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**Strategic corporate innovation factors affecting the transitioning
from Chief Information Officer to Chief Innovation Officer**

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ABSTRACT

It is imperative for organisations to gain an enhanced understanding of the various strategic elements influencing their corporate innovation in order to continuously remain competitive. Owing to the ever-increasing pace of technology advancement, Chief Information Officers (CIOs) are becoming better positioned to influence the innovation performance of their organisations. Moreover, in pursuit of increasing the value return of strategic innovation endeavours, the roles of Chief Innovation Officers (CInOs) and other C-suite officers have been growing in recent years.

However, despite corporate innovation becoming a popular research topic, there is a limited understanding of what strategic elements are influencing the corporate innovation performance of private South African companies. In addition, research concerning the relationship between corporate innovation performance and the necessary competencies and traits of CIOs and CInOs remains scarce. In order to fully understand these noteworthy issues, the perspectives of both CIOs and CInOs have become equally important.

This research utilised a series of semi-structured qualitative interviews and collected feedback from 35 CIOs or CInOs of private organisations in Johannesburg, South Africa. The findings revealed that firstly, extant literature is general misguided in its assumption that “corporate innovation” is a one-size-fits-all concept. Respondents clearly demonstrated that there is no blueprint for corporate innovation as different business units and companies experience different contexts. Secondly, the research was able to identify six strategic levers and propose a holistic landscape for corporate innovation. It is through understanding how a business unit can cleverly combine relevant strategic levers within the corporate innovation landscape that enhances organisational competitiveness.

It is therefore envisaged that these levers and holistic landscapes can assist novice managers and seasoned leaders to better assess their innovation endeavours. The findings also demonstrated a knowledge gap amongst respondents with regards to understanding the interplay between the formal and informal corporate innovation components. Lastly, the important competencies and traits that enable one to drive “corporate innovation” initiatives are proposed.

By combining the findings of in-depth interviews, this research was able to propose a preliminary model. The outcome of this research may contribute towards an understanding of the potential barriers and enablers to corporate innovation related to both the formal and informal organisation, ultimately assisting the transitioning of the CIO into the role of the CInO.

KEYWORDS

Chief Information Officer

Chief Innovation Officer

Corporate entrepreneurship and innovation

Formal and informal organisation

Competitive advantage

TABLE OF CONTENTS

ABSTRACT.....	ii
LIST OF FIGURES.....	viii
LIST OF TABLES	ix
DEFINITION OF TERMS	x
LIST OF ACRONYMS AND ABBREVIATIONS	xii
1. INTRODUCTION	1
1.1. Purpose of the study	1
1.2. Context of the study.....	2
1.3. Problem statement.....	3
1.3.1. Main problem	3
1.3.2. Sub problem 1.....	3
1.3.3. Sub problem 2.....	4
1.4. Significance of the study	4
1.5. Ethical considerations	4
2. LITERATURE REVIEW	6
2.1. Introduction.....	6
2.2. Background discussion	6
2.3. Competitive advantage	7
2.4. The role and importance of a Chief Information Officer	10
2.5. The role and importance of a Chief Innovation Officer	11
2.6. Chief Information Officer as Chief Innovation Officer	12
2.7. The interplay between the formal and informal organisation	14
2.8. Theoretical model	15
2.9. Conclusion.....	17
3. RESEARCH QUESTIONS.....	18
3.1. Introduction.....	18
3.2. Research questions.....	18
3.2.1. Question 1 (Q1)	18
3.2.2. Question 2 (Q2)	18

3.2.3. Question 3 (Q3)	18
4. RESEARCH METHODOLOGY	19
4.1. Introduction.....	19
4.2. Research design.....	19
4.3. Population and sample	20
4.3.1. Population	20
4.3.2. Sample and sampling method	21
4.4. Research instrument	21
4.5. Data analysis and interpretation	22
4.6. Limitations of the research method	24
4.7. Validity and reliability of the research	25
4.8. Conclusion.....	25
5. RESULTS	26
5.1. Introduction.....	26
5.2. Demographic analysis of the participants	26
5.3. Interview question 1: Formal organisational components affecting corporate innovation.....	31
5.3.1. Formal process.....	32
5.3.2. Strategic alignment	33
5.3.3. Openness	34
5.3.4. Company culture	35
5.3.5. Other noteworthy points	35
5.4. Interview question 2A: Informal corporate innovation activities and behaviour	36
5.4.1. Company culture	37
5.4.2. Informal process	37
5.4.3. Other noteworthy points	38
5.5. Interview question 2B: Practices that creates synergy between formal and informal innovation elements	39
5.5.1. The interplay between the formal and informal organisation	39
5.5.2. Openness	40
5.5.3. Learning	40
5.5.4. Other noteworthy points	41
5.6. Interview question 3: What does the Chief Information Officer of the future look like?	
41	
5.6.1. CInO leadership	42

5.6.2.	Strategic alignment	43
5.6.3.	Personal traits.....	44
5.6.4.	CIO organisational position	44
5.6.5.	Other noteworthy points	45
5.6.6.	Conclusion.....	46
6.	DISCUSSION OF RESULTS.....	48
6.1.	Introduction.....	48
6.2.	General observations	48
6.2.1.	Phases of corporate innovation	48
6.2.2.	Blueprint void in corporate innovation	49
6.3.	Development of strategic corporate innovation levers.....	50
6.4.	Research questions 1 and 2.....	52
6.4.1.	(P1) Purposeful vision.....	52
6.4.2.	(P2) Path and modalities	53
6.4.3.	(P3) People and structure.....	55
6.4.4.	(P4) Process and partnership	56
6.4.5.	(P5) Performance culture	57
6.4.6.	(P6) Platforms	58
6.4.7.	Conclusion to research questions 1 and 2	58
6.5.	Research question 3	60
6.5.1.	Innovation leadership	61
6.5.2.	Strategic alignment	61
6.5.3.	Emotional intelligence.....	62
6.5.4.	Technology acumen.....	62
6.5.5.	Business acumen	63
6.5.6.	Conclusion to research question 3.....	64
6.6.	Conclusion of findings	64
7.	CONCLUSION	66
7.1.	Introduction.....	66
7.2.	Main findings	66
7.2.1.	Informal organisational innovation factors.....	67
7.2.2.	Formal and informal interplay	68
7.2.3.	Chief Information Officer capabilities	68
7.2.4.	Corporate entrepreneurship and innovation bricolage.....	69

7.3. General recommendations	70
7.4. Recommendations for further research	70
7.5. Limitations of the research	71
7.6. Closing remarks	71
References	72
APPENDIX A - INTERVIEW QUESTIONS	78
APPENDIX B - INTERVIEW QUESTION ONE: RESULTS.....	79
APPENDIX C - INTERVIEW QUESTION TWO A: RESULTS.....	93
APPENDIX D - INTERVIEW QUESTION TWO B: RESULTS	99
APPENDIX E - INTERVIEW QUESTION THREE: RESULTS.....	104
APPENDIX F – INTERVIEW QUESTION 1: THEME FREQUENNCIES.....	114
APPENDIX G – INTERVIEW QUESTION 2A: THEME FREQUENNCIES	115
APPENDIX H – INTERVIEW QUESTION 2B: THEME FREQUENNCIES.....	116
APPENDIX I – INTERVIEW QUESTION 3: THEME FREQUENNCIES	117
APPENDIX J – INFORMED CONSENT FORM	118

LIST OF FIGURES

Figure 2.1: Ten types of innovation.....	9
Figure 2.2: Theoretical model delineating the transition of a CIO to a CInO.....	17
Figure 5.1: Industry sectors.....	30
Figure 5.2: Respondents' positions.....	31
Figure 5.3: Respondents' years of service in current organisation and position.....	32
Figure 5.4: Respondents' genders.....	33
Figure 6.1: Strategic lever alignment with research question (1&2)	53
Figure 6.2: CE&I landscape based on the alignment between the literature and research findings.....	61
Figure 6.3: CIO & CInO strategic proficiency alignment.....	63
Figure 7.1: Strategic corporate innovation factors affecting the transition from CIO to CInO.....	72

LIST OF TABLES

Table 4.1: Relationship between research and interview questions.....	21
Table 4.2: Encoded themes.....	25
Table 5.1: Interviewed companies and sectors.....	29
Table 5.2: Interview question 1: Theme frequencies.....	34
Table 5.3: Interview question 2A: Theme frequencies.....	38
Table 5.4: Interview question 2B: Theme frequencies.....	41
Table 5.5: Interview question 3: Theme frequencies.....	44
Table 5.6: Suggested innovation leadership traits	45
Table 6.1: Corporate innovation strategic levers.....	52
Table 6.2: Innovation leadership toolbox.....	63
Table 6.3: Strategic alignment toolbox.....	64
Table 6.4: Emotional intelligence toolbox.....	64
Table 6.5: Technology acumen toolbox.....	65
Table 6.6: Business acumen toolbox.....	66
Table 7.1: CIO key innovation capabilities.....	69

DEFINITION OF TERMS

The following terms will be used in this thesis in the context described below:

- **Corporate entrepreneurship:** The formal and informal activities aimed at creating new businesses in established companies through product and process innovations and market developments. These activities may take place at the corporate, division (business), functional, or project levels, with the unifying objective of improving a company's competitive position and financial performance (Kuratko, 2007).
- **Corporate entrepreneurship and Innovation:** Refers to the process of organisational renewal and exploitation of new opportunities, and is conceptualised as an integrated construct. For example, re-engineering current products and services whilst harnessing innovation to develop new product ranges (Phan, Wright, Ucbasaran & Tan, 2009).
- **Entrepreneurial proclivity:** The term used to define how organisations take on a strategic practice to advance corporate entrepreneurship (Matsuno, Mentzer & Özsomer, 2002).
- **Formal organisation:** The organisational practices intentionally created and formalised to safeguard and maximise gratifying return for the organisation (Smith-Doerr & Powell, 2005).
- **Innovation:** Production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome (Crossan & Apaydin, 2010).
- **Formal and informal organisational interplay:** The simultaneous existence of both formal and informal organisational components, and the coherence amongst these elements (Soda & Zaheer, 2012).

- **Informal organisation:** The emergent interlocking dynamics of individual behaviour resulting in cross-functional, interpersonal and inter-organisational interactions not explicitly captured by the formal organisation (Gulati & Puranam, 2009).
- **Intrapreneurial:** The aim of corporations to enhance the innovative abilities of their employees and, at the same time, increase corporate success through the creation of new corporate ventures (Kuratko, Montagno & Hornsby, 1990).

LIST OF ACRONYMS AND ABBREVIATIONS

- **CE** Corporate Entrepreneurship
- **CE&I** Corporate Entrepreneurship and Innovation
- **CEO** Chief Executive Officer
- **CInO** Chief Innovation Officer
- **CIO** Chief Information Officer
- **EI** Emotional Intelligence
- **IT** Information Technology
- **ITO** Information Technology Officer
- **SaaS** Software as a Service

1. INTRODUCTION

1.1. Purpose of the study

The interest in innovation and an enhanced understanding of corporate entrepreneurship has increased with the competitiveness of the global market. To ensure continued growth and value creation, organisations need to innovate rapidly and capitalise on feasible opportunities as they are presented. Rapidly changing markets and customer demands create the perfect landscape for innovation and corporate entrepreneurship to drive organisational competitiveness, however there are several barriers to successfully implementing a corporate innovation programme. Most notable of these is the misunderstanding regarding what specific innovation strategy to choose as a good fit for a company. Moreover, it is clear that the majority of employees do not understand what is meant by corporate innovation (Hausman & Johnston, 2014). Clearly there is an impetus for corporate innovation and senior managers need to clearly understand it to ensure its effective implementation.

Due to the rapid rate of technological change, a defined information technology (IT) strategy plays an important role in an organisation's innovation efforts (Zahra & Bogner, 2000). This study has specifically focused on the organisational role of the Chief Information Officer (CIO) in order to promote corporate entrepreneurship and innovation (CE&I). Extant research on CE&I has largely focused on formal organisational perspectives. The formal organisation can be viewed as the organisational practices deliberately created to maintain and maximise gratifying yield for the organisation (Nickerson & Zenger, 2002). In contrast, limited research has focussed on examining the informal organisation, defined as "the emergent patterns of individual behaviour and interactions between individuals" not explicitly captured by the formal organisation (Gulati & Puranam, 2009, p.427). The interplay between formal and informal organisational perspectives has been examined to an even lesser extent, despite it being shown to be critical in holistically understanding organisational functioning, in addition to uncovering the impact of the organisations' interrelationships on individual performance (Soda & Zaheer, 2012).

This study focuses on both formal and informal organisations with the aim of identifying the strategic corporate entrepreneurship factors linked to the evolution of CIO to CInO. The

evolution could translate into increased innovation successes, ultimately improving shareholder value. A multi-source approach for data collection formed part of the foundation of the research design, which saw candidates being interviewed who were linked to the C-suite and who were involved in either innovation or technology. The qualitative research process aimed to uncover the corporate entrepreneurship (CE) factors affecting the transitioning from CIO to CInO aligned with the relevant formal or informal organisation aspects. The results may add practical value to understanding why corporate innovation fails so often and provide insight into how to fast-track corporate entrepreneurship initiatives.

1.2. Context of the study

To a degree, all business units require the support of technology; the Information Technology Officer (ITO) is one of the few executives who are involved in various facets of the organisation. According to Engel (2011), the CIO is the best suited C-level candidate to contribute to the organisation's evolution through adopting the role of an innovation leader. With a strong business imperative to drive innovation, the CIO's role is transforming into one that includes more strategic and growth elements. As the CIO is uniquely positioned to drive innovation and influence change, the current role must evolve from being the Chief Information Officer to being the Chief Innovation Officer.

Corporate innovation requires input from various departments and role players within the organisation. As the ideation cycle is usually a team effort that requires a champion who understands various facets of the organisation (Gobble, Petrick & Wright, 2012), the proposed evolution seems like a natural progression because IT is closely coupled with every unit in the organisation. Technology is one of the key enablers that Chief Executive Officers (CEOs) are looking at to drive innovation (Gobble et al., 2012), however even the most innovative technology cannot deliver success without alignment to the organisational strategy. "Companies that seek an advantage through innovation are well advised to choose a strategy that fits within the context of its overall corporate strategy" (Jaruzelski & Katzenbach, 2012, p. 33). The strategy must include a clear vision of where the company is going and the role that innovation will play in the expected revenue growth of the future.

This study focuses on the interplay between the formal and informal organisation from a corporate entrepreneurial perspective. This interplay is considered important because a lack of understanding of the interrelationship between the formal and informal organisation can potentially limit innovation, hampering economic growth and the transformation of CIO

to CInO. According to Soda and Zaheer (2012), both informal and formal organisational elements and their mutual interplay require extensive research. A complete understanding of how the organisation functions will provide the key to unpacking this interrelationship, which has implications for the performance of individual organisational actors. Kuratko, Covin and Hornsby (2014) stated that, while innovation is highly ranked as the most viable strategy for ensuring continuous growth and shareholder value creation, the majority of companies fail at successfully implementing corporate innovation.

This study also focuses on evaluating the strategic corporate innovation elements involved in the interplay between the formal and informal organisation in order to holistically understand corporate innovation. Furthermore, the adoption of the developed strategic levers may assist South African companies to become more competitive; South Africa was ranked 56th out of 144 economies in the latest World Competitiveness Report (Porter, Sachs & Warner, 2014).

The World Competitiveness Report of 2014 defined 12 distinct pillars of competitiveness to determine the productivity of a country. The findings of this study will address factors directly related to two of the pillars:

- I. Technological readiness: “Measures the agility with which an economy adopts existing technologies to enhance the productivity of its industries, with specific emphasis on its capacity to fully leverage information and communication technologies (ICTs)” (p. 7).
- II. Innovation: “Innovation can emerge from new technological and non-technological knowledge. Non-technological innovations are closely related to the know-how, skills, and working conditions that are embedded in organisations” (p 8).

1.3. Problem statement

1.3.1. Main problem

Evaluate the interplay between the formal and informal organisation in order to understand the strategic factors that may influence corporate entrepreneurship and innovation.

1.3.2. Sub problem 1

Identify the key informal organisation elements that can be leveraged by the Chief Information Officer to promote corporate entrepreneurship and innovation.

1.3.3. Sub problem 2

Identify the key capabilities required for the transition from Chief Information Officer to Chief Innovation Officer.

1.4. Significance of the study

Most research on corporate entrepreneurship has focused on the formal organisation, although elements of the information organisation such as the concept of organisational fit and coherence are perceived as the cornerstone of organisational design (Soda & Zaheer, 2012). From a strategic level, formal organisational aspects such as antecedents to corporate entrepreneurship and corporate strategies (Antoncic & Hisrich, 2001; Kuratko, 2005; Corbett & Hmieleski, 2007; Pérez-Luño, Wiklund & Cabrera, 2011), strategic renewal and corporate venturing (Covin & Miles, 1999; Kellermanns & Eddleston, 2006; Renko, Carsrud & Brännback, 2009) and entrepreneurial orientation culture (Lyles, Baird, Burdeane, Orris & Kuratko, 1993; Covin & Slevin, 1991; Dess & Lumpkin, 2005) have been extensively investigated. This study will attempt to address the gap in research by focussing on both the formal and informal organisation within the context of corporate innovation.

This study is a significant because it promotes the evolution of the CIO into a more innovative executive, which is clearly important for organisational competitiveness (Burrus, 2013). This study may be beneficial to organisations that drive growth through IT centred innovation. The current research may also clarify the strategic elements involved in promoting corporate entrepreneurship, which is likely linked to the interplay between the formal and informal organisation. This study may further contribute towards an understanding of potential barriers to corporate innovation and ultimately the transitioning of the CIO into the role of the CInO.

1.5. Ethical considerations

Various ethical considerations were taken into account during the research endeavour, which were in line with the thoughts tabled by Bryman and Bell (2007):

- I. The protection of the privacy of research contributors had to be guaranteed.

