar Schein. Retrieved [31st December 2017] from ToolsHero: <https://www.toolshero.com/leadership/organizational-culture-model-schein/>

Guidelines on what diary topics are to be recorded and how often:

It is important to this study to also capture leadership practice and growth experiences (formal, informal and non-formal, based on Mocker and Spear*) which might include

observations of experiences others are going through that are instructive.

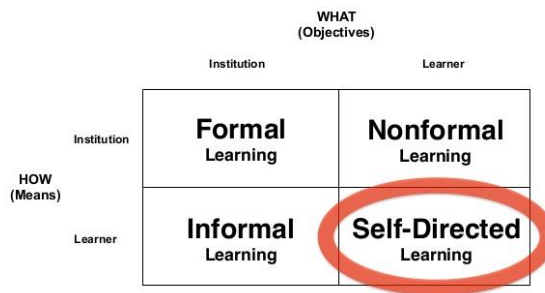


Figure: Learning Environments, Based on (Mocker & Spear, 1982, p. 4).

These experiences might be in the following areas of conceptual skills

3 Self-regulation 2 Sensemaking 2 Integrative leadership 2 Innovative leadership |

Primary sources & diaries (9)	SRSD1	SRSD2	SRAL2	SMSM2	SMSM3	ITIT1	ITST2	INSO2	INSO3
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1. What could constitute the leader's *competence*: ability to be effective in dealing with the environment.
2. Cases and acts that demonstrate how leader is formulating *intrinsic* aspirations, goals and plans, and achieving them.
3. Events and procedures that demonstrate leader' '*Self-awareness and self-knowledge*' (values, cognition, emotions) likely to involve use of conceptual skills.
4. What express a *retrospective activity* that involves *noticing patterns* that are meaningful to us and are based on our experience. It consists of seeing patterns and *making interpretations* of information, expanding on cues extracted from uncertain or ambiguous contexts, and *understanding the potential outcomes* of imagined realities and alternatives
5. Events and attributes that demonstrate "*Structuring the unknown*" by "placing stimuli into some kind of framework" that enables us "to comprehend, understand, explain, attribute, extrapolate, and predict"
6. What could express the leader paradigm that adopting "*Systems thinking*".
7. Examples of leader thinking about adopting ways that include significant *thinking and re-thinking of ideas leading to practical action*.
8. The ways that include how leader *orchestrating resources, people, and relationships* through innovative processes of idea generation, idea structuring, and idea promotion
9. Evidences of the leadership *creating "fit" between leaders and their environments* through processes of adaptation, shaping, and selection

Second: Guidelines on what primary sources are to be observed and how often:

Primary documents embody all sources that are original. It is first-hand accounts of a topic, from people who have had a direct connection with it. Original sources could be found in internet communications via email, listservs, blogs, web site, interviews, speeches, proceedings of (meetings, conferences and symposia), statistical data and newsgroups, letters, diaries, autobiographies, official reports, artifacts, photographs, and drawings (Galvan, 2013).

Guide to use primary sources:

Type (check all that apply) (based on: National Archives and Records Administration [retrieved from: https://www.archives.gov/files/education/lessons/worksheets/written_document_analysis_worksheet.pdf]

- Describe it as if you were explaining to someone who can not see it. (*Think about: Is it all by the same person? Are there stamps or other marks? What else do you see on it?*)
- Observe its parts: when and where is it from.

Try to make sense of it:

- What is it talking about?
- Write one sentence summarising this document.
- Quote evidence from the document that tells you this.
- What was happening at the time in history when this document was created?

Use it as historical evidence

- What did you find out from this document that you might not learn anywhere else?
- What other documents or historical evidence are you going to use to help you understand this event or topic?