- II. Communication related to the research was transparent and done with honesty.
- III. Consent forms were distributed to each participant prior to the interview process, and only participants who signed the forms were included in the study.
- IV. Biased representation of data findings and misleading information was avoided.
- V. An informed consent form was provided to each contributor (Appendix J) and only the respondents who agreed to participate and signed the forms were included in the research.
- VI. All responses from participants were kept confidential and will only be used for the purposes outlined in this research.

2. LITERATURE REVIEW

2.1. Introduction

This section contains a literature review that is related to the main elements of this research, which enables a discussion of the problem statements as outlined in Chapter 1 (Section 1.3). A link between innovation and organisational competitive advantage will be discussed from an IT perspective, while a succinct summary of the significance of roles of the CIO and CInO will also be included. Finally, the interplay between the formal and informal organisation with a focus on strategic corporate entrepreneurship dynamics will be explored.

2.2. Background discussion

To effectively compete in the markets of the 21st century, continuous innovation in terms of all organisational routines, product lines and processes is required (Kuratko, Hornsby & Covin, 2014). Extant research delineates the significant inadequacies and challenges related to corporate entrepreneurship activities of firms (Phan et al., 2009). Innovation needs to be part of the nucleus of the organisational strategy and growth plan, driven by an innovation champion who is involved in the innovation process and who is well versed in the common innovation pitfalls, threats and opportunities. As global competitiveness increases, specifically with the rise in consumerisation of IT, the role of the CIO and the strategic alignment with corporate innovation is key to preserving competitive advantage (High, 2012).

Corporate entrepreneurship activities excel in established firms where employees have the authority to innovate and deviate from traditional routines and strategies (Kuratko et al., 2014), yet the concept of innovation is often pigeon-holed and predominantly linked to new product development. Innovation has various elements that form part of its overall makeup. New product development talks to only one of the innovation components; on its own it provides the lowest return on investment and the least competitive advantage (Keeley, Walters, Pikkell & Quinn, 2013). According to Keeley et al. (2013), innovation can be organised into three broad categories:

- I. Configuration
 - a. How to generate revenue.
 - b. Value creating through connections to others.
 - c. How you unify and arrange your talent and assets.

- d. How you use optimised methods to do your work.
- II. Offering
 - a. How you develop distinctive features and functionality.
 - b. How you create complementary services and products.
- III. Experience
 - a. How you maintain and strengthen the value of your offerings.
 - b. How you deliver your value proposition to users and customers.
 - c. How you represent your offerings and business.
 - d. How you foster compelling interactions.

Research on corporate entrepreneurship makes reference to the changing role of the CIO as arising mainly from the key function IT will have in shaping the future of business (Koval, 2011). Burrus (2013) argued that while the Chief Information Officer conventionally managed information, the role has now transformed into creating a competitive advantage for companies. Furthermore, numerous CEOs (in addition to other C-suite employees) have limited technological foresight. Conversely, the CIO is often much more technologically savvy, and has access to and understands technologically related knowledge (Carter, Grover & Thatcher, 2011).

It is imperative that information capabilities are leveraged throughout the entire organisation, as this will set the foundation for the CIO to adopt a more innovative role (Peppard, Edwards & Lambert, 2011). This is predicated on the assumption that leveraging both the formal and informal organisation with a specific focus on their interplay is one of the fundamental driving forces behind the CIO's transformation into the CInO.

While aspects of both the formal, and to a lesser extent the informal, organisation have been investigated, there remains a disconnect between the two research streams (McEvily, Soda & Tortoriello, 2014). This study therefore aims to elucidate the interplay between the formal and informal organisation to advance strategic corporate entrepreneurship and innovation (CE&I).

2.3. Competitive advantage

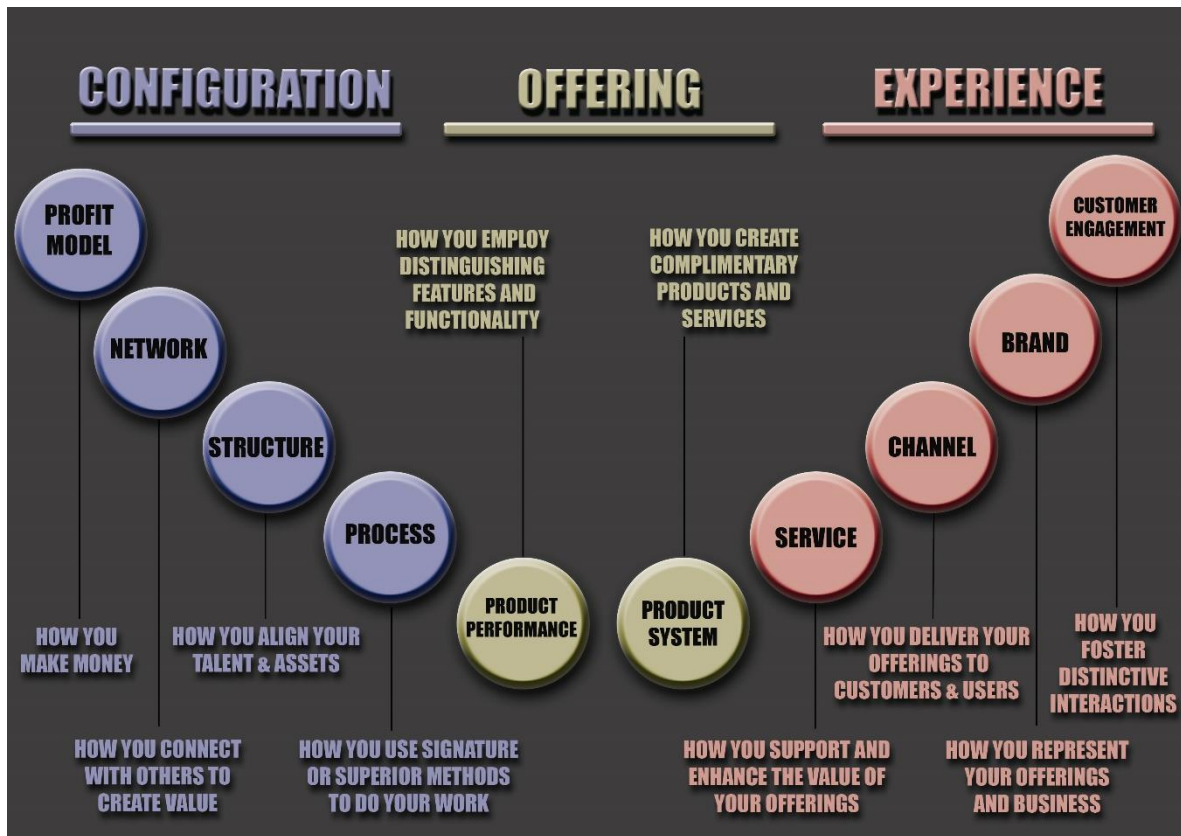
Innovation has been extensively studied since Schumpeter stated in the 1930s that organisations should innovate in order to ensure sustainable growth and the continuous renewal of their asset base (Schumpeter, 1934). Innovation was traditionally linked to

science and technology in the late 1960s, after which technology was identified as a key element in the innovation domain (Myers & Marquis, 1969). The main drivers of economic growth are technological change and innovation, as these forces are at the centre of the competitive process (Cainelli, Evangelista & Savona, 2006). In order to ensure continuous growth and shareholder value creation, businesses should therefore build competitiveness for today and tomorrow.

As outlined by Keeley et al. (2013), organisations can improve their innovation efforts by integrating more types of innovation into their approach. Figure 2.1 below illustrates the ten defined innovation types. The categories are arranged from the internal business workings on the left to the customer experience on the right. The model is a good platform to use in expanding the thinking around corporate innovation at the various organisational levels (Keeley et al., 2013).

As technology-driven innovation is accelerating on a continuous basis, the CIO has an important role to play in driving constant improvement and ensuring long-term shareholder value creation (Carter, Grover & Thatcher, 2011). According to High (2012), the CIO is the best suited C-level position to translate and drive corporate innovation. It is therefore clear that the CIO is perfectly situated to decipher the various innovation types and become the conductor of corporate innovation.

Figure 2.1: Ten types of innovation



Source: Adapted from Keeley et al. (2013)

Not only is it important to understand the various types of innovation, but it is also key to comprehend the stages entrenched within each step. According to Baregheh, Rowley and Sambrook (2009, p. 1332), “Stages of innovation refer to all the steps taken during an innovation process which usually start from idea generation and end with commercialization”. According to Green (2011), in its most basic form, innovation consists of the following three stages:

- I. Discovery - developing idea generation strategies and innovation competencies. These concepts are usually supported through translating customer suggestions into workable notions.
- II. Evaluation - the main aim is to rank the opportunities and identify the highest-value concepts, ultimately determining the viability of executing these concepts. This stage is often coupled with the use of an idea evaluation framework.

- III. Execution - the organisation has to commit the required resources to facilitate the innovation enablement process.

IT is dramatically changing the business landscape and is considered to be an important resource that affects strategic options and creates opportunities (Sandberg, 2014). IBM has released annual predictions that include revolutionary trends since the mid-2000s, with the aim being to post five futuristic technologies that they feel will become a reality in the coming years (Meyerson, 2013). These technologies are clear examples of how IT is shaping the future, and how innovation can be a key differentiator between market leaders and possible new entrants. Losing ground to competitors, not operating at effective levels and high staff turnover are all key traits of businesses that fail to innovate. According to Engel (2011), the last ten years proved to be detrimental for organisations that failed to evolve and were outclassed by new market entrants; the need for corporate innovation has never been more important than now.

According to the latest Global Innovation Index, South Africa still relies too heavily on mineral extraction and primary industry to drive its economy. One of the key elements highlighted in South Africa's National Development Plan is the requirement for innovation-led growth; the report mentions that should South Africa want to stay competitive in the global market, the country needs to dramatically increase its current innovation drive (Dutta, Lanvin & Wunsch-Vincent, 2014). More research investigating how South African CIOs and CInOs could accelerate innovation efforts could assist South Africa with its growth goals.

2.4. The role and importance of a Chief Information Officer

The role of the CIO has been widely studied over the last 30 years (Dempsey & McDonagh, 2014). The evolution of this position can be linked to the shifts from IT just playing a supporting role and the automation of tasks, to IT being an active driver of an organisation's competitive advantage (Peppard et al., 2011). Koval (2011) pointed out that "tomorrow's IT professionals will need more than a solid understanding of current technology. We'll need a skill set to align our IT capabilities with our organization's business strategy to promote innovation" (p. 1). According to Carter et al. (2011), the ability of the CIO to take on a more strategic role can be defined by:

- I. The level of seniority coupled to the IT leader's position because there is a strong correlation between seniority level and formal power.

- II. The technical background and formal education of the senior information technology leader.

The CIO, together with his/her IT department, is in a unique position to improve business performance across a number of organisational dimensions, including cost saving, improving business agility and increasing market share (Willis, 2014).

2.5. The role and importance of a Chief Innovation Officer

Johnson (2010) stated that the role of the CInO was not formalised in the 1990s, even though the concept of innovation has been around for over 90 years (Schumpeter, 1934). There are several reasons why the role of CInO is a fairly new one Johnson (2010):

- I. The digital revolution in the early 1980s was intensified with the wave of dot-com disruptive innovation of the 1990s. The average time a company remained in the Standard & Poor's 500-stock index in the late 1950s was close to 60 years. Two decades later it had dropped to 30 years and in the late 2000s to only 18 years.
- II. Companies have progressively come to understand the commercial potential of the ability corporate innovation has to revive industries, and specifically disruptive innovations' ability to create entirely new industries.
- III. The realisation and comprehension of the makeup of innovation is much clearer, specifically elements related to the benefits or threats of the concept if not embraced correctly.

The CInO role bridges various areas of the business and is not confined to innovation in its most basic form. There are various synergy points between product development, research and development, and the strategy and marketing functions. Bridging these areas in a way that creates seamless interaction is typically where innovation happens best (Stevenson, 2013), creating a perfect landscape for the CInO to implement an innovation strategy.

The role of the CInO has not yet been clearly defined and the precise contours are still emerging, however, as innovation has a different meaning from one organisation to the next, Johnson (2010) suggested the following three critical areas that the CInO needs to manage:

- I. Devising a language of innovation: Clearly defining the organisation's innovation strategy and distinguishing between core business and new business innovation strategies.
- II. Testing assumptions with prototypes: Ensuring the core business does not interfere with incubation efforts, accompanied by the insight to fail quickly if required.
- III. Using structure to unlock creativity: Ensuring a structured approach is followed during the ideation and new business innovation efforts.

2.6. Chief Information Officer as Chief Innovation Officer

The CIO is acquiring many new responsibilities outside the traditional information technology sphere. “Chief information officer roles and responsibilities continue to evolve, and a growing number of chief information officers are now also business technology strategists - strategic business leaders who use technology as the core tool to create competitive advantage” (Carter et al., 2011, p. 19). While the majority of companies do not have a formal CInO role, most likely resulting from the role being less than a decade old and the CIO still being thought to be well suited for the role (High, 2012), some companies have an interesting duality in the CIO and CInO positions.

Traditionally the CIO's role was very technology-focused, yet the new role of CInO requires a transformation from the conventional duties of cost saving and maintenance to taking on and extending new innovative capabilities. With the present fast pace that businesses are innovating at, specifically in a disruptive manner to ensure continuous growth and shareholder value creation, the shift from information management to information intelligence must occur (Burrus, 2013). The evolution into the role is important within the information technology sphere as the ability to innovate has never been more possible; “If it can be done it will be done ... and if you don't do it, someone else will” (Burrus, 2013, p. 4). However it is anticipated that not all CIOs will embrace the new role as it is human nature to resist change (Appelbaum, Degbe, MacDonald & Nguyen-Quang, 2015).

According to High (2012) there are various benefits as a result of investing in the CInO position:

- I. To ensure the organisation secures a sustained competitive advantage.

- II. To have a dedicated champion responsible for setting goals and prioritising innovation goals.
- III. To create a resource with the capability to translate corporate strategy into innovation strategy.

However, as mentioned by Kuratko et al. (2014), innovation can be difficult to harness and even though the benefits are lucrative it is not an easy theory to master. Moreover, the role transition does not guarantee increased shareholder value. According to Rosenbusch, Brinckmann and Bausch (2011), an innovation-oriented culture will create value for organisations, although innovation can be associated with big upfront costs coupled with on-going investments. These investments will always have elements of risk and uncertainty linked to them, however by developing and aligning the relevant technology strategy with innovation, organisations can attempt to minimise risk and exposure. Zahra and Bogner (2000) identified the following dimensions of a technology strategy:

- I. Radicality - refers to the organisation developing radically new product technologies whilst gaining a first mover advantage.
- II. Intensive product upgrades - refers to the number of new versions or patch updates released for the organisation's existing products.
- III. Research and development spending levels - refers to the investment level allocated to the organisation's internal research and development programmes.
- IV. External sources – refers to the adoption and use of acquisitions, licensing agreements, strategic alliances and the outright purchase of technology from external sources.
- V. Copyright – refers to the organisation's efforts to protect their intellectual property.

Unpacking the relevant risks and strategic technology dimensions involved with the innovation process within the information technology sphere can be a tedious task. This work is therefore important as it will assist in understanding the strategic corporate entrepreneurship elements required to make the shift from CIO to CInO. The next section will refine this by introducing two new innovation aspects within the organisation: the formal and informal organisation.

2.7. The interplay between the formal and informal organisation

A formal organisation is generally developed by managers and their normative social systems and beliefs (Gulati & Puranam, 2009). The essential strategic elements that exist in the formal organisation are the successive efforts to create an organisational environment fit, strategic alignment, and process optimisation (Galbraith, 1986). According to Soda and Zaheer (2012), the formal organisation is comprised of the practices created to safeguard and maximise returns to the organisation. While the formal organisation has an extensive research base however significant gaps remain in the literature related to the informal organisation, therefore this study will address both these important parts of the organisation.

In analysing the informal organisation, Roethlisberger and Dickson (1939) defined its makeup as including the evolving arrangements of individual behaviours, gestures and interactions among individuals, containing the beliefs, values and norms that prompt such behaviours and interactions. This was supported by Gulati and Puranam (2009), who stated that the informal organisation is comprised of the dynamics of individual behaviours and inter-organisational interactions that do not form part of the formal organisation.

McEvily et al. (2014) argued that these organisational elements focus on two very different aspects of the organisation: the informal social structure captures the variety of interpersonal relations that emerge as employees pursue their own instrumental and socio-emotional needs, while the formal organisation refers to the set of rules and prescriptions, including legitimate authority, which are designed to direct actors' behaviours toward the attainment of collective organisational goals (p. 305). Research has only lately begun to discover the significance of the concurrent existence and interplay between the formal and informal components of organisations. Both the formal and the informal organisational components generate arrangements of exchanges through which organisational actors share goals, coordinate efforts, exchange information, and access resources that have a negative impact on organisational performance (Nickerson & Zenger, 2002). Similarly, Soda and Zaheer (2012) stated that the formal and informal interrelationship has negative consequences for the performance of individual organisational actors. Yet misalignment between the formal and informal organisation is a frequent occurrence (Amburgey, Kelly & Barnett, 1993). While the integration of these two organisational components has been related to positive outcomes including knowledge sharing, exploration and venturing (Jansen, Van & Volberda, 2006), their realignment can be a costly exercise (Amburgey et al., 1993).

The potential positive outcomes associated with the correct alignment of the two discussed organisational elements highlight the significance of the study. Hornsby, Kuratko, Shepherd and Bott (2009) found that senior managers who enjoy greater organisational support are more likely to implement entrepreneurial ideas. This supports the research outcome and preliminary model in Chapter Seven (Figure 7.1), which aims to assist a C-suite level manager to understand the interplay between the formal and informal organisation. It is expected that this model may assist the understanding of important strategic elements that once applied, may enhance innovative capacity.

2.8. Theoretical model

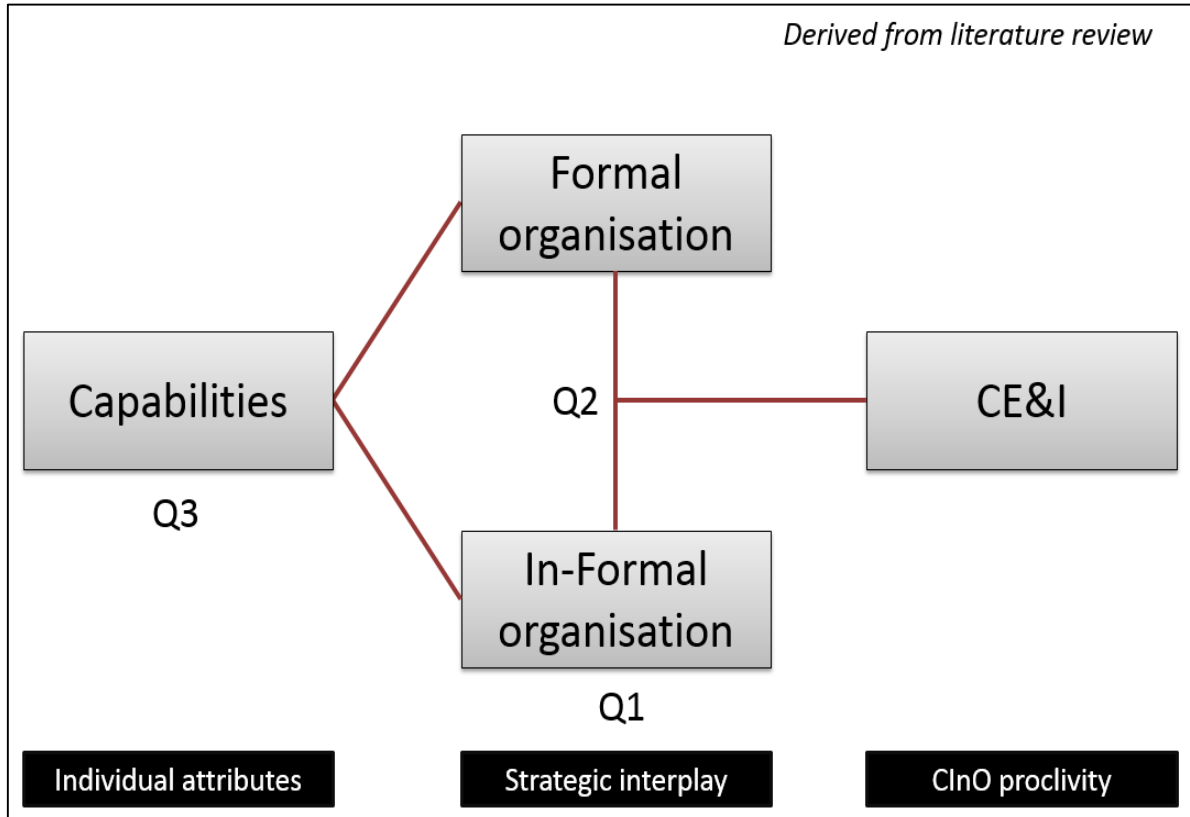
The literature review provided a strong theoretical basis for this research, highlighting key elements relating to innovation, CE and the formal and informal organisational perspectives. Clearly a CIO is essential for positive shareholder value creation and the interplay between the formal and informal organisation is important when linked to translating innovation, however significant research gaps remain. There is thus a need to uncover the transition of CIO to CInO within the context of corporate innovation from both the formal and informal perspectives. This work attempts to address this gap in research. The conceptual framework on which this study is based is highlighted in Figure 2.2 below and is comprised of four main components:

- I. **Capabilities:** The individual attributes of the CIO are linked to research question three. The key individual attributes are linked to driving innovation.
- II. **Formal organisation:** Practices created to safeguard and maximise return to the organisation.
- III. **Informal organisation:** Individual behaviour, gestures and interactions among individuals. This is linked to research question number one; the CIO needs to understand how to leverage elements from this section in order to promote innovation.
- IV. **Corporate entrepreneurship and innovation:** The CIO needs to master the strategic interplay between the two identified organisational verticals. This will lead to the transformation from CIO to CInO, which is linked to research question two. The successful transformation will result in the CIO transforming into an innovation leader with a high sense of entrepreneurial proclivity. According to Matsuno et al. (2002), entrepreneurial proclivity is

the term used to define how organisations take on a strategic practice to advance corporate entrepreneurship.

The theoretical model supports the research questions identified in Chapter Three (Section 3.2). In order to understand the formal and informal interplay it is important to first comprehend the innovation landscape, which will form the basis for deciphering the strategic interplay between the innovation levers. The identification of a key set of innovation capabilities coupled with the strategic levels can then be applied to drive the CIO's innovation proclivity.

Figure 2.2: Theoretical model delineating the transition of a CIO to a CInO



2.9. Conclusion

The literature review provided a theoretical basis for this research, highlighting key elements relating to innovation, corporate entrepreneurship and the formal and informal organisational perspectives. The literature highlights the importance of the CIO in relation to positive shareholder value creation, while the interplay between the formal and informal organisation is important when linked to translating innovation. There remains a theoretical and practical impetus to uncover more information regarding the transition of CIO to CInO within the context of corporate innovation from both the formal and informal organisational perspectives.

3. RESEARCH QUESTIONS

3.1. Introduction

This research explores the interplay between the formal and informal organisational elements related to corporate innovation with a particular focus on how C-suite level managers involved with technology and innovation can master the strategic interplay elements. These elements are coupled with individual attributes that are aligned to driving and understanding innovation.

3.2. Research questions

The attribute of a quality research question is that it has a strong relationship with the literature review and promises to provide new insights into the selected research topic (Reed, 2012). The research questions below were carefully constructed to ensure that a link between the research aim and literature review exists. As outlined in Chapter Two, limited research has been conducted on the interplay between the formal and informal corporate innovation components. During the development of the research questions it was thus essential to capture the interplay component, combined with the individual attributes required for the transition from CIO to CInO.

3.2.1. Question 1 (Q1)

What are the key informal organisational elements that can be leveraged by the CIO to promote innovation?

3.2.2. Question 2 (Q2)

How can the interplay between the formal and informal organisation be enhanced to strengthen corporate innovation from the IT manager's/CIO's perspective?

3.2.3. Question 3 (Q3)

What are the key capabilities required by the CIO to make the transition to CInO?

4. RESEARCH METHODOLOGY

4.1. Introduction

This section outlines the methodological approaches used in this study. Here, the appropriateness of qualitative approaches to investigate the research questions will be discussed. In addition, an evaluation of the population and sample that the research study is comprised of will be included. Literature on the semi-structured interview process and thematic analysis will be described, followed by an overview of the research's limitations.

4.2. Research design

A qualitative approach was used to answer the research questions (Section 3.2) through the use of semi-structured interviews. Qualitative research is often regarded as a predecessor to quantitative research, as the technique allows the researcher to uncover concepts which can be used to formulate a testable hypothesis (Marshall & Rossman, 2010). A qualitative research design is often selected under circumstances when the research area is complex or lacks substantive knowledge (Bryman & Bell, 2007). Qualitative research was thus well suited for this research due to the overall lack of knowledge regarding the corporate innovation interplay between the formal and informal organisation. Furthermore, an examination of this interplay within the context of the transformation of CIO to CInO has thus far not been done qualitatively.

Semi-structured interviews allow the participants to freely communicate their personal perspectives, negating the influence of the interviewer (Johnson, 2003). In addition, they provide an effective medium for gaining a deeper understanding of the relevant research topic (Turner III, 2010). The use of semi-structured interviews ensured an in-depth examination of the research questions, a high participation rate and the opportunity for feedback. The personal interviews were conducted using a standard semi-structured format to ensure that the data could be easily analysed and the relevant themes extracted (Gall, Gall & Borg, 2003).

Table 4.1 illustrates the link between the research questions defined in chapter three and the actual semi-structured interview questions. As per the information below, research questions one and three had one-to-one relationships with the relevant interview questions, however for research question two the relationship was one to many. It was important to first

understand the organisation's formal innovation makeup before exploring the interplay between the formal and informal organisational components.

Table 4.1: Relationship between research and interview questions

Research question	Interview question(s)
1. What are the key informal organisational elements that can be leveraged by the Chief Information Officer to promote innovation?	1. Describe the informal corporate innovation activities or behaviour present in your organisation.
2. How could the interplay between the formal and informal organisation be enhanced to strengthen corporate innovation from the IT manager's/CIO's perspective?	2A. Elaborate on the formal processes your organisation has in place to promote innovation. 2B. What process is in place to create synergy between the formal and informal innovation elements?
3. What are the key capabilities required by the Chief Information Officer to make the transition to Chief Innovation Officer?	3. What are the key elements that must form part of an innovation leader's makeup (What does the CIO of the future look like)?

4.3. Population and sample

4.3.1. Population

Zikmund (2003) defined a research population as a large collection of individuals or objects that is the main focus of a research study. The research population was comprised of private South African-based companies with the following requirements:

- I. A management structure that includes as a minimum the following C-suite positions:
 - a. Chief Executive Officer
 - b. Chief Financial Officer
 - c. Chief Information Officer
 - d. Chief Innovation Officer (Not compulsory)

The specific limitations around the C-suite levels relates back to the defined research questions in Chapter Three. Overall 14% of the interviewees had the formal organisational title of Chief Technology Officer; for the purpose of this study the job title was paired with those of the CInOs.

4.3.2. Sample and sampling method

The research sample consisted of 35 participants who were associated with 25 distinct companies. The size of the sample allowed for a deep submersion into the research field, allowing the researcher to gain an in-depth perspective into the subject matter. As mentioned in Chapter 2, in order to understand the interplay between the formal and information organisation one needs to study various organisational roles, as each level has a unique focus on a specific component of the organisation. The sample incorporated the following roles:

- I. Chief Information Officer
- II. Chief Innovation Officer
- III. Chief Technology Officer
- IV. Head of Group Strategy

According to Cochran (2007), non-probability sampling is a sampling method where the samples are gathered in a practice that does not give all the candidates in the population identical chances of being nominated. This study utilised non-probability sampling because the research questions were of such a nature that the researcher required the candidates to conform to a unique predetermined research population. Creswell (2013) highlighted the significance of picking the correct type of candidates for the interview process, thus the sample was selected based on the candidates' knowledge and professional judgment. The inclusion of the sampling technique in the research methodology ensured that the sample consisted of qualified candidates who provided reliable information and enhanced the study.

4.4. Research instrument

A semi-structured interview was the research instrument in this study (Appendix A), as they permit new ideas to be conveyed during the interviews as a result of what the interviewees say. "This allows the participants to contribute as much detailed information as they desire and it also allows the researcher to ask probing questions as a means of follow-up" (Turner III, 2010, p. 756).

The interview process was aligned with the recommendations provided by Turner III (2010):

- I. Choose a setting with little distraction.
- II. Explain the purpose of the interview.
- III. Address the terms of confidentiality.
- IV. Explain the format of the interview.
- V. Indicate the expected duration of the interview.

Due to the senior nature of the respondents who formed part of the sample, the interviews were arranged well in advance to ensure candidate availability. The respondents were allowed the convenience of selecting the interview location, with most interviewees opting for Skype® interviews. Conducting interviews with the participants in a comfortable environment ensured that they did not feel constrained or uncomfortable sharing information. Once the participants had agreed to be interviewed and signed the relevant consent forms, the interviews were recorded with a recording device accompanied by handwritten notes.

4.5. Data analysis and interpretation

Once data were collected from the interview sessions, a transcript was created from each meeting. A simple revealing method was undertaken by recognising the key words that designated the principle underlying constructs of the interviewees (Kelly, 2003). Thematic analysis, i.e. a process of “searching across a dataset to identify, analyse and report on repeated patterns of living and/or behaviour within a dataset” (Aronson, 1995; Braun & Clarke, 2006) uncovers repeated patterns of meaning, i.e. themes (Johnson & Harris, 2002). Relevant data were identified across the datasets, consisting of listed patterns of experience and features of interest (codes) from the transcribed data (Aronson, 1995; Braun & Clarke, 2006). Codes can be defined as raw data that are interpreted in a meaningful way (Braun & Clarke, 2006). Consequently, the codes and patterns that emerged were grouped into sub-themes that emphasised linked patterns of experience and meaning (Braun & Clarke, 2006). Sub-themes were joint and integrated into themes (Aronson, 1995).

At this point in the data analysis, some level of interpretation was inherent (Braun & Clarke, 2006). Thematic relationships between different respondents was explored in a systematic and continuous reflective researcher dialogue (Braun & Clarke, 2006). Upon the extraction

of an expansive range of themes, themes were examined for coherence and identifiable discrepancies across the entire dataset (Aronson, 1995). Themes were also extracted from the data as the researcher associated and assessed their nature with their inherent interpretation within the dataset and existing literature. Although thematic analysis may insert some level of researcher prejudice, judgment from the research is needed to identify and determine themes (Braun & Clarke, 2006). The process of thematic analysis is therefore an insightful, intuitive and reiterative process, with characteristics that collectively pose great strengths for the research process, but there are also potential limitations (Johnson & Harris, 2002). Measures were thus taken to minimise the effect of interpretive bias wherever possible.

Table 4.2 lists the various identified themes established through the data encoding process. In total 37 unique themes emerged which were clustered into six distinctive groups. The groups were based on theme synergies that linked to the same corporate innovation verticals as described in chapter two. The emerging themes were formed by applying a four stage process as described below:

- I. Stage 1: Transcribe and encode interviews.
- II. Stage 2: Identify themes and sub themes.
- III. Stage 3: Merge similar themes into one entity.
- IV. Stage 4: Group related themes.

Table 4.2: Encoded themes

	Themes	Group
1	CInO leadership Relationship building Strategic alignment Simplify technology Understand your customer	Group A
2	Informal process Internal process Intrapreneurial Openness Start-up approach Formal\Informal interplay	Group B

	New product development External approach Cross-functional Think out the box	
3	Business skills Communication Personal traits Skill development Partnerships Non-operational Understand business	Group C
4	Learning Technical skills Incentives Fail fast	Group D
5	Company culture Poor performance Risk taking Top team buy-in CIO organisational position Current CIO responsibility Agile	Group E
6	Formal process Strategy skills Capacity	Group F

4.6. Limitations of the research method

Qualitative research is heavily dependent on the researcher's skill level and may therefore be subject to their bias. The volume of data makes analysis and interpretation time consuming and error prone, and lastly, confidentiality constraints can present problems when offering findings (Cassell & Symon, 2004). In an attempt to minimise bias around theme allocation, the researcher often consulted with his research supervisor.

The use of non-probability sampling means that the sample does not represent the population statistically as individuals are chosen at random, which makes transferability to other contexts problematic (Creswell, 2013). This approach was well suited to address the research question, however, and should therefore not negatively influence the results. Lastly, due to the organisational seniority level required for the research population, the required interview time discouraged some of the respondents from participating.

4.7. Validity and reliability of the research

Issues of reliability and validity are common in quantitative research. Reliability refers to the degree to which a measurement would remain the same if measured repeatedly in a given time period, while validity refers to the truthfulness of the research results, in other words did the research measure what it was intended to measure (Golafshani, 2003)? To ensure the study adhered to the validity and reliability controls associated with qualitative research, the research design included a triangulation strategy that included the minimisation of bias and transparency during the data analysis phase. To substantiate the claim as per section 4.3.2, the data were mostly collected from four distinct organisational roles. Mathison (1988) argued that triangulation has risen an important methodological issue in naturalistic and qualitative approaches to evaluation [in order to] control bias and establishing valid propositions because traditional scientific techniques are incompatible with this alternate epistemology (p. 13).

4.8. Conclusion

The applied qualitative research approach was well-suited to address the objectives of this research. Due to the nature of the research questions a semi-structured interview was used as the research instrument, and the limitations related to the research design were addressed where possible. Thirty-five semi-structured interviews were conducted from 28 organisations in Johannesburg, South Africa. Through a qualitative framework, this research probed the perceptions of these participants in order to unpack the strategic innovation elements related to the interplay between the formal and informal organisation.

5. RESULTS

5.1. Introduction

This chapter outlines the qualitative results obtained through the semi-structured interview process. A standard protocol was followed throughout the interview process, irrespective of interviewee profile or sector. In total the research sample was comprised of 35 respondents, representing a combination of executive roles related to technology and innovation. The size of the sample allowed for a deep submersion into the research field, enabling the researcher to gain an in-depth perspective into the subject matter.

This chapter provides a demographic analysis of the participants and their corporate profiles. Specifically, the chapter is structured around the research questions, providing results linked to the top occurring themes per interview question. From the results it is clear that each organisation has a unique formal innovation approach, which is anchored around common recurring themes. Overall, 37 themes were identified, however only the top 10 per interview question will be presented and subsequently discussed. It was clear that the interplay between the formal and informal strategic innovation elements was not clearly defined within organisations, supporting the significance of the study.

5.2. Demographic analysis of the participants

In total, the study interviewed 35 respondents from 28 distinctive South-African private companies (Table 5.1). Due to the large size of several of the companies, six organisations had more than one innovation and technology interviewee participate in the research study. The respondent numbers were assigned randomly and were not related to specific companies.

Table 5.1: Interviewed companies and sectors

No	Company	Industry sector	Number of respondents
1.	ABSA	Financial services	1
2.	AVENG	Construction	1
3.	Barclays	Financial services	2
4.	Bowman Gilfillan	Legal	1
5.	Capitec	Financial services	1
6.	CAT-WWL Logistics	Logistics	1
7.	Discovery	Financial services	3
8.	Eqstra	Logistics	1
9.	FNB	Financial services	2
10.	GIBS	Education	1
11.	Hollard	Insurance	1
12.	IEMAS	Financial services	1
13.	Internet Solutions	Information technology	2
14.	Johannesburg Stock Exchange	Financial services	1
15.	Liberty	Insurance	2
16.	Liquid Capital	Financial services	1
17.	Metropolitan health	Insurance	1
18.	MMI Holdings	Financial services	1
19.	Murray & Roberts	Construction	1
20.	Nedbank	Financial services	2
21.	PPC	Manufacturing	1
22.	Premier Foods	FMCG	1
23.	SABC	Broadcasting	1
24.	Sage	Information technology	1
25.	Sebata technology	Information technology	1
26.	Silica	Financial services	1
27.	Standard Bank	Financial services	1
28.	Vodacom	Telecommunications	1

Figure 5.1 below illustrates the various industry sectors involved in the research study. Of all the respondents, 46% belonged to the financial services sector. It quickly became apparent that this sector was the most evolved with regards to innovation and benefits from substantial budget allocations related to innovation initiatives, however it was not anticipated that this overrepresentation of one sector would skew the findings of the research.