Primary Source Analysis Tool

OBSERVE	REFLECT	QUESTION
FURTHER INVESTIGATION		

Table: primary sources analysis form, (based on: LIBRARY CONGRESS: LOC.gov/teacher)

Write what you observing in the first column and what is that document reflect in the second column. The “Question” column basically allocated for what you would expect as you observe and reflect on a primary source. Ask clear, appropriate and deeper questions that will lead to more observations and reflections. Ask “what do you wonder about?”, display sentence starters (Who, what, when, where, why, how...?). After you illustrate the questions, look back at the primary source by asking, “Do you see any clues in the primary source that would help address that question?” (Savage, 2012).

Following are the potential primary sources.

Potential primary Sources	Investigating the conceptual skills of:
Accurate records of the environment, and steps that the leader has taken to resolve the situation (for example, SWOT analysis and its plan, problem solving document, complaint form or email, etc.).	SRSD1: Competence: ability to be effective in dealing with the environment
The document indicates that the leader is honest with his/herself, for example, he/she admitted that really the opposite is true, because if he/she can acknowledge his/her weaknesses then he/she will seek feedback from others, and so leader will be more likely to know when a strength might be played out (e.g. email, plan, or initiative talk about that he/she have done good things for the organisation as a leader and get his/her value, cognition or emotion). Also, could be 360 multi-rater assessments for his/herself that ascertain how self-aware he/she is).	SRAL2: Leaders demonstrate ‘Self-awareness and self-knowledge’ (values, cognition, emotions) likely to involve use of conceptual skills
While a retrospective account often results in defining only small improvements, documents offer some feedback and report. A descriptive report of the completed project, reports provide ideas on how the leader gives meaning to his/her collective experiences, and what kinds of analysis helps the leader to decide on what information is relevant and what explanations are acceptable.	SMSM2: A retrospective activity that involves noticing patterns that are meaningful to us and are based on our experience. It consists of seeing patterns and making interpretations of information, expanding on cues extracted from uncertain or ambiguous contexts, and understanding the potential outcomes of imagined realities and alternatives
Events, speeches, letters, or activity that enables the organisation or team to turn the ongoing complexity of the situation into a condition that is understood explicitly in words and that serves as a catalyst into action (articulation of unknown). Documents can help to explain how the leader produces plausible understandings and meanings.	SMSM3: “Structuring the unknown” by “placing stimuli into some kind of framework” that enables us “to comprehend, understand, explain, attribute, extrapolate, and predict”
Any source that asserts how the leader might use forms of systems thinking, such as:	ITIT1: Systems thinking

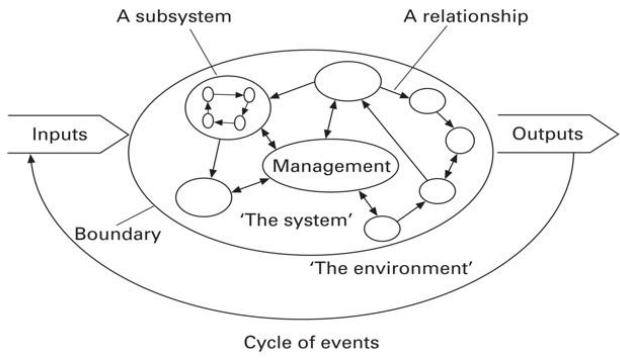
 <p>Figure: The biological system model, Source: (Jackson, 2003, p. 15)</p> <p>Memorandum of cooperation/understanding, stakeholders analysis and engagement, strategic analysis, etc.</p>	
<p>The way that the leaders talk and express themselves according to their values and beliefs, It may appear in a diary, speeches, introduction to meeting or conference, etc.</p>	<p>ITST2: Adopting discursive consciousness</p>
<p>Leaders of creative people should elicit and support idea generation, structure ideas and promote ideas. It might be evident in the innovation system, innovation annual budget, innovation strategy, and innovation teams</p>	<p>INSO2: Orchestrating resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion</p>
<p>Mental activity directed toward purposive adaptation to (becoming between and the surrounding), and selection (selecting an alternative environment) and shaping of (change or impact on the environment) any environmental context. It could be seen in any learning, knowledge and belief structure within a plan for a change project, and by following an idea that been changed from time-to-time.</p>	<p>INSO3: Creating fit between leaders and their environments through processes of adaptation, shaping, and selection</p>

Table: Potential primary sources and targeted conceptual skills

Research instruments (7): Secondary Sources

A non-original or second-hand type of data or information are a *secondary source*. Secondary data be found in magazines, newspapers biographies, online encyclopaedia, written or non-written (sound, pictures, movies, etc.).