Figure 5.1: Industry sectors

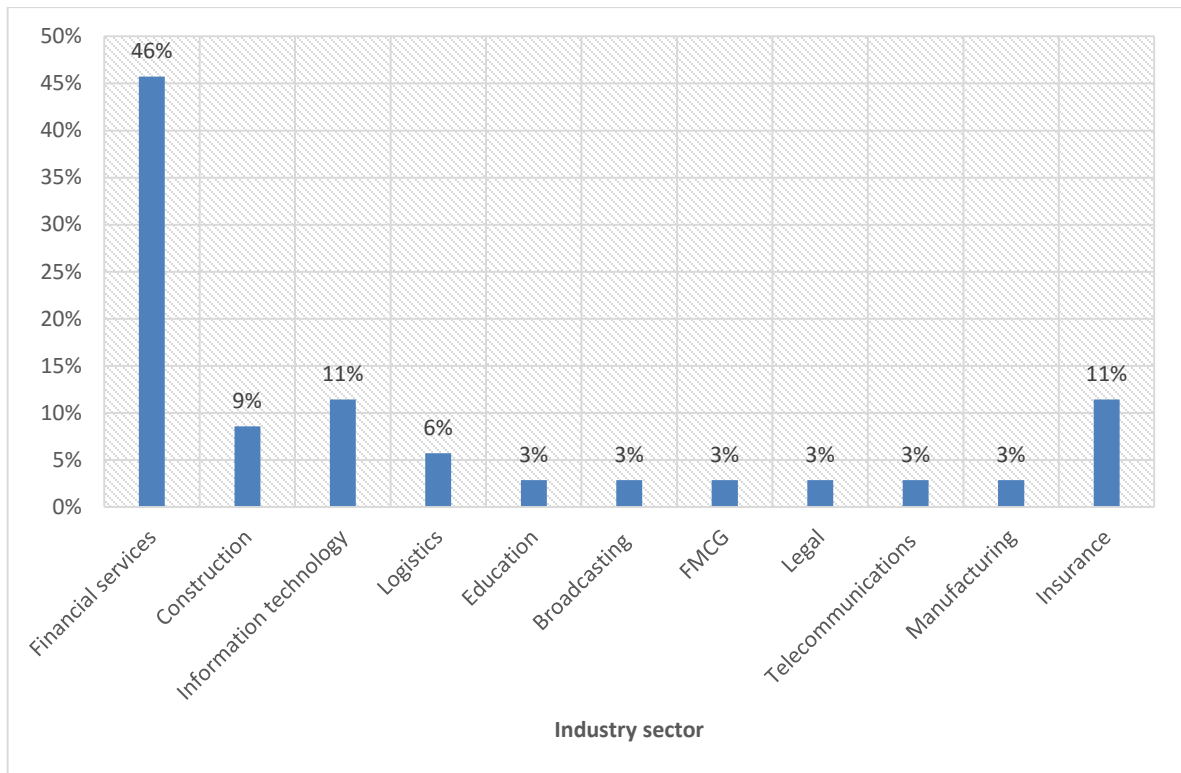


Figure 5.2 illustrates that 23% of interviewees had the official job title of Chief Innovation Officer, however during the research process it became evident that the title is still in the adoption phase in South Africa. As per the respondents, the corporate view is currently that the position is only viable in companies that are in a mature phase of innovation with sufficient budget to support innovation and corporate intrapreneurship strategies. This validated the significant response from the financial services sector, as it has been around long and have significant budgets to support innovation strategies.

Figure 5.2: Respondents' positions

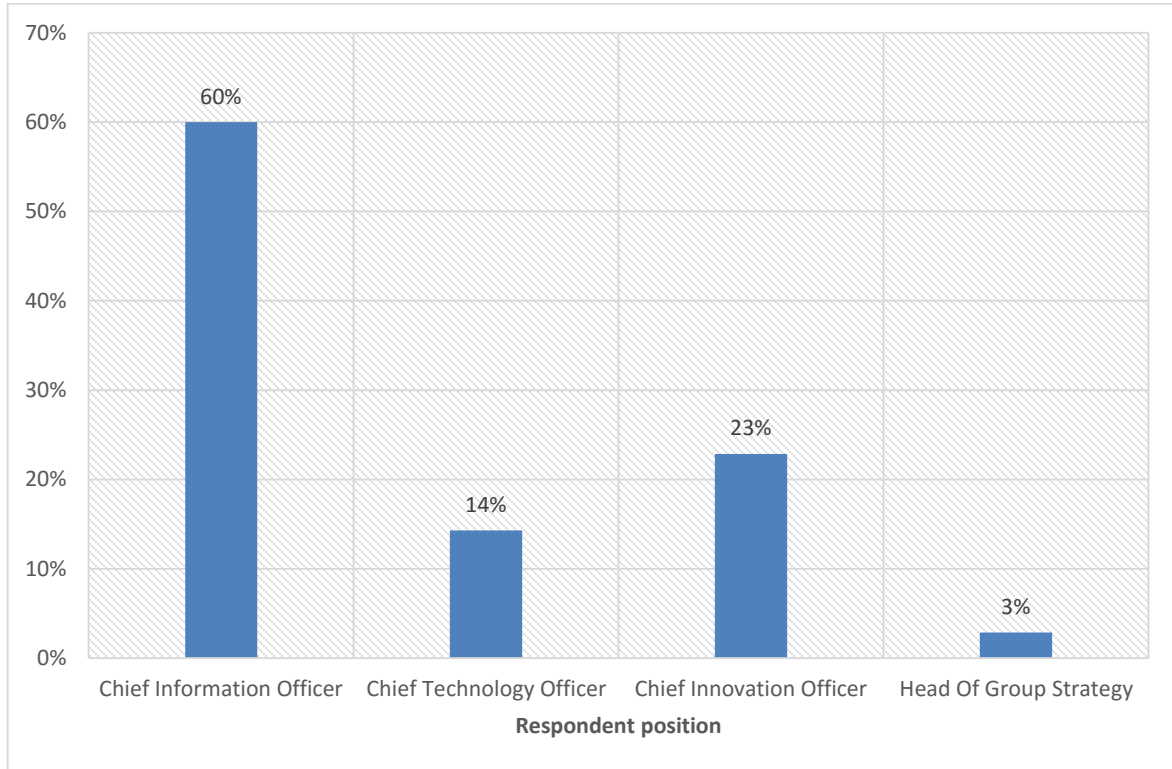
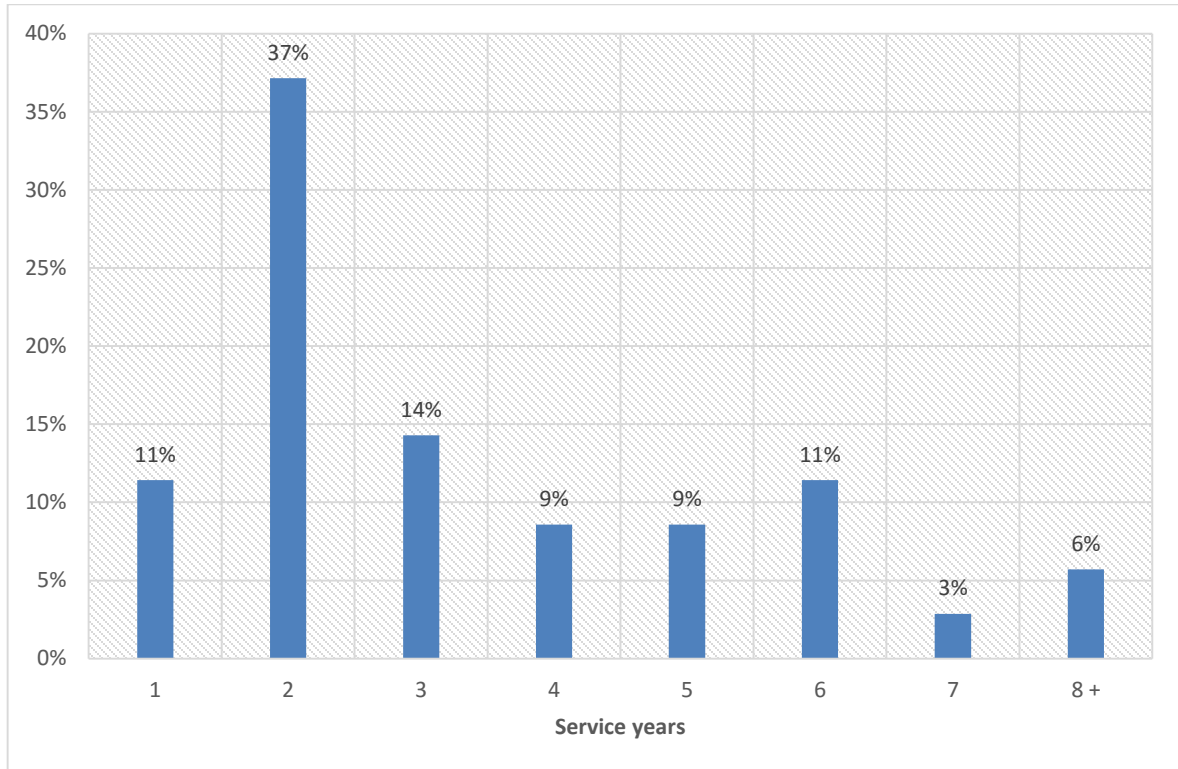


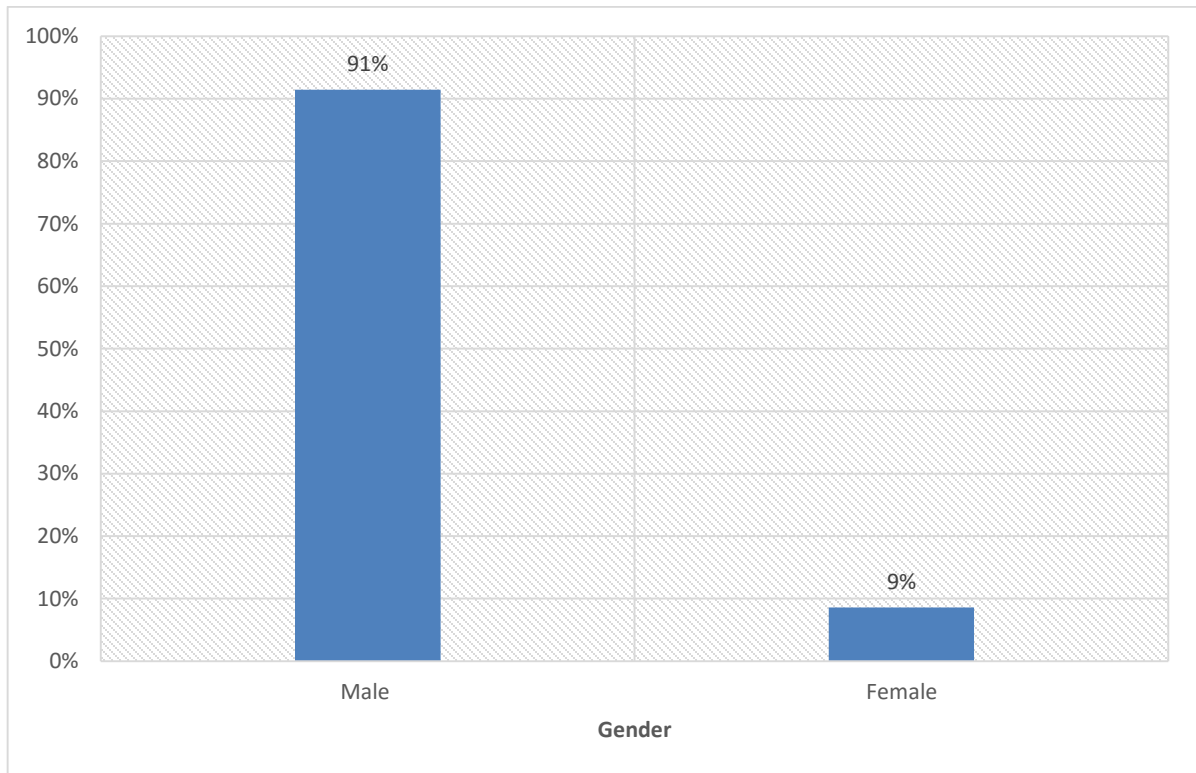
Figure 5.3 illustrates the number of years the respondents had been in the same organisational position, i.e. this refers to their current role and not company service years. From the data it is clear that most of the respondents have had sufficient time to understand their roles, and are able to execute and implement components that support the overarching organisational strategy with relation to CE&I.

Figure 5.3: Respondents' years of service in current organisation and position



Most of the respondents were employed by large organisations, however it was anticipated that generally only the larger organisations would employ a full set of C-suite executives – particularly for those positions related to innovation and technology. Figure 5.4 depicts the respondents' gender categories. What is interesting to note is that only 9% (3/35) of the total respondents were female.

Figure 5.4: Respondents' gender



5.3. Interview question 1: Formal organisational components affecting corporate innovation

Table 5.2 depicts the top ten theme frequencies related to interview question number one (Appendix F). As suspected the formal innovation process dominated, with 91% of respondents providing a comprehensive overview of their implemented formal innovation initiatives. Even though the Openness theme was not among the top recurring themes, the respondents that covered the subject expressed that this will be key to South African innovation strategies moving forward.

Table 5.2: Interview question 1: Theme frequencies

No	Theme	No of Respondents	Percentage %
1.	Formal process	32	91,4
2.	Strategic alignment	18	51,4
3.	Openness	16	45,7
4.	Incentives	13	37,1
5.	Intrapreneurial	12	34,3
6.	Learning	11	31,4
7.	Partnerships	8	22,9
8.	Top team buy-in	8	22,9
9.	Understand business	8	22,9
10.	Agile	7	20,0

5.3.1. Formal process

Only 8% of the respondents could not elaborate on any formal innovation activities embedded into their organisations. The remaining respondents highlighted various formal innovation platforms, with the most prominent being:

- I. An onsite laboratory which was specifically designed for product research and development (Respondent 1).
- II. An innovation facility which aims to assist with problem solving and embedding an innovative company culture (Respondent 20).
- III. A formal innovation software platform designed to assist the end user through all the stages of corporate innovation (Respondent 12).

Some of the respondents also made reference to the following enablers that support their existing innovation platforms:

“Four vetting lenses that are used to evaluate submitted ideas, fit to strategy, feasibility, viability and desirability” (Respondent 20).

“An ‘innovator of the month’ competition, which creates sense of urgency to make use of the available innovation platforms” (Respondent 8)

The majority of the respondents had an innovation centre or hub that formed the basis for their formal innovation strategies, however it was clear that there were no innovation blueprints.

5.3.2. Strategic alignment

The strategic alignment theme specially refers to the weight that the company’s innovation initiatives carry in relation to the overall company strategy. Of the 35 respondents, 51% covered strategic alignment elements related to corporate innovation. Several respondents made mention of customer technology roadmaps being part of the organisational strategy.

“The main aim of these road maps is to align the organisation’s technology vision with client technology expectations, whilst promoting relationship building between ourselves and the customer” (Respondent 3).

Of the participants, 15% made mention of hackathons and confirmed that their organisations arrange conferences and allow cross-functional groups to resolve problems and come up with new concepts. A key driver of these events is to simplify technology and the format loosely follows an ideation cycle. Some respondents indicated that in order to promote open innovation they allowed external teams to enter.

Various respondents also mentioned innovation vision horizons linked to their corporate strategies, with the most common approach being:

- I. Horizon one (Now): Solution teams work on continuous improvements.
- II. Horizon two (Medium term): Innovation and ideation are driven mainly by technology-based solutions. Chief Information and Chief Innovation Officers are primarily responsible for this.
- III. Horizon three (Long term): Firms are identified to purchase or merge with. Shareholders and board members predominantly drive this process.

There was consensus among participants that the vision of their company's innovation strategy needs to be a substantial aspect of the organisation's focus, for example:

“My company has an innovation strategy in place with a division to support the initiative. Key focus areas and priorities have been established with a specific focus on game changing ideas” (Respondent 31).

5.3.3. Openness

Almost half of the respondents articulated the importance of openness with regards to corporate innovation, signifying that the Chief Information Officer needs to play a pivotal role in ensuring efficient linkages between the various corporate innovation phases. External sourcing of innovative concepts (open innovation) is also important:

“The CIO is responsible for leading innovation sensing outside of the company”
(Respondent 17).

Some respondents highlighted the significance of innovation awareness and suggested internal branding and communication as a medium to promote awareness. In addition, Respondent 31 commented that employees must completely understand the innovation phases, specifically how and where to submit and monitor ideas. Most of the respondents covered the corporate innovation ideation phase in detail, however the following five themes reoccurred across the dataset:

- I. Inspiring excellence initiative: A company-wide innovation competition with the main categories being process improvement, new product development and technical efficiency (Respondent 23).
- II. Innovation accelerator hubs have been established which are open for public use as technology start-up incubators. The initiative creates a great platform for the firm to buy into select ideas (Respondent 12).
- III. It is mandatory for all staff to dedicate 10% of their weekly workload towards idea generation and continuous improvement (Respondent 33).
- IV. A group level innovation fund was set up to fuel innovative ideas; the fund gets divided into the various divisions according to headcount. The fund is not reward-

based, but is rather an enabler to ensure concepts can be funded throughout the corporate innovation phases as needed (Respondent 35).