Potential sources include the following (e.g. rules, regulations, standards, policies, procedures, guidelines, reports, awards, press releases, media reports, books, memos, emails, websites), any kind of secondary sources directed to investigate the following conceptual skills:

1 Self-regulation 1 Sensemaking 3 Innovative leadership |

Secondary sources (5)	SRSD2	SMSM3	INSO1	INSO2	INSO3
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Potential secondary sources	Investigating the conceptual skills of
Regulation, policies, and procedures of work plan	SRSD2: Formulating intrinsic aspirations, goals and plans, and achieving them
Guidelines and reports of new projects and initiatives	SMSM3: “Structuring the unknown” by “placing stimuli into some kind of framework” that enables us “to comprehend, understand, explain, attribute, extrapolate, and predict”
Plans and procedures for a new project	INSO1: Divergent thinking characterised by fluency, flexibility, originality, and elaboration
Regulations of finance, procurement, and human resource	INSO2: Orchestrating resources, people, and relationships through innovative processes of idea generation, idea structuring, and idea promotion
Media reports, press release, awards, and memos	INSO3: Creating fit between leaders and their environments through processes of adaptation, shaping, and selection

Table: Potential secondary sources and targeted conceptual skills

Research instruments (8): Shadowing

The idea of shadowing the participant leader to see what he/she does and says is a technique that is widely implemented in research. The researcher accompanies the participant and observes his/her activities, events within his/her usual environment. The researcher acts as an observer only and does not interfere with the participant because such interference might change the way that the subject behaves in any given circumstance.

Guide to conduct shadowing method:

Use the following methods to help overcome limitations in the data collection:

Before shadowing occurs:

- Participants are interviewed to realise more about the researcher's needs.
- Some preparation giving an idea of what the researcher wants to learn, written down in an easy-to-reference manner for use during the shadowing time.

During shadowing:

- The exact length of a shadowing exercise is normally determined by what the researcher needs to study. It can be short (30 minutes) or can take place over any time period.
- Observations should be recorded as they happen, yet attention should be given not to allow this to divert from other observations, in a way that allows reconstruction of the behaviour at a later date. This is often done via videoing or photographing the participant at certain points during the shadowing.
- Try to capture important steps only. Researcher should avoid videoing an activity for hours and hours on end. It is very unlikely to be valuable to spend as much time on analysis as on the observation itself.
- A list of questions: the researcher develops a list of questions that are then posed to the participant when shadowing is complete. The researcher will need to work with a participant who explains what is being observed throughout the study, if he is facing a complex situation, questions asked later will concentrate on developing a full explanation that was not available before or during shadowing.
- Use observation sheet (see: Table 11) with respect to known process points (capturing time taken, quality of effort, where and when and who is involved in action, etc.) to guide the researcher's observation.
- In case of participant mobilisation during the observation – ensure that the researcher can move easily so as not to interfere with the natural movement of the event/activity.

The investigated conceptual skills through shadowing are:

1 Self-regulation 1 Sensemaking 1 Innovative leadership |

Shadowing (3)	SRSD2	SMCT1	INAM2
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Activities, events, timeframes and dates that will be requested for permission to attend include:

Activities, events, timeframes and dates	Investigating the conceptual skills of:
Meeting, speeches, social media activities	SRSD2: Formulating intrinsic aspirations, goals and plans, and achieving them

Meeting, speeches, social media activities	SMCT1: Mental models, sensemaking and processes that give meaning to experience and make sense of issues when leading change
Planning session, meeting with employees	INAM2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)

Table: Activities and events to be shadowed

Following is the observation sheet.