5.3.4. Company culture

There was consensus among the respondents that an innovative culture is a key factor in ensuring that corporate innovation initiatives prosper. It was also mentioned that embedding the wrong culture can become the driving force of unwanted behaviour, specifically when linking rewards with cost saving initiatives (Respondent 8).

“Potentially the lack of innovation and current company culture might be the reason for our organisation’s poor performance over the last couple of years” (Respondent 1).

5.3.5. Other noteworthy points

Incentives was mentioned by 37% respondents as playing a pivotal role in enhancing partnerships and fostering a culture for continuous improvement.

“As we speak our incentive policy is being revised to ensure the relevant employee rewards are linked to on-going corporate innovation activities” (Respondent 31).

Twenty six percent of the respondents commented on the importance of partnerships in promoting innovation.

“Not everything can be conducted internally so we have to continually create an innovation ecosystem of partners and alliances both locally and internationally” (Respondent 31).

Top level buy-in was mentioned by eight candidates, who all agreed on its importance and relevance with regards to the support of innovation initiatives.

“Our CEO and CFO have a quarterly stand-up session whereby any employee can book a 30 minute slot to pitch an idea” (Respondent 22).

Communication was also highlighted, as was the importance of ongoing organisational communication. Specific focus was placed on relaying the benefits of innovation back into the organisation.

“We have technology awareness days whereby vendors demonstrate the capabilities of current implemented systems. This drives user uptake and stimulates innovation”

(Respondent 8).

Cross-functional teams and their make-up were also explained in detail. Teams include various roles, for example operations, marketing, IT, sales and finance, and are tasked with problem solving and prototyping tasks.

“Our solutions team helps business to be more innovative; they experiment with new technologies and focus on improving business processes” (Respondent 17).

5.4. Interview question 2A: Informal corporate innovation activities and behaviour

Table 5.3 portrays the theme frequencies related to interview question 2A (see Appendix C). In total 21 themes were extracted during the thematic analysis process (see Appendix G). Company culture was the top reoccurring theme, with 54% of the respondents suggesting it is a key driver of informal corporate innovation activities. Interestingly, only 14% of respondents made reference to the importance of intrapreneurial activities related to informal innovation elements.

Table 5.3: Interview question 2A: Theme frequencies

No	Theme	No of Respondents	Percentage %
1.	Company culture	19	54,3
2.	Informal process	16	45,7
3.	Learning	10	28,6
4.	Openness	10	28,6
5.	Relationship building	6	17,1
6.	CInO leadership	5	14,3
7.	Intrapreneurial	5	14,3
8.	Fail fast	4	11,4
9.	Strategic alignment	4	11,4
10.	Skill development	3	8,6

5.4.1. Company culture

Several respondents mentioned the key role that employees have to fulfil in informal innovation. Respondent 10 that their institution has a culture of employing self-thinkers, which has resulted in an entrenched informal innovation culture. Participants further indicated that it is very difficult to succeed without a formal strategy or game plan driving the process. These results the importance of both formal and informal organisational elements in driving innovation.

“I am proud to say that our firm has high energy levels and enthusiasm especially amongst the young engineers and scientists, ensuring an on-going stream of new ideas and continuous improvement efforts” (Respondent 31).

Respondent 1 confirmed, however, that his firm is moving backwards with regards to innovation culture:

“New people try to implement innovation but the company culture quickly shuts it down; our culture does not support innovation thus employees are not open to share ideas”.

Respondent 25 pointed out that their firm has a culture whereby employees are continuously observing manual processes with an aim to automate or streamline. This was supported by Respondent 8:

“Traditionally we had a culture of reading up on what is sexy; this has embedded a great culture around being technologically switched on”.

5.4.2. Informal process

Only 45% of the interviewees could detail the informal innovation processes currently used within their organisations, highlighting the importance of this work. There was consensus that the informal aspect of innovation initiatives was important, yet conversely some respondents confirmed there is a fine line between adding value and creating chaos. They indicated that it is inevitable that the informal activities would breach rules implemented by the formal process.

“Business facing resources will get hold of an idea and run with it by engaging with vendors to make it happen” (Respondent 20).

Respondent 23 provided insightful feedback regarding their informal process theme, describing an informal innovation activity referred to as “Lunch time relax”. The concept is anchored around two employees who enjoy a company sponsored lunch together, with the only mandate being that they need to engage in communication regarding their roles and the current challenges in the organisation. The feedback and new information gained needs to be submitted to the innovation hub. This is a great method to encourage cross functional team discussions and potentially identify innovation related to departments in different sections within the organisation.

Respondent 3, meanwhile, mentioned that their organisation’s vision is to innovate through the imagination of its people. Some respondents also commented on their research and development teams that construct solutions based on their own initiatives outside of the formal company mandate.

“Ideas are always welcome and everyone is expected to find better, more improved ways of conducting their daily functions” (Respondent 31).

Respondent 22 revealed the importance of show and tell sessions to spark new ideas and assist with present prototyping and implementation efforts.

“We have daily 15 minute stand-up sessions that forms part of our top down, bottom up six sigma continuous improvement programme” (Respondent 22).

5.4.3. Other noteworthy points

In addition to the key themes mentioned, several other noteworthy themes were identified. *Relationship building* was mentioned by six respondents, which is specifically linked to the organisational initiatives in place that are aimed at relationship building around innovation. The most prominent initiative was the sourcing of external speakers to address staff on current industry disruptive technologies and trends. *An open door policy* was also highlighted as an important factor to enhance informal discussions, specifically linked to corporate innovation. Finally, *fear of failure* was mentioned by 12% of the respondents, who articulated that organisations must remove the fear of failure and that firms must encourage people to fail.

“Each member of our technology team needs to come up with three new ideas per month. The ideas must be anchored to technology. The initiative stimulates innovation but also teaches employees how to fail” (Respondent 12).

5.5. Interview question 2B: Practices that creates synergy between formal and informal innovation elements

Table 5.4 depicts the top ten theme frequencies related to interview question 2 (see Appendix D). Due to the nature of the question, the formal and informal innovation interplay element theme predominated, with 66% of the respondents referring to elements within this framework. In total, the encoding process revealed 22 themes (see Appendix H). Even though more than 50% of the respondents articulated the importance of company culture related to the formal innovation strategy, only three echoed this in interview question 2B.

Table 5.4: Interview question 2B: Theme frequencies

No	Theme	No of Respondents	Percentage %
1.	Formal\Informal Interplay	23	65,7
2.	Openness	8	22,9
3.	Learning	6	17,1
4.	Top team buy-in	6	17,1
5.	Intrapreneurial	5	14,3
6.	Strategic alignment	5	14,3
7.	Communication	4	11,4
8.	CInO leadership	3	8,6
9.	Company culture	3	8,6
10.	Cross-functional	3	8,6

5.5.1. The interplay between the formal and informal organisation

The majority of the respondents experienced difficulty answering this interview question, which was related to the formal and informal innovation interplay within their respective organisations, with 35% of the participants providing no response. Respondents who commented, however, revealed that the innovation environment has to be non-judgemental, i.e. there has to be a safe environment where failure is not frowned upon.

Various respondents also confirmed the importance of assembling cross-functional teams which are specifically tasked with asking difficult questions and exploring the unknown.

“Cross-functional teams align people and remove organisational silos” (Respondent 22).

Respondent 6 highlighted the importance of a business improvement committee that was established to create a link between both the formal and informal organisational components. The committee facilitates open communication and is available to the entire firm. Specifically, the committee serves as a platform for identifying constraints prohibiting the organisation from innovating or streamlining business processes.

Respondent 23 additionally made mention of a four day hackathon event that encapsulates the interplay between both the formal and information innovation activities. The four day session is made up of internal company teams, most of which are sourced from the application development teams. Other teams are assembled from top IT students associated with national universities. The company employed 21 students for the 2014 annual hackathon, and implemented four prototypes developed by the external teams.

5.5.2. Openness

Themes anchored to openness were mentioned by 23% of the interviewees, most of which centred on open door policies and implicit innovation-related conversations that take place informally. Innovation leaders must take responsibility for connecting the dots between an organisation’s brain trust and the rest of the employees. Additionally, frequently occurring tacit conversations between employees should be encouraged as they play a pivotal role in fortifying employee partnerships (Respondent 10).

5.5.3. Learning

Some respondents placed emphasis on the importance of continuous learning, particularly learning externally to the organisation. Respondent 32 commented that external experts often get involved with assisting staff to package innovation ideas, as employees may get caught up in the current organisational constraints making it difficult for them to see the bigger picture. Moreover, the importance of strategically formed solution teams which focus on assisting staff members who want to innovate but lack the organisational know-how or specific project-related skills was also indicated (Respondent 17).

5.5.4. Other noteworthy points

Amongst the top themes, several important topics were found. *Top team buy-in* was mentioned by six respondents, who commented how critical it is that innovation is supported by the highest organisational level.

“Always make the C-suite look good” (Respondent 7).

CInO leadership was mentioned by three respondents who articulated how important leadership is with regards to innovation. According to them, organisational leaders need to encourage the interplay between the formal and informal innovation elements.

“Get the right people on the bus; it is easier to innovate when you start hiring innovative people” (Respondent 10).

5.6. Interview question 3: What does the Chief Information Officer of the future look like?

Table 5.5 depicts the top ten theme frequencies related to interview question three (Appendix E). Suggested innovation leadership qualities relating to successfully managing future technology and innovation were indicated by 24 respondents. The CInO leadership theme was therefore the most encoded component. Of all the responses (see Appendix I), only 34% mentioned the importance of a high level of business acumen required in the CIO of the future’s skillset.

Table 5.5: Interview question 3: Theme frequencies

No	Theme	No of Respondents	Percentage %
1.	CInO leadership	24	68,6
2.	Strategic alignment	17	48,6
3.	Personal traits	15	42,9
4.	Technical skills	13	37,1
5.	Business skills	12	34,3
6.	Understand business	10	28,6
7.	Learning	9	25,7
8.	Strategy skills	9	25,7
9.	Top team buy-in	8	22,9
10.	CIO organisational position	7	20

5.6.1. CInO leadership

To ensure the relevant unlocking of innovation, the CIO needs to act as a facilitator between employees, customers and suppliers. From a structural perspective it is important to identify and promote pockets of excellence (Respondent 6). The CIO of the future must also be a disrupter of business processes and drive continuous improvement (Respondent 7). Various respondents further articulated the importance of the innovation leader in steering the organisation's strategic drive. Additionally, Respondent 23 suggested that a passion for innovation is a necessity and must form part of the innovation champion's key attributes. The key leadership traits highlighted during the interview process are depicted in Table 5.6 below:

Table 5.6: Suggested innovation leadership traits

No	Leadership trait	Respondent
1.	Capable of filtering out the “noise” and focus on the intent	21
2.	Capable of looking for opportunities from faults or crises	34
3.	Innovation leader must be able to unlock innovation from team members, using big picture view to achieve this	22
4.	Intense curiosity	23
5.	Know how to employ the right people	19
6.	Know how to challenge the team to help them to pursue bigger challenges and push the boundary	13
7.	Create a safe, trusting environment	22
8.	Must be client facing	3
9.	Must be more of a business than technical person	1
10.	Must love new things	26
11.	Must have a strong entrepreneurial flavour	12
12.	Must question the ‘how’ and ‘what’ on an ongoing basis	23
13.	Must take accountability	30
14.	Must understand change	11
15.	Must understand the journey of promoting innovation and its challenges	9

5.6.2. Strategic alignment

The CIO of the future must ensure there is a close relationship between business and IT. This can be enhanced though simplifying technical concepts to ensure the broader business understands the constructs (Respondent 6).

A sure win would be to convert technical concepts into layman’s terms (Respondent 8). Twenty-eight percent of the respondents stated that the CIO of the future needs to be very resourceful and an enabler of technology. To achieve this they must have very few ties to the daily operational IT tasks.

“In the future the CIO can no longer be responsible for keeping the lights on”

(Respondent 35).

Moving forward, bespoke developed products will be in the minority; the current process will change and off-the-shelf software as a service solution will become the standard (Respondent 23). The innovation differentiation factor will thus be anchored on how the solutions are implemented, as the competition will have access to the same technologies.

“Consumption based models will become very viable, especially in the race to reduce fixed costs” (Respondent 8).

5.6.3. Personal traits

Several participants indicated that future innovation leaders must be able to unlock innovation from team members.

“Innovation leaders must have the relevant emotional quotient (EQ) to guide teams rather than instructing them; to be successful they need to move away from the traditional command and control mentality” (Respondent 22).

“An innovation leader can’t tell people what to do, he must influence them into the direction required” (Respondent 10).

“The future CIO needs to question the how and what on an on-going basis; the role is also well suited for individuals who love learning new things” (Respondent 23).

Results in the previous sections demonstrated that the future CIO cannot be distracted by daily operational issues, because this minimises the CIO’s time and resources to innovate.

5.6.4. CIO organisational position

Most respondents agreed that companies need to become more agile, specifically to cope with the continuous threat from industry-related disruptive technologies.

“The CIO needs to report directly to the CEO; this will reduce the decision making cycle timeline” (Respondent 1).

“The innovation leader must get close to business leaders and ensure top level buy-in”
(Respondent 25).

“IT and business needs to operate as one unit and not separate organisational verticals”
(Respondent 27).

There was consensus amongst the respondents that the CIO needs to be included in board reviews and discussions, as this platform will provide the necessary podium to present ideas. Most importantly, it will provide the relevant insight into the high level organisational strategy; according to Respondent 20, the CIO needs to play a fundamental role in the development of the organisational strategy.

Twenty-three percent of participants articulated that the entire C-suite needs to understand technology. Respondent 31 suggested that to really become innovation leaders, the C-suite [executives] must take turns to wear the CIO cap. Moreover, the CIO needs to become the enterprise-wide innovator and not limit the position to technology only.

5.6.5. Other noteworthy points

In addition to the key themes mentioned, several other noteworthy themes were identified. *Business skills* was a trending theme amongst respondents, with 12 claiming that the CIO of the future needs to have a strong arsenal of business skills.

“The CIO of the future must be more of a business than technical person” (Respondent 1).

“The CIO of future must be more rounded and business focused; (they) need to understand the various business levers” (Respondent 4).

Understanding your customer was also highlighted, specifically the fact that the Chief Information Officer of the future needs to be more client-facing.

“Future CIOs need to understand their customers’ needs more than latest technology fads”
(Respondent 3).

Simplify technology was mentioned by five respondents, who stated that there needs to be a strong focus on the theme which is ultimately aimed at improving the end users’ technology experience. The CIO of the future must be focused on mining the future and scouting for prospective opportunities (Respondent 14).

“The innovation leader must focus on the consumerisation of technology, in other words simplify current applications” (Respondent 8).

Understanding business, or more specifically the CIO must have a hands-on approach and ensure there is a good understanding of the business processes from top to bottom. This will ensure valuable input into all the phases of corporate innovation (Respondent 12).

“The CIO of the future needs to spend time on shop floor level, this will ensure a better business understanding” (Respondent 22).

Openness was articulated by six respondents, who said that a successful innovation leader must have the relevant exploratory mind-set, be open-minded, and continuously question the status quo. *Thinking out the box* was also said to form part of the foundation of a successful innovation leader’s make-up, followed by robust entrepreneurial traits. It was further suggested that the innovation leader of the future must almost ignore governance elements or red tape that could hamper corporate innovation activities. Such a leader will be required to think outside the constraints of normal business activities (Respondent 35).

5.6.6. Conclusion

This chapter delineated the major themes extracted from the interviews. Analysis of the results revealed that even though employees did not agree with the current organisational formal innovation strategy, they had a very good understanding of the essential ingredients required to develop a successful strategy. Several respondents had to think hard about their responses to interview question two; it was apparent that informal innovation initiatives were not top of mind and it was clear that there is a knowledge gap amongst some respondents with regards to understanding the interplay between the formal and informal corporate innovation components. The CIO of the future interview question (question three) sparked great interest, with respondents agreeing that the role is changing fast, specifically with regards to the high level of business acumen required to be a successful CIO in the future. Lastly, great emphasis was placed on the importance of customer engagements and the end-to-end comprehension of current business processes.

During the presentation of the results in chapter five, it was noted that the identified themes could be clustered into six distinct groups as per Table 4.2. Collectively these groups touched on the key strategic elements relevant to the corporate innovation landscape, as described by the literature and interviewee feedback. The identified groups also played a

pivotal role in devising a model that addresses the strategic corporate innovation factors affecting the transition from CIO to CInO.

6. DISCUSSION OF RESULTS

6.1. Introduction

This chapter discusses the results obtained from the semi-structured interviews in accordance with the relevant literature and the research questions. The first section of the chapter will cover general observations followed by the introduction of a CE&I landscape. The six strategic innovation levers will be discussed in the context of corporate innovation and entrepreneurship. Ultimately these levers will be aligned with the main corporate innovation phases, which will assist with the resolution of the first two research questions. Lastly, research question three will be addressed by identifying five innovation leadership capabilities required for the transition from CIO to CInO. A discussion of each leadership capability in association with the toolbox of attributes will also be included.

6.2. General observations

6.2.1. Phases of corporate innovation

From the results it is clear that there are various corporate innovation stages, each requiring an overarching strategy that ultimately links into the overall corporate strategy. As explained by Green (2011), corporate innovation consists of three main innovation phases:

- I. Ideation - The process of developing and connecting notions.
- II. Prototyping – A prototype is a premature example or release of a product built to examination a notion or process.
- III. Implementation – The required resources and strategy to implement or commercialise a new innovation or process.

To ensure success in today's dynamic and hypercompetitive business world, a strategic approach to corporate entrepreneurship and innovation is required. Strategic entrepreneurship involves the integration of all phases of corporate innovation and these phases must be treated with the same level of importance (Knosková, 2015). Based on the results demonstrated here and past research, it is clear that corporate innovation is more than ideation. While the study found that the majority of interviewees focused on the ideation phase and the importance thereof, they also acknowledged the importance of idea implementation. There was a recurring theme of failing fast across all innovation phases, which is very important because failure underpins the majority of risky innovations and

knowing how to handle failure will be essential for the transition from CIO to CInO. It has been shown that the majority of organisations do not know how to fail and never learn from failure (McGrath, 2011); organisations that stifle a culture of positive failure make it difficult to innovate as necessary.

“The process must also have a healthy attitude towards failure”

(Respondent 13)

Various respondents mentioned that the corporate entrepreneurship competitive advantage linked to system implementation is mainly a result of the technology implementation strategy. Historically, the majority of companies developed bespoke solutions, but currently the trend leans towards acquiring technology as a service. Software as a service mainly refers to an on-demand software delivery service model, which is part of the cloud computing phenomenon (Benlian & Hess, 2011). Software as a service levels the playing field in terms of software platforms and features.

6.2.2. Blueprint void in corporate innovation

The research results revealed that each of the interviewees has defined different formal innovation processes, demonstrating that both formal and informal corporate innovation initiatives are developed in relation to the organisational context. Moreover, innovation can differ between divisions within the organisation, as each division has its own innovation proclivity. Similarly, Knosková (2015) demonstrated that organisations differ in terms of the type and number of factors that drive entrepreneurial behaviour, and the subsequent processes that unfold from the initial business idea to ultimate realisation. A study conducted by Hashimoto and Nassif (2014) highlighted the following main categories that influence innovative behaviour:

- I. Managerial behaviour
- II. Employee profile
- III. Company culture

It was evident that the core organisational divisions had a lower frequency of innovation. The respondents explained that innovation was associated with change and interruptions within core company services were being avoided; many of the core business functions are holding on to legacy systems. In contrast, the consumer interfacing divisions had a higher

recorded corporate innovation appetite and frequency. “An organisations’ business goals are its long term objectives. They generate future system requirements. The more radical the business goals, the harder, in general it is for the systems to accommodate the changes” (Warren, 2012). Clearly, no one corporate innovation strategy will fit all organisations, however by studying the various corporate innovation components across divisions (formal and informal), this study allowed for the development of six corporate innovation strategic levers.

6.3. Development of strategic corporate innovation levers

As presented in Table 4.2, the data encoding process uncovered 37 unique themes. In order to create a normalised dataset the themes were grouped into six unique groups as described by the four stage data encoding process in Section 4.5. The grouped themes represented a set of elements that collectively contributed to the success of formally and informally implemented corporate innovation initiatives. The six strategic levers introduced in Table 6.1 were derived from the data, themes and groups identified in Chapter Five.

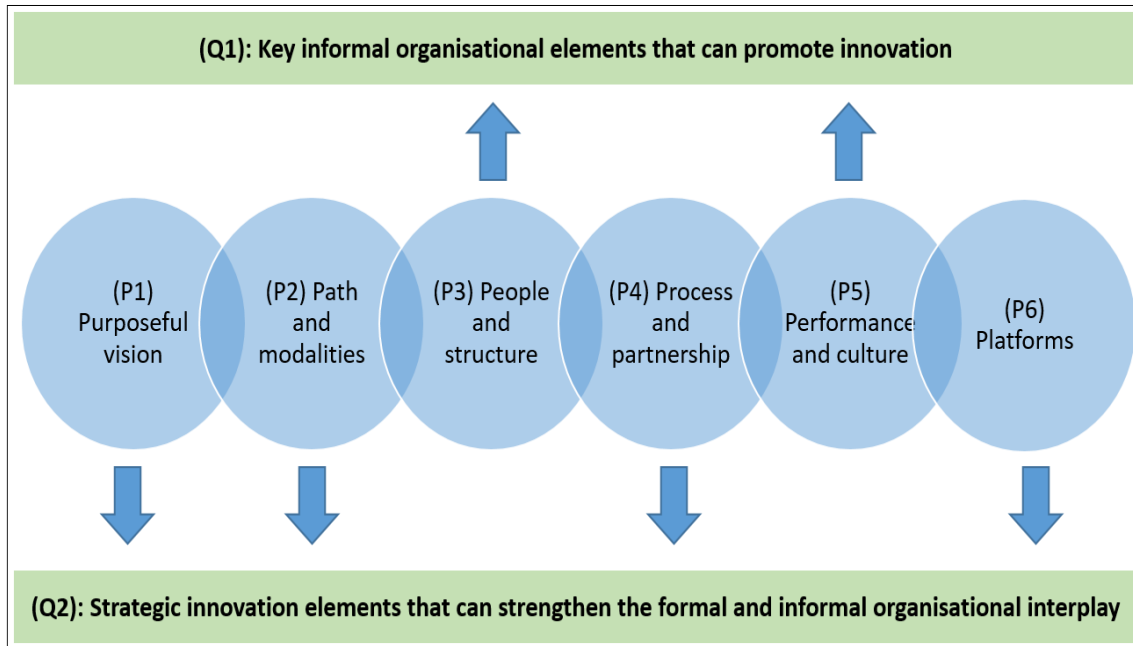
Table 6.1: Corporate innovation strategic levers

Themes	Strategic lever	Definition
CInO leadership Relationship building Strategic alignment Simplify technology Understand customer	(P1) Purposeful vision	Organisational vision and strategy with regards to innovation and corporate intrapreneurship
Informal process Internal process Intrapreneurial Openness Start-up approach Formal\Informal interplay New product development External approach Cross-functional Think out the box	(P2) Path and modalities	Linkage between the three main corporate innovation phases: I. Ideation II. Prototyping III. Implementation
Business skills Communication	(P3) People and structure	Importance of people and the influence of

Personal traits Skill development Partnerships Non-operational Understand business		organisational structures on corporate innovation
Learning Technical skills Incentives Fail fast	(P4) Process and partnership	The ongoing ambition to continuously improve processes and refine partnerships to promote innovation
Company culture Poor performance Risk taking Top team buy-in CIO organisational position Current CIO responsibility Agile	(P5) Performance culture	Company culture that embraces innovation
Formal process Strategy skills Capacity	(P6) Platforms	Appropriate ICT innovation platforms and enablers available to support the three main corporate innovation phases

The respondents agreed that the components used to develop the strategic levers play a pivotal role in increasing innovation throughput. As mentioned by Keeley et al. (2013), the stages of innovation support both the proposed strategic levers. Corporate innovation and entrepreneurship activities must be anchored in constructing these levers to ensure an increase in market share and shareholder value creation. Kuratko et al. (2014) supported this view by affirming that many organisations understand there must be strategic components within their firms that should be managed in order to enhance the innovative abilities of their staff. The strategic levers will play a critical role in the resolution of research questions one and two (Section 3.2). The theoretical model delineating the transition of a CIO to a CInO will form the basis for resolving the research questions. Figure 6.1 depicts the alignment between research questions one and two and the six strategic levers as derived from the research findings.

Figure 6.1: Strategic lever alignment with research questions 1 and 2



6.4. Research questions 1 and 2

Research question one focused on the strategic informal innovation components that one can leverage to promote innovation, while research question two introduced the interplay between the formal and informal organisation to strengthen innovation. The strategic levers identified in Section 6.3 resolved both research questions.

6.4.1. (P1) Purposeful vision

The respondents highlighted the importance of having a company vision embedded into the organisational strategy, specifically with regards to innovation. It was revealed that the lack of organisational innovation was linked to the absence of a formal innovation strategy, which was not surprising as the information technology vision of the firm has a significant effect on the performance of the CIO and other senior technology related roles (Al-Taie, Lane & Cater-Steel, 2014). Innovation is not only about technology, but about how people perform their tasks on a daily basis with a vision of continuous improvement and evolution. Respondents further indicated that the company vision must clearly define the organisational innovation proclivity. This finding is supported by Johnson (2010), who demonstrated that a key success factor in any CInO's role is the clear definition of the organisation's innovation proclivity.

Three main innovation categories as defined by the respondents are:

- I. Incremental
- II. Game changing
- III. Radical

Another key element that must form part of the purposeful vision lever is leadership. The respondents supported this by articulating the importance of employing the right people.

“Get the right people on the bus. It is easier to innovate when you start hiring innovative people” (Respondent 2).

Organisations need to develop detailed roadmaps to define where they are going and develop strategies to help them get there. A purposeful vision is therefore important to ensure all daily efforts are aligned with a common organisational cause. As discussed in Section 6.3 there is no set innovation blueprint, which highlights the importance of setting an overall organisational vision. The next strategic level will discuss the importance of the linkage between the various corporate innovation phases.

6.4.2. (P2) Path and modalities

As indicated by the findings presented in Section 6.2.1 and supported by Green (2011), corporate innovation consists of three main phases (ideation, prototyping and implementation). Even though the interviewees predominantly focussed on ideation, there was a general consensus that without implementing an actual solution, no shareholder value can be created. The respondents described current implemented strategies linked to innovation in great detail. Strategic lever two was related to the linkage of the various ideation phases by dissecting them into two main categories:

- Open – Crowd sourcing
- Closed – Dedicated functions

❖ Open innovation functions

The respondents explained the importance of external partnerships, extending internationally in some cases to assist with their local innovation efforts. They added that part of their open innovation strategy was designed globally, and then subsequently

localised for the South African market. “Open innovation is an outside-in process and involves opening up the innovation process to knowledge exploration. Here, external knowledge exploration refers to the acquisition of knowledge from external sources” (Lichtenthaler, 2011, p. 2).

There were mixed responses regarding the role of an innovation committee to promote internal partnerships, as some respondents argued that a committee could stifle radical thinking and innovation. Radical innovation is highly revolutionary and can displace an established market; radical breakthroughs serve as the basis for future technologies and are key to any innovation strategy (Lassen, Gertsen & Riis, 2006).

The research results indicated that innovation competitions coupled with open innovation can deliver astonishing results with relevance to the full innovation lifecycle. Innovation competitions can become a great vehicle to create a bond between the various components that make up the firm’s innovation landscape. According to Piller and Walcher (2006), many innovations do not originate internally and instead stem from the client domain. Idea competitions, meanwhile, are a novel way for companies to access solutions and innovative concepts directly from external sources, as they encourage open innovation and are focused on inspiring creativity. As mentioned previously, the use of an innovation lab that acts as an “idea box” and is open to submission from both employees and external sources works well to enhance innovation within the organisation.

The innovation lab is a key part of Respondent 29 company’s innovation strategy to ensure the inclusion of a crowd-sourcing element to their open innovation initiatives. Jaruzelski and Katzenbach (2012) supported this by articulating that innovation cannot deliver success if it is not aligned to an overall corporate strategy. The above supports the notion of co-creation, whereby open innovation is aimed at external sources solving internal problems. However, it has also been shown that open innovation or crowdsourcing can have negative effects on product innovation (Gebauer, Füller & Pezzei, 2013). Nevertheless, the findings presented here and in the literature suggest that there is a strong drive towards openness and embracing ideas from social entrepreneurs.

❖ **Closed innovation functions**

The closed innovation functions are anchored in the traditional corporate innovation functions, mainly focusing on internal innovation initiatives. However this can be both formal

and informal; as per McEvily et al. (2014), the two concepts focus on two very different aspects of the organisation, yet collectively drive organisational innovation goals.

The innovation functions can be illustrated as follows:

- I. Internal ventures
 - a. Research and development unit
 - b. Strategic initiatives
 - c. Unstructured intrapreneurship
- II. External ventures
 - a. Setup a new company
 - b. Purchase or outsource to companies

More than 80% of the respondents mentioned research and development units having been implemented to drive strategic initiatives linked to innovation. Similarly, Stevenson (2013) confirmed the role of a research and development unit as a key synergy point bridging the gap between product development and strategic functions. Unstructured intrapreneurship refers to the informal innovation elements discussed in Chapter Five. Very few respondents touched on external ventures and the theme mainly emerged from participants related to large (250 + employees) technology companies. Nevertheless, the theme remains important as the concept is considered a key element in corporate innovation and entrepreneurship. Larger firms often “spin-out” smaller companies to enhance entrepreneurial behaviour. This enhances the effectiveness of the research and development unit, as it is not constrained by the “red tape” linked to processes in larger firms (Ernst, Witt & Brachtendorf, 2005).

6.4.3. (P3) People and structure

Section 6.4.2 laid out the corporate innovation and entrepreneurship landscape as per the literature review (Chapter Two) and research results (Chapter Five). The section clearly illustrated the link between the main corporate innovation phases. Strategic level three highlights the importance of people and the influence of organisational structures on corporate innovation.

Respondent 19 articulated that innovation lives inside the organisation, so to ensure innovation success there must be a bigger focus on the employees. Kuratko et al. (2014)

supported this by stating that corporate entrepreneurship activities excel in established firms where employees have the authority to innovate and deviate from traditional routines and strategies, i.e. there is a stronger focus on the informal vs. formal organisation. In contrast, various respondents commented that organisational structures play a big role in corporate innovation initiatives, thus emphasising the importance of both the informal and formal organisation in supporting innovation.

“Different parts of the business need different touches and innovation solutions”

(Respondent 24).

The literature supports the perception that a company with a dedicated innovation champion has a better chance of succeeding at innovation compared to an organisation that lacks such an innovation leader. The innovation champion bridges various areas of business, ensuring synergy between the numerous innovation elements (Stevenson, 2013). The findings indicated the disadvantages associated with not having an innovation champion, such as the duplication of effort resulting from a lack of appropriate management and uncoordinated innovation strategies.

From the research findings it can be concluded that partnerships and the avoidance of creating silos are a key corporate innovation strategic element. This links with the discussed notion of partnerships under the open innovation pillar. The above illustrates the tie between the two strategic levers.

6.4.4. (P4) Process and partnership

Strategic level four focuses on the on-going ambition to improve processes, with various respondents mentioning the continuous improvement initiatives aimed at promoting innovation. As per the previous section, the relevant people and structures are a pre-requisite to ensure successful process optimisation. According to Kohlbacher (2013), continuous improvement initiatives can enhance an organisation’s ability to make quick process enhancements, which can thus improve an organisation’s performance and serve as a dynamic strategic capability. Respondent 8 specifically highlighted strategic initiatives aimed at cost reduction and continuous improvement. This notion links in with the potential, radical or transformational outcome that could be achieved through continuous improvement. As indicated by Johnson (2010), disruptive innovation was one of the leading

factors for the development of the CIO position in the early 1980s. Disruptive innovation can be a result of incremental innovation or continuous improvement.

As mentioned in the previous sections, the importance of partnerships was a recurring theme that was highlighted by numerous respondents.

“Not everything can be conducted internally so we have to continually create an innovation ecosystem of partners and alliances” (Respondent 31)

Overall, partnerships were viewed as central to ensuring the organisation’s innovation efforts are cast as wide as possible. Interviewees further acknowledged that the challenges they suffer internally may have been solved externally (through open innovation initiatives), or can be resolved through strategic partnerships. The respondents also emphasised the never ending fight for resources, thus allocating resources specifically focused on innovation is very important. Respondent 24 indicated that a way around this problem is to reuse or combine resources. For this reason, strategic level four focuses on how one combines existing resources and processes smartly to promote innovation.

6.4.5. (P5) Performance culture

By integrating effective processes and encouraging partnerships, one creates the perfect universe for a performance culture to thrive in. Almost all the respondents referenced the importance of a culture that promotes innovation, with respondent 10 indicating that values are formed around culture and three of the respondents attributing a lack of innovation to the organisation’s innovation culture. The finding is supported by Jaruzelski and Katzenbach (2012), who stated that two critical components of innovation success is the alignment between strategy and culture. The authors further indicated that innovation leaders must ensure innovation goals and strategies are supported by their company culture. There are no perfect cultures, but the best one for a company is one that is aligned with the organisation’s innovation strategy. Some respondents cautioned against a too aggressive innovative culture, and noted that this could create chaos. This specifically emerged during discussions related to the informal innovation elements, whereby employees would dismiss company protocols in order to promote innovation.

The performance culture strategic lever requires a lot of effort to build, specifically because there are no exact formulae to follow, however the lever is critical to create a competitive

edge as it is the most difficult strategic lever for a rival company to duplicate. Cainelli et al. (2006) affirmed the importance of having a competitive edge; in order to ensure continuous growth and shareholder value creation, businesses need to build competitiveness for today and tomorrow.

6.4.6. (P6) Platforms

Strategic lever six is the concluding lever, which talks to innovation platforms. These platforms are enablers, however without the preceding five levers embedded into the innovation efforts, the last lever could potentially add very little value. Respondents made mention of various innovation promoting platforms, including:

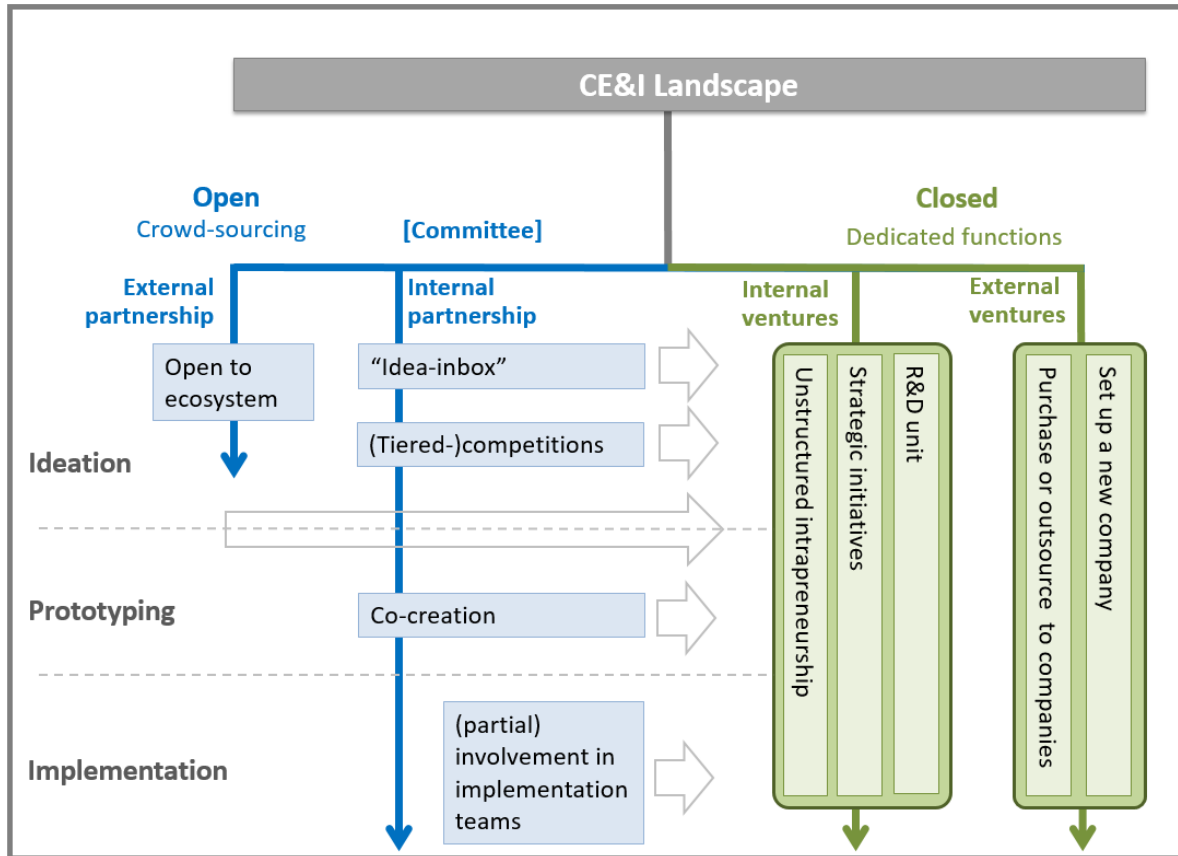
- I. A physical innovation facility (hub) aimed at capturing innovation ideas and fostering an innovation culture (Respondent 20).
- II. An intranet platform to capture innovation ideas. The platform is linked to a pre-set workflow to assist with the various innovation phases (Respondent 6).
- III. An inspiring excellence initiative, whereby employees can submit concepts around process improvement, new product development and technical efficiency. The platform allows for team collaboration and incentive structures (Respondent 23).