Activity/event	capturing time taken	quality of effort	where and who is involved	findings

Table: Observation sheet during shadowing

Research instruments (9): Participant Observation

Observational studies as a technique have long been conducted in psychology. However, there are different type of observation, such as, controlled observation, natural observation and participant observation. Participant observation is observing the activities, events or situation from an internal perspective by taking part in the group to be observed. Ginman (2000) indicated that in a participant observation study, the demand for information must result from a deficiency in knowledge or 'knowledge gap' about a specific characteristic of social life. The other two most common techniques used for observing participants are controlled observations and naturalistic observations. Controlled observation tends to take place in a laboratory environment. The advantages of this method are the ease of reproducing, analysing and speed of conducting the research. Naturalistic observation tends to be less structured and involves studying the participants in the natural setting. This type of observation is more reliable and more useful for ideation. However, it is hard to comprise a representative sample, hard to make them replicable, and hard to handle external variables such as the weather or emergency conditions.

Participant observation is a specific type of research strategy. Its purpose is to gain a nearby and intimate familiarity with a specified group of people (who are related to this study topic and know a group of the participants) and their practices through a series of associations with individuals living in their normal environment.

The main elements of the method of participant observation include the following:

- Living in the setting for an expanded timeframe
- Currently taking part in an extensive variety of every day, scheduled, and phenomenal exercises with individuals who are full members and accustomed to that unique situation
- Utilising each day for discussion as a method of meeting and learning
- Casually observing during relaxation periods and informal activities
- Recording observations in written field notes
- Utilising both tacit and explicit data in investigation and composing field notes

Guide for field observations

Before you decide on a technique for your field observations, be aware of:

1. Decide what you expect to learn from the observational study –structure it in a checklist
2. Select a relevant sample size, recruit the right participants to increase the likelihood that your results will be meaningful
3. Use overt "disclosure" (the participants know that they are being observed)
 - 1) Explain to participants what they will be doing and what they will be observed for. As well as, clarifying how their data and any data collected will be used.
 - 2) Determine what to look for during field observation and focus on what participants are actually doing? You are not expected to decide what he/she might do.
 - 3) What routines do participants have with the study topic (e.g. conceptual skills in leadership)? How are they integrating it into their work?
- 4) Record details to make the observation more meaningful.

- 5) Use all of your senses to investigate people in natural situations or naturally occurring settings
- 6) Ensure that you're examining activities in their whole and authentic form.
- 7) If you see an example of behaviour that you think may be repeated – make a note of it and look for it in future observations.

Following are the key areas where conceptual skills might reside while engaging in participant observation:

1 Self-regulation 1 Sensemaking 2 Integrative leadership 1 Innovative leadership |

Participant Observation (5)	SRSD1	SMSM1	ITIT1	ITST1	INAM2
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Activities, events, timeframes and dates that will be requested for permission to attend include:

Activities, events, situations	Investigating the conceptual skills of:
a) Venues such as the informant's office that are providing information or services to others; library, reception, customers service counter, meeting/training room. b) Planning session, leader' meeting with employees, speeches, related social media activities	SRSD1: Competence: ability to be effective in dealing with the environment
	SMSM1: Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness
	ITIT1: Systems thinking
	ITST1: Knowledgeability: 'to put things into words'
	INAM2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)

Table: Participant observation to investigate the activities of leadership that including conceptual skills

Research instruments (10): Non-participant Observation

Non-participant observation is when the researcher is not part of the group, so, he would sit outside the activity, not taking part in any of the behaviour and communication. Non-participant observation is nevertheless still likely to affect the results, since the presence of the researcher can affect the participants' actual behaviour. However, the researcher may have to engage in non-participant observation for some reasons, such as he may have limited or no access to a particular group, possibly the setting of the research is dangerous, and perhas the researcher is not interested in the subjectively experienced dimensions of social action. Therefore, the researcher may not have the opportunity to engage in participant observation.