Strategic lever six is not that significant on its own but can create real value when coupled with the appropriate underlying strategic elements. It must also be noted that as per the respondents, these platforms can also play a pivotal role in employee innovation training and upskilling. The main aim of these platforms is to create a space where employees can submit and explore new ideas.

6.4.7. Conclusion to research questions 1 and 2

The presented results have been aligned with the relevant literature to develop a corporate innovation and entrepreneurship landscape. Figure 6.2 depicts this alignment.

Figure 6.2: CE&I landscape based on the alignment between the literature and the research findings



All the elements encapsulated in Figure 6.2 were covered in Chapter Two and the preceding sections of Chapter Six. To resolve research questions one and two it is important to understand the corporate innovation landscape. The landscape elements presented can be used to explain and implement the six identified strategic levers (Figure 6.1), after which research question one can be resolved by leveraging the following strategic elements (relevant to the informal organisational factors):

- I. (P3) People and structure
- II. (P5) Performance culture

By understanding the corporate innovation landscape described above, the CIO can use strategic levers three and five to promote innovation. Research question two is answered by leveraging the following strategic elements relevant to the formal and informal organisational interplay:

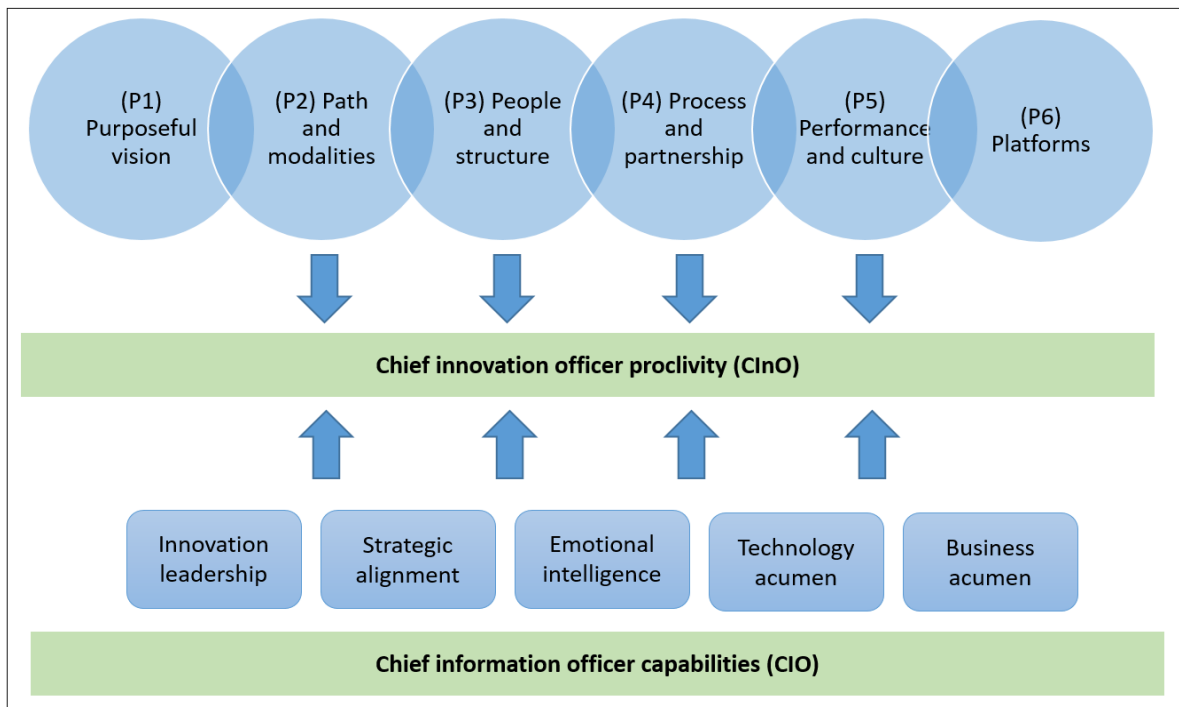
- I. (P1) Purposeful vision
- II. (P2) Path and modalities
- III. (P4) Process and partnership
- IV. (P6) Platforms

Through the application of these levers to the corporate innovation landscape, the interplay between the formal and informal organisation can be enhanced. This may ultimately result in strengthened corporate innovation initiatives.

6.5. Research question 3

Research question 3 (Section 3.2.3) is related to the key individual attributes required to be an innovation champion, specifically focusing on the strategic elements that drive innovation. Not all the previously introduced strategic levers (Section 6.3) are relevant to research question three. This relationship is illustrated in Figure 6.3 below.

Figure 6.3: CIO & CInO strategic proficiency alignment



Research question three will be resolved through unpacking the relevant capabilities required by the CIO to successfully make the transition to the CInO. The association between the identified strategic levers and CIO capabilities will be expanded on in Chapter Seven.

6.5.1. Innovation leadership

In the context of this study, innovation leadership refers to the leadership qualities required by the CIO to promote innovation. Almost 69% of the respondents underscored the importance of an innovation leader who can bridge the gap between various organisational levels. Stevenson (2013) affirmed the observation that the CIO needs to close the gap between various business areas, which is not just confined to innovation in its most basic form. The respondents also argued that some of the required leadership qualities are unique, the majority of which cannot be taught, for example having a deep passion and curiosity for innovation. Table 6.2 captures five key innovation leadership traits (see Appendix E).

Table 6.2: Innovation leadership toolbox

No	Element
1.	Ability to unlock innovation from team members
2.	Create environment where people are encouraged to innovate
3.	Continuously question the 'how' and 'what'
4.	Exploratory mind-set
5.	Mining the future, always scouting for new opportunities

6.5.2. Strategic alignment

Strategic alignment refers to the alignment of innovation to business on two main levels; the relationship between innovation and business strategy and the relationship between the innovation leader and top level business structure. In accordance with High (2012), 17 respondents suggested that strategic alignment will ensure that the corporate strategy can be successfully translated into an innovation strategy. Table 6.3 captures five key strategic alignment elements (see Appendix E).

Table 6.3: Strategic alignment toolbox

No	Element
1.	Narrow the gap between business and technology\innovation
2.	Understand strategic timing and context
3.	Develop a common innovation standard and encourage the organisation to embrace it
4.	Package and present technology innovation elements in a user friendly manner
5.	Assemble a lean and effective technology\innovation team

6.5.3. Emotional intelligence

Approximately 50% of the participants revealed the importance of emotional intelligence (EI), specifically related to the link between technology and innovation, arguing that it is very rare to find a technical expert with a strong sense of emotional intelligence. Hewertson (2014) explained that emotional intelligence and the method of communication can make or break businesses, while respondent 22 commented that innovation leaders must have the relevant skills to guide teams rather than instruct them. Table 6.4 captures five key emotional intelligence elements (see Appendix E).

Table 6.4: Emotional intelligence toolbox

No	Element
1.	Low ego and turf protection mannerisms
2.	Innovation leader's job to ensure other people succeed
3.	High level of empathy towards team members
4.	Earn and not command respect
5.	Influencer and trust builder

6.5.4. Technology acumen

The respondents agreed that the innovation leader of the future needs to have a high level of technology acumen, thus affirming the need for the transition from CIO to CInO. The CIO is perfectly positioned to embrace a more innovative position. Engel (2011) supported the

CIO as being the best suited executive to lead and contribute to the organisation's technology innovation strategy. Respondents argued that technology touches virtually all elements of business and a sound comprehension of technology could fast track an organisations' innovation efforts. Below, Table 6.5 captures five key emotional intelligence elements (Appendix E).

Table 6.5: Technology acumen toolbox

No	Element
1.	Selecting a correct off the shelf solution and gaining a competitive edge through an implementation strategy
2.	Have a balance between innovation and keeping the lights on
3.	Need to understand new technology trends
4.	Use a technology evidence based approach
5.	Ability to implement and manage governance frameworks

6.5.5. Business acumen

Only 12 respondents mentioned the importance of business acumen as a key innovation capability, which is in contrast with the literature that positions it as a key necessity (Prince, 2010). The ideation cycle is usually a team effort that requires a champion who understands various business facets of the organisation (Gobble et al., 2012). In conclusion, business acumen is a key area that needs to be addressed in South African private companies with a strategy focused on driving innovation. The majority of solutions are gearing towards a software as service (SaaS) architecture, thus the competitive edge lies within the implementation strategy. This finding supports the importance of having an innovation leader who understands technology and business. Table 6.6 below captures the five key business acumen elements (see Appendix E).

Table 6.6: Business acumen toolbox

No	Element
1.	Must focus on consumerisation of technology\innovation
2.	Transform technology into business value
3.	Innovation leader must become business driver
4.	Bridge the gap between business and technology
5.	Responsible for creating new revenue streams

6.5.6. Conclusion to research question 3

As per Section 6.5, the following five key capabilities have been identified as important elements to assist with the transition from CIO to CInO:

- I. Innovation leadership
- II. Strategic alignment
- III. Emotional intelligence
- IV. Technology acumen
- V. Business acumen

Each capability was defined and linked to a toolbox with five key traits. The aim of the toolbox is to serve as a guideline for how one could implement the identified elements. Research question three was therefore answered through unpacking the identified capabilities and their relevant sub-sets.

6.6. Conclusion of findings

Overall, the findings presented in Chapter Six are in agreement with the existing literature on the subject related to shareholder value creation (Kuratko et al., 2014). The findings also supported that understanding the various innovation phases can improve innovation efforts (Keeley et al., 2013). As per Carter et al. (2011), the CIO is the most suited C-level employee to drive innovation activities, with his/her technical background and education levels as key innovation enablers. The findings also supported Stevenson (2013) and then concept that the CInO plays a pivotal role in bridging the gap between business and innovation.

The findings allowed for the development of a holistic view of corporate innovation within the South African context, and six strategic innovation levers were extracted which allowed for research questions one and two to be resolved. The results clearly show the importance of both the formal and informal organisation in enhancing innovation. Finally, five unique capabilities were presented which focus on traits essential to the organisational innovation champion's skill-set. The presented capabilities were packaged with an implementation toolbox to assist with the transition from Chief Information Officer to Chief Innovation Officer, thus resolving research question three. Chapter Seven will present a preliminary model that encapsulates all the findings presented in this chapter, which is based on the strategic corporate innovation factors affecting the evolution from Chief Information Officer to Chief Innovation Officer.

7. CONCLUSION

7.1. Introduction

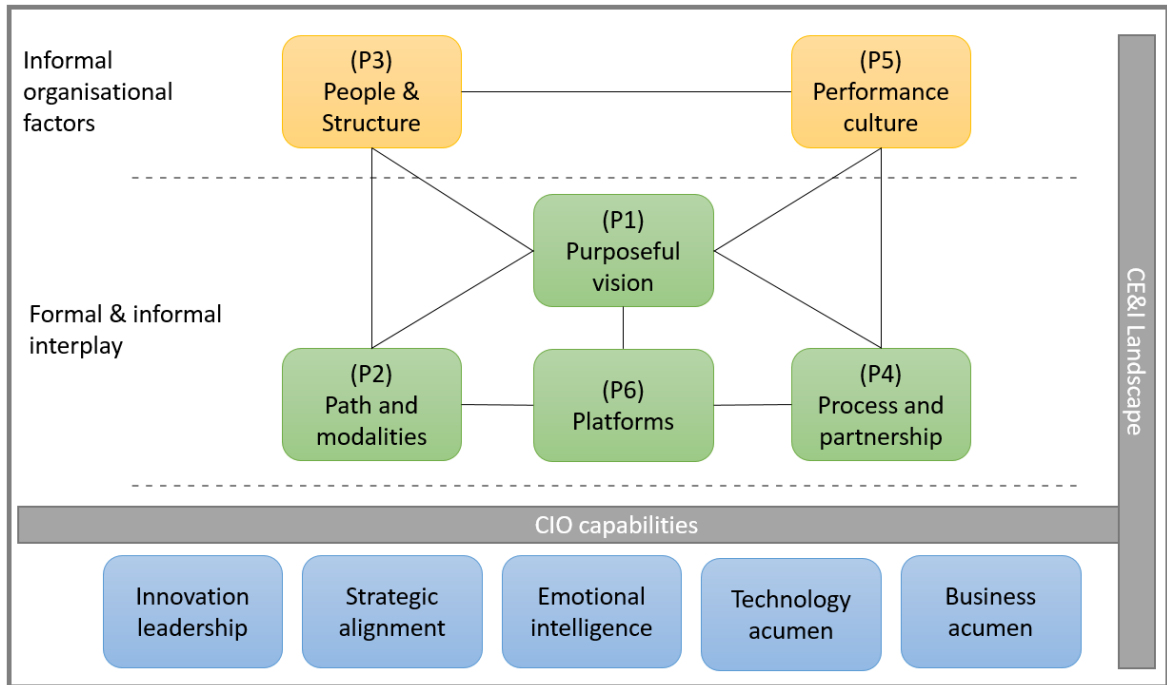
The objective of this research was to identify the strategic CE factors linked to the evolution of the CIO to the CInO, specifically related to the strategic innovation elements linked to the interplay between the formal and informal organisation. The primary purpose of this research was to develop a preliminary model that could assist with the transition from CIO to CInO. This model may be useful to organisations that drive growth through innovation in order to increase shareholder value. The preliminary model attempts to provide a framework for deciphering the innovation landscape, presenting six key strategic levers that can be used to promote innovation. Lastly, the identification of key attributes that need to form part of the CIO's skillset to accelerate the transition to the CInO role is also encapsulated into the model. The chapter further provides general recommendations as well as recommendations for further research.

This chapter will include a brief summary of the major findings, general recommendations and highlight possible areas that warrant further research. The significance of this study in both theoretical and practical terms will be outlined and the importance of this work on the researcher will also be included. The closing remarks touch on the project's value add to the researcher's overall skillset and career prospects.

7.2. Main findings

A preliminary model was developed by exploring the strategic innovation interplay between the formal and informal organisation. The model not only addresses the identified research questions, but also draws the entire research project into a presentable framework. The preliminary model may add value to most organisational innovation strategies in addition to assisting the CIO make a transformation to CInO. Figure 7.1 below introduces the preliminary model. The chronological order of the six identified strategic levers (P1-6) in relation to each is an important factor to consider. The order is based on the recommended implementation protocol when developing an innovation strategy; the levers build on one another and the configuration is critical for the success of the intended innovation strategy.

Figure 7.1: Strategic corporate innovation factors affecting the transitioning from CIO to CInO



7.2.1. Informal organisational innovation factors

The study identified two main strategic levers relevant to the informal organisational innovation factors:

- I. (P3) People and structure – the importance of people and the influence of organisational structures on corporate innovation.
- II. (P5) Performance culture – a company culture that embraces innovation.

Levers three and five emerged as key factors promoting innovation within the context of the informal organisational. Strategic lever six is the only lever that does not have a direct impact on the abovementioned levers. Performance culture is specifically important as it is the most difficult lever for a competitor to copy and can add a substantial amount of organisational competitive advantage.

7.2.2. Formal and informal interplay

This section focused on four of the six strategic levers:

- I. (P1) Purposeful vision - organisational vision and strategy with regards to innovation and corporate intrapreneurship.
- II. (P2) Path and modalities - linkages between the three main corporate innovation phases (ideation, prototyping and implementation).
- I. (P4) Process and partnership - the ongoing ambition to continuously improve processes and refine partnerships to promote innovation.
- II. (P6) Platforms - appropriate ICT innovation platforms and enablers available to support the three main corporate innovation phases.

The four identified strategic levers directly influence both the formal and informal innovation paradigms, thus playing a critical role in enhancing the interplay between the paradigms. The research suggests that the overall innovation strategy includes the following components for each of the four levers:

- I. Formal innovation strategy
- II. Informal innovation strategy
- III. Interplay enhancement strategy

The purposeful vision lever is positioned at the nucleus of the preliminary model as it has been suggested that all innovation efforts starts here; an organisation's innovation vision can have a significant effect on its performance (Al-Taie et al., 2014).

7.2.3. Chief Information Officer capabilities

From the preliminary model it is evident that before the CIO can embark on the transition to become a CInO, a clear understanding of the innovation landscape coupled with knowledge of the six identified strategic innovation levers is required. The model suggests that the levers will have a direct influence on the identified capabilities. Table 7.1 includes the five key capabilities required to successfully transform into the role of organisational innovation leader. Each capability was paired with a set of implementation toolbox elements, which were derived from the research findings to assist with the transition.