The aim of non-participant observation is to gain a better understanding of the leader's conceptual skills in which public sector organisations operate and the role of conceptual skills in leading change. Conceptual skills will be investigated in the following areas of leadership activity:

1 Self-regulation 1 Sensemaking 2 Integrative leadership 1 Innovative leadership |

Non-participant Observation (5)	SRSD1	SMSM1	ITIT1	ITST1	INAM2
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Activities, events, timeframes and dates that will be requested for permission to attend include:

Activities, events, situations	Investigating the conceptual skills of:
Venues such as the informant's office, reception, meeting/training room, related social media, planning sessions, leader' meeting with employees, and speeches	SRSD1: Competence: ability to be effective in dealing with the environment
	SMSM1: Find a way of thinking about diversity, complexity and incompleteness that neither drowns us in a Tower of Babel nor imposes homogeneity, simplicity and completeness
	ITIT1: Systems thinking
	ITST1: Knowledgeability: 'to put things into words'
	INAM2: Deal with organisational ambidexterity (sequential, simultaneous, structural, and contextual)

Table: Non-participant observation to investigate the activities of leadership that including conceptual skills

Research instruments (11): - Formal Test

Formal test typically means using a test that includes a standardised format, direction and set of instructions. This type of assessment has a specific right or wrong answer based on a set of predetermined criteria. Formal tests accept a single set of expectations for all participants.

The following areas of conceptual skills that will be tested, as well the conditions within which the formal test will be conducted, include:

☐ Integrative leadership ☐ Innovative leadership |

Formal Test (2) ☐ ITIT2 ☐ INSO1

Conditions, times, places these formal tests will be conducted:

Conditions, times, places	Investigating the conceptual skills of
<p>The leaders are provided with a set of written scenarios and challenges. Their responses are analysed and interpreted for the extent that they show capacity to create new concepts and solutions out of opposing ideas, debates and paradoxes. Scenario building have been recognised as a technique to predict and shape the innovation process. This test will be conducted at the end of (1:1) interviews.</p>	<p>ITIT2: Creating new concepts and solutions out of opposing ideas, debates and paradoxes</p>
<p>Using “alternative uses”: Developed by J.P. Guilford in 1967, the Alternative Uses Test stretches your creativity by giving you two minutes to think of as many uses as possible for an everyday object. Based on the collected data from multiple qualitative sources, develop narrative analytical summaries of leaders’ competence across four dimensions describing and theorising the related roles and contributions of intelligence (analytical, creative and practical). These interpretative narrative analyses will be written by the researcher both during and following data collection. This test will be conducted at the end of the (1:1) interviews.</p> <p>Use the circles as a prompt for drawing. Draw for two minutes.</p> <p>Anna: face, face, face, face, face (highest fluency most responses)</p> <p>Benji: face, wheel, ball, (empty circle), (empty circle) (highest flexibility most types of responses)</p> <p>Carol: wheel, wheel, ball, (empty circle), (empty circle)</p> <p>Darlene: bomb, balloon, (empty circle), (empty circle), (empty circle) (highest originality most unusual responses)</p> <p>Eric: face, face, face, (empty circle), (empty circle) (highest elaboration most detailed responses)</p>	<p>INSO1: Divergent thinking characterised by fluency, flexibility, originality, and elaboration</p>

Figure: The Guilford Measures: measuring a person's creativity

Research instruments (12): Narrative Analysis

Narrative analysis is a means by which we systematically collect, analyse, and represent people's stories as expressed by them, which challenges traditional and modernist opinions of fact, reality, knowledge and individuality (Etherington, 2013). 'Studying power from a narrative perspective enables it to be understood as a dynamic phenomenon, the form and enactment of which is subject to change over time' (Rhodes & Brown, 2005, p. 174).

Attention to various techniques of narrative interviewing could lead to fascinating experiences into the relationship between narrative shape and content. Through use of unique elicitation procedures, researchers have employed narrative methods to consider the conditions the story implies and to elicit stories as a basis for multiple analyses and interpretations by the researcher. The idea of narrative here includes interviewing performances of different types, including brainstorming or focus group, and narrative investigation that is organised in different ways including ordinary narrating practices. Narrative analysis considers stories as knowledge per se which creates 'the social reality of the narrator' (Etherington, 2004, p. 81).

Depending on one's philosophical position, different methods of narrative analysis can be used. Some focus on the content of stories; others on meaning; and maybe, sometimes, on both. One way to differentiate between narrative methods is to depend on the difference between structure and performance (Bamberg, 1997). Philosophical roots and influences that can be considered are postmodernism, social constructionism, constructivism, and feminism. The following table distinguishes between four types of narrative analysis.

Postmodernism	Calls for an ideological critique of foundational knowledge and privileged discourses ('grand narratives'); Questions notions of 'Truth', certainty, and objective reality; Examines taken-for-granted assumptions; Views knowledge and language as relational and generative
Social constructionism	Views knowledge and knower as interdependent and embedded within history, context, culture, language, experience, and understandings
Constructivism	Constructivism is based on the idea that reality is a product of one's own creation; each individual sees and interprets the world and their experiences through personal belief systems
Feminism	Examine power issues within research relationships with a view to greater equality Help create a sense of power and autonomy – especially for marginalised groups – by providing a platform from which those voices can be heard Shows transparently how we discover what we know through reflexivity

Table: Differentiation between four types of narrative analysis, (based on: Etherington, 2013, pp. 9-13)

The personal narrative is a type of case-centered research (Mishler, 2000b). ‘Used to refer to brief, topically specific stories organised around characters, setting, and plot’ (Anne, 2013, p. 172). The most important requirement for narrative analysis is trust and transparency in examining relationships, high levels of moral and critical meeting, mutual collaboration. After some time, the narrator should have full voice, yet the two voices remain heard throughout, a tolerance of uncertainty, valuing of symbols, signs, representations, and using various information sources (Etherington, 2013).

To help participants tell stories:

Use	In purpose of
Not knowing position	Avoid adopting an expert position so as not to foreclose on the real events or jump into an assessor’s position
Tell me about the/a time when....	Need for reflexive engagement throughout on how the experience has been gained enabling the narrator to elaborate fully
Who were you with?	To call other characters into the story
What happened then ...? How long did that go on?	To invite the temporal nature of the story
When did you realise that it couldn’t go on?	Turning point
What kind of sense did you make of all that?	Meaning-making

Table: How to help participant tell story, (Based on: Etherington, 2013)

Use these criteria to judge the effectiveness of the narrative method (Etherington, 2013):

1. Does the work make a substantive contribution to my understanding of social life?
2. Does the work have aesthetic merit?
3. Is the work reflexive enough?
4. What is the impact of this work on me?
5. Does the work provide me with a sense of ‘lived experience’?

Guide to analyse the content of narrative (Azzy, 2013; Lieblich, Tuval-Mashiach & Zilber, 1998):

1. Selection of the subtext: Collect the stories
2. Definition of the content categories: Analyse the content, the discourse, and the context of the story, focusing on insights and understandings
3. Sorting the material into the categories
4. Consider the effects of background variables (i.e. gender, age)
5. Drawing conclusions from the results: Identify stories or content that illustrate your themes, insights, and understandings.

The particular methods and techniques of narrative analysis will include investigating the conceptual skills of (INSO4) achieving a balance of analytical, creative, and practical intelligence, which, in combination, constitute successful intelligence

Forms of research instruments – for participants - describes the research aim, methods, procedures and liabilities from the research participants to provide.

CSLC*¹ Form (1): The study information – for participants

Dear Participant:

You have been invited to participate in a research study that is aiming to understand and to investigate the roles of conceptual skills in leading change, as well as to analyse the conceptual skills impact on your career.

The following information is provided in order to describe the nature of the interview process and the primary documents:

Project: The Roles of Conceptual Skills in Leading Change in the Governments of UAE.

The main aim is:

To analyse the role of leaders' conceptual skills in leading change in the public sector. The purpose of this research is to provide a comprehensive theoretical framework and model of the role of conceptual skills in leading change.

This research asks: How do leaders employ high-level conceptual skills in leading public sector change?

Conceptual skills definition:

Conceptual skill is the ability to think creatively about, analyse and realise abstract and complicated ideas*². "Conceptual skill involves the ability to see the enterprise as a whole, it includes recognizing how the various functions of the organization depend on one another, and how changes in one part affect all the others, and it extends to visualizing the relationship of the individual business to the industry, community, and the political, social, and economic forces of the nation as a whole". (Katz, 1974)

Procedures: You will be asked to participate in 1-2 interviews sessions and each session will take no more than an hour of your time. The interview will be audio-recorded – after your approval - and take place in a location mutually agreeable to you. the result of interview' transcripts will be returned to you, to check the accuracy of the data and resonance with your experiences. In addition to shadowing some activities with specific timeframe will be requested for permission to attend.

The second type of interviews will focus on your peers and subordinates, individuals and groups (as a focus group). These interviews questions will be aimed at gaining more in-depth information regarding the participant's use of conceptual skills in leadership.

Also, I am using diary analysis method to understand what leaders experience but otherwise

¹ CSCL = Conceptual Skills in Leading Change

² Read more: <http://www.businessdictionary.com/definition/conceptual-skill.html>

seems ordinary and unremarkable to the leader. Thus, I will ask you – if it is possible – to make entries into this diary for the next month following attached “Diary themes guidelines”, it would be very helpful to capture what you feel that allow you to exercise conceptual skills, or challenge or limit your thinking skills. This can also include leadership lessons that you learned during change management.

Finally, I will need a potential source include the following (e.g. rules, regulations, standards, policies, procedures, guidelines, reports, awards, press releases, media reports, books, memos, emails, websites) that I can capture the theme of leader’ conceptual skills through these primary and secondary documents. The purpose of documents analysis is to provide background information and opportunities for data triangulation (using three sources of data to verify and substantiate the study). A number of documents will be analysed that related to attributes, actions and processes where underlying leader’ conceptual skills.

Confidentiality: Your name will not be used in the research study. All audiotapes will be kept in a locked location. Once the interviewer has transcribed the tapes, they will also be kept in a secured location as well.

Regarding the documents that I am going to review after your acceptance, all materials that I receive will be treated as confidential documents. This means I cannot share them with anyone and cannot share information about the review without prior authorisation from you.

Freedom to withdraw: You are free to decide not to participate in this study. You can also withdraw at any time without causing any embarrassment to the researcher. You are voluntarily making a decision to participate in this study.

CSLC Form (2): Participant approval for the research instruments – for participants

Dear participant

Below is the list of study instruments that will be used by researcher to achieve the research aim and objectives. You are invited to accept or deny all or some of following tools.

Please put (√) in the square beside the instrument that you accept to use by researcher

N.	Instrument	Participant approval
1	1:1 Interview + Member Check	<input type="checkbox"/>
2	Formal and informal interviews with peers and subordinates	<input type="checkbox"/>
3	Focus group, (5-7) of subordinates	<input type="checkbox"/>
4	Documents review (primary and secondary documents)	<input type="checkbox"/>
5	Diary - (according to the attached guideline)	<input type="checkbox"/>
6	Field observation (participant and non-participant observation)	<input type="checkbox"/>
7	Formal test - will be performed during the interview	<input type="checkbox"/>
8	Narrative analysis - will be performed during the interview	<input type="checkbox"/>
	Voice recording according to the described conditions	<input type="checkbox"/>

Participant' name:

Signature

Date: / /2018