Table 7.1: CIO key innovation capabilities

Capability	Toolbox elements
Innovation leadership	<ul style="list-style-type: none"> ▪ Ability to unlock innovation from team members ▪ Create an environment where people are encouraged to innovate ▪ Need to continuously question the 'how' and 'what' ▪ Exploratory mind-set ▪ Mining the future, always scouting for new opportunities
Strategic alignment	<ul style="list-style-type: none"> ▪ Narrow the gap between business and technology/innovation ▪ Understand strategic timing and context ▪ Develop a common innovation standard and encourage the organisation to embrace it ▪ Package and present technology innovation elements in a user friendly manner ▪ Assemble a lean and effective technology/innovation team
Emotional intelligence	<ul style="list-style-type: none"> ▪ Low ego and turf protection mannerisms ▪ Innovation leader's job to ensure other people succeed ▪ High level of empathy towards team members ▪ Earn and not command respect ▪ Influencer and trust builder
Technology acumen	<ul style="list-style-type: none"> ▪ Selecting correct off-the-shelf solution and gain a competitive edge through an implementation strategy ▪ Have a balance between innovation and keeping the lights on ▪ Need to understand new technology trends ▪ Use technology evidence based approach ▪ Ability to implement and manage governance frameworks
Business acumen	<ul style="list-style-type: none"> ▪ Must focus on consumerisation of technology/innovation ▪ Transform technology into business value ▪ Innovation leader must become business driver ▪ Bridge the gap between business and technology ▪ Responsible for creating new revenue streams

7.2.4. Corporate entrepreneurship and innovation bricolage

The combination of all elements depicted in the preliminary model forms part of the overarching corporate entrepreneurship and innovation strategic factors required for the effective transition from CIO to CInO. The model provides a holistic view of the research findings and ultimately resolves the research questions. The preliminary model is suggested to be a valuable one page toolkit that could enhance an organisation's innovation strategy and refine its innovation leader's capabilities.

7.3. General recommendations

To ensure continuous growth and value creation, the author suggests that organisations innovate rapidly. The ever increasing threat of disruptive innovation and changing market places, coupled with the accumulating popularity of open innovation, could destroy current organisational competitive advantage and shareholder value. A review of existing literature underscored the general misunderstandings surrounding what specific innovation strategy would be the correct fit for a company (Hausman & Johnston, 2014). The presented preliminary model (Section 7.2) may not only add insight into evaluating an organisation's current innovation strategy, but may also serve as guideline for developing a new innovation strategy. Additionally, the following recommendations are proposed:

- I. Construct small agile teams focused on increasing innovation initiatives aligned with the main organisational strategy.
- II. Embed a performance culture linked to innovation. This will not only increase corporate innovation activities, but also ensure an increased level of competitive advantage. As mentioned in Section 7.2.1, an organisation's culture is very difficult for competitors to imitate.
- III. Innovation must be a deeply-rooted element within the organisational strategy. The entire organisation must embrace innovation and not only look at the resources linked to innovation activities to provide the expected outcomes.
- IV. Organisations need to promote the evolution of the CIO into a more innovative executive. As indicated by Burrus (2013), the shift from information management to information intelligence must occur.

In conclusion, organisations need to enhance their efforts related to deciphering the innovation interplay between the formal and informal organisation. As per Section 7.2.2, this could expose key strategic levers, potentially playing a pivotal role in an organisation's success related to their innovation strategy.

7.4. Recommendations for further research

The author recommends further analysis of the six identified strategic levers through a deductive quantitative research methodology, as this type of analysis will provide a more in-depth understanding of the various strategic levers. Specifically, future work should examine the components that form the basis of each lever's makeup. Expanding the study

to other countries would provide a global perspective of the important elements involved in the transformation from CIO to CInO.

Lastly, a similar study performed on a sample that exclusively consists of non-profit and government organisations could add informative insight. It would be interesting to uncover the strategic levers driving innovation in these organisations, coupled with revealing what an innovation champion looks like in this setting.

7.5. Limitations of the research

The research process was qualitative and was therefore subject to biases inherent in social research. The results from the semi-structured interviews were solely dependent on the participants' responses, although it is hoped that the multi-source data enhanced the validity and objectivity of the results. Additionally, the sample was limited to companies that were accessible during the data gathering phase. Notwithstanding the identified limitations, the research is expected to provide valuable insights into the relevant strategic factors that could be leveraged in order to assist with the transition from CIO to CInO.

7.6. Closing remarks

This study has added insight into the innovation interplay between the formal and informal organisational paradigms, based on private organisations in South Africa. A preliminary model (section 7.2) was developed to assist with understanding the strategic levels that are important in the transition from CIO to CInO. The importance of the CIO and the suggested transition is supported by the findings of this work and previous research. From the results it was evident that most respondents envisaged the proposed transition, but were hesitant because they were unclear how to initiate the journey.

Finally, as a South African CIO employed by a private company, the researcher was significantly impacted in both his professional and personal capacity by this study. The developed preliminary model has come to form an integral part of the strategic notes he draws on in preparation for executive committee and shareholder presentations. It is his aim to evolve this preliminary model into a consulting framework, thus ensuring that the research results create practical value.

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APPENDIX A - INTERVIEW QUESTIONS

- 1.1) Elaborate on the formal processes your organisation has in place to promote innovation?
- 2.1) Describe the informal corporate innovation activities or behaviour present in your organisation?
- 2.2) What process is in place to create synergy between the formal and informal innovation elements?
- 3.1) What are the key elements that must form part of an innovation leader's makeup (How does the CIO of the future look like)?

APPENDIX B - INTERVIEW QUESTION ONE: RESULTS

Respondent	Response	Theme
R 9	Adopt agile delivery system and just in time.	Agile
R 11	Dedicate the resource to do internal and external ventures will be VERY important. Must be agile. Must have the process to take idea to implementation.	Agile
R 18	Encourage more agile-based processes. Lean approach. MVP oriented. Huge programme takes too long to complete. Break down to smaller chunks and quick Prototypes	Agile
R 19	Lean, agile but not waterfall. Adopt MVP concept – keep innovative	Agile
R 26	Use agile and lean methodologies to fast track the innovation process.	Agile
R 28	Keep it lean and mean. (However, at this stage, the company's innovation process is very much limited to generating better ideation.)	Agile
R 32	Build small agile teams with good people.	Agile
R 33	Core technology group: Look at current problems in company and tasked with resolving through innovation	Business skills
R 5	Using business process improvement may not guarantee one to come up with disruptive innovation. However, through the process, one may find new ways to do things or found the constraint that ignite further innovation. Without the mind set of continual improvement, innovation may not happen readily.	Business skills
R 7	Constantly having people to dream up and take on bespoke projects. A group of dedicated people to encourage and drive innovation will be important. Even though innovation is everyone's job. However, people are busy with day-to-day work. Hence having a group of people to promote the exchange or dialogue and increase collaboration will be the key.	Capacity
R 11	The problem about innovation is that it competes with day-to-day workload. It competes with other planned activities. Without coming up with a good process and policy, it will lead to more problem.	Capacity
R 13	The ability to distinguish day-to-day job with the innovation tasks. Give people a bit room to allocate time for improvement and innovation. KPIs should thus be designed in such way. Not fill up 100% of people's time to just keep the operations running.	Capacity
R 34	Agile. Agile. Agile. Prototyping fast. Have sandbox time for employees to play and explore.	Capacity
R 2	Get the right people on the bus – hiring the right people. It is easier to innovate when you start hiring the innovative people.	CInO leadership
R 7	Important – innovation is not whiteboard exercise! Not just about ideation. It must translate into profit or increase long-term competitiveness. Too many people think having great ideas means great innovation. No point to have idea if no one implements them. Innovation team's job is to fast track the value chain from ideation to implementation.	CInO leadership
R 11	Innovation is NOT just about technology. It is way people in the organisation conduct their work. The pursuit of improvement, evolution and revolution.	CInO leadership
R 16	The need for an innovation forum with executive committee participate in the forum	CInO leadership
R 34	Be innovative is part of the game of this R&D team.	CInO leadership
R 34	In-house development. Need innovative and competent staff member.	CInO leadership
R 34	If need to pivot, do it happily.	CInO leadership

R 17	CIO role focused on technology part of innovation within the firm. The innovation side of technology reports into CInO	CIO organisational position
R 20	Relay innovation benefits back into organisation	Communication
R 8	Technology awareness days – Vendors display current products to management that is in place. This drives user uptake and stimulates innovation – Through ensuring all employees understand system landscape	Communication
R 25	IT steering committee: Meet on quarterly basis (CEO of business involved – Three main business unit leaders involved). Discuss innovation to assist various divisions – cross functional skills within the business	Communication
R 2	Always able to articulate the value of what you do	Communication
R 19	It may be difficult for some people to come up with the ideas to take the ideas to market. However, keep them involved.	Communication
R 20	Cloud 9 physical facility: Facility to solve business problems, change culture	Company culture
R 8	Huge cost saving driving wrong behaviour (Current situation)	Company culture
R 8	Innovation is not part of culture	Company culture
R 10	Values formed around innovation	Company culture
R 11	Entrepreneurs can be exciting. However, can be problematic. It may disrupt the work environment and create tension.	Company culture
R 11	A high performing culture actually can hamper the innovation. Too silo focused	Company culture
R 30	Hiring the right people to be part of the team. These employees must demonstrate creativity, urgency and passion to be catalyse change.	Company culture
R 30	Playing people's strength. Some people just love solving problems. Some people love support others.	Company culture
R 34	Purposefully pairing up employees to work together so they can either support one another. Alternatively, bridge the gaps between tech and business.	Cross-Functional
R 34	To disperse my team members to different business units to promote crosspollination and reduce silos	Cross-Functional
R 17	CIO responsible to lead Innovation sensing outside of company (related to technology)	External approach
R 11	Leaders or this innovation committee must be able to absorb the risk for employees. Or else no one will partake or support the endeavour.	Fail fast
R 13	The process must also have a healthy attitude towards failure.	Fail fast
R 19	Able to admit the strategy is not working. Able to give up without blinking. Cannot dwell on something that is not working well or holding on a legacy. Must be pragmatic enough to cut the lost	Fail fast
R 1	Do have laboratory in place where R&D teams experiment with new concrete mixes e.g. To handle extreme conditions	Formal process
R 1	Do not have a formal documented process	Formal process
R 20	Cloud 9 physical facility: Facility to solve business problems, change culture	Formal process
R 20	Innovation process: Support desired outcome (Ideation process) Make sure there is a solution to problem	Formal process
R 20	Initiator owns ideas – Owner forms part of full cycle – securing money from BU project funding pool is the owners responsibility	Formal process
R 20	Use 4 lenses to select good ideas: Fit to strategy, feasible, viable, desirability	Formal process
R 3	Global Innovation Hub – South Africa Invest money in innovation hub in return for concepts	Formal process
R 3	Adaption of technology across various software and hardware ranges (Generated by Innovation Hub) – Linked to core software products as per company strategy. With a focus on SA\Developing country requirements	Formal process

R 3	Horizon 1,2,3 plan: Improving legacy software (H1) Growth strategy (H2,3)	Formal process
R 3	Design globally and localise in country	Formal process
R 3	Customer/partner interaction sessions (Product road map sessions)	Formal process
R 4	Logistics engineering department (2 pax) – Go into operations and apply technology or continuous improvement and staff reduction	Formal process
R 4	Formal strategy linked to logistics engineering department	Formal process
R 22	New product offering (Development) process: Various business units must create new products on annual process, through R&D labs	Formal process
R 22	NPD team incentivised to create new products	Formal process
R 22	NPD also forms party of idea generation strategy linked to headline innovation strategy	Formal process
R 22	Quarterly stand-up session with CEO, CFO: Any employee can pitch idea – Decision on road ahead gets made right there and then – Full day booked out of their diaries any employee can book a slot	Formal process
R 6	Innovation capture process: Intranet post ideas – Corporate communications monitor and send to business unit owner	Formal process
R 23	Inspiring excellence: Companywide Innovation competition. Categories – Process improvement, New product development, Technical efficiency: 1. All managers has to submit (they can form teams with staff) 2. Any employee can submit Inspiring excellence process: 1st round – Concept submission 2nd round – Presentation to business unit exco 3rd round – Build business model Exco 4th round – Put together prototype with help from assigned	Formal process
R 23	Full time R&D lab team: 25 pax (MBA's, PHD's, Actuaries) – Job spec is to build concepts and present on a weekly basis to Exco. R&D part of innovation strategy – Build concepts and prototypes.	Formal process
R 8	Innovator of the month IT specific competition – Related to cost reduction, continuous improvement - Monetary prize for winner	Formal process
R 10	No formal structure	Formal process
R 10	Various ongoing research around innovation topic	Formal process
R 31	Company has an innovation strategy and division in place: Key focus areas and priorities established (incremental vs game changing and radical)	Formal process
R 12	Formal recognition process – Portal to submit innovative ideas: 1. Sponsor needs to evaluate idea – And provide feedback (Sponsor gets selected by initiator) 2. Once idea is accepted sponsor needs to provide timelines and budget	Formal process
R 27	Innovation challenge – Dedicated teams made up of cross-functional departments to vet ideas. (Electronic platform to submit ideas) (3 prizes of monetary value)	Formal process
R 14	Innovation strategy – McKenzie 3 horizon approach (Short to Long term)	Formal process

R 29	<p>Research and Innovation department – Research technology with a time to market view of 18 months to 5 years.</p> <p>Department rates opportunities, then top ones get selected for proof of concept</p> <p>Incubation division receives concepts from Research and Innovation department to build business case and commercialise concepts</p> <p>Team Size: Research and Innovation = 7 people Incubation = 15 people</p>	Formal process
R 33	10% weekly work load to dedicate on own projects and improvements	Formal process
R 33	Core technology group: Look at current problems in company and tasked with resolving through innovation	Formal process
R 17	Solutions team: Help business be innovative, experiment with new technology e.g. Business Intelligence, Driving efficiencies, and improving business process workflow	Formal process
R 17	<p>Innovation strategy 2 tiers: Current: Project team 1-2 years: Solutions team 3-5 years: CIO & CInO</p>	Formal process
R 35	Group level innovation fund setup to fund innovative ideas divided into divisions as per ideas are posted - (Fund more of an enabler than prize money)	Formal process
R 35	Innovation hub – Established to vet and test submitted innovation ideas – (4 resources assigned to innovation hub)	Formal process
R 2	Instituted a formalised innovation forum / committee	Formal process
R 2	Project list to prioritize the ideas – all added to project list. Committee voting according to potential impact, cost, budget, time, availability, platform and selection criteria. Important!	Formal process
R 2	Proper conceptualisation phase and try to have prototype	Formal process
R 2	Has established very matured and well exercised formal org practice. Not just about ideation.	Formal process
R 5	Formal process has been established. Using an external company. However, so far it is very limited to ideation only.	Formal process
R 5	Using Open innovation to gather ideas from internal employee. Employees can also vote and rank ideas. Small reward is also offered. Some employees are been trained as innovation champions	Formal process
R 5	However, not rigorous in implementation. How to go forward to close the loop will be the key. Need functional managers' support in the first place. Still a very ad-hoc approach currently.	Formal process
R 7	We implement an open innovation platform and process. People can pitch to the executives if their ideas are selected. There is a selection committee.	Formal process
R 9	R&D lab forms the primary innovation function. (Formal function – report-marketing officer... 15 people. Research output directly align with business needs)	Formal process
R 9	Other IT divisions also have their innovation strategy and capability. Formally included in their KPIs.	Formal process
R 9	Gaining employees' ideas through crowdsourcing. However, feed the ideas to the R&D lab or different units.	Formal process
R 9	A social collaboration platform was invented in house and implemented. This is NOT just an ideation platform only. This helps field agents and other employees to collaborate. Through collaboration, they come up with great new ideas to solve problems.	Formal process

R 11	Establish a think tank or a committee to filter the ideas. However, the committee must be mature. Must not try to breakdown the employees who came up with the ideas, even if the ideas are not good.	Formal process
R 11	The committee can discuss with the unit directors to decide if the ideas are good.	Formal process
R 11	There are various paths for innovation. NOT just about gathering ideas from employees.	Formal process
R 13	No blue print for innovation. Each division/unit has different requirements and modus operandi.	Formal process
R 16	Having the process to prioritise and test concepts will be important.	Formal process
R 16	The financial and non-financial support to implement the concept is even more important.	Formal process
R 16	Things (market environment) change very quickly so need to be agile. Need to respond to the real time demand. Problem with some innovation process is that it takes too much time to get started. Takes too much time to deliver a product.	Formal process
R 18	Implemented an open innovation website to gather ideas. Must find ways to get support and buy in. Create an ecosystem in house	Formal process
R 18	Promote continual innovation.	Formal process
R 18	Ideation only is pointless. Must be rolling innovation out. Fast proof of concept is critical. Time and timing to market are both highly important!	Formal process
R 18	Innovation must be implementable, efficiently addresses customers' needs and fast rolling out.	Formal process
R 18	Diversify with core investment so that one can look for the next opportunity.	Formal process
R 18	Do things in-house if possible.	Formal process
R 18	Formal environmental scanning process is important. Contextually get the latest knowledge and tap into the latest trend	Formal process
R 18	Formal process to pitch for implementation. Must be able to compete with existing projects.	Formal process
R 19	Take in bright people; give them time, autonomy, resource. Give room to let people do exploratory work. Provide clear direction but give them space. For people who want to avail themselves; define a process to create a space for them to thrive. Allow them at least 20% of their time to spend on innovating.	Formal process
R 19	Get the right people in. Use psychometric test to identify the people who are right for driving innovation. Then give them to responsibility.	Formal process
R 19	Some innovation processes/products do not scale well. Very important to craft the innovate that allow rapid scaling	Formal process
R 19	Process to bridging the gaps existing within the organisation	Formal process
R 19	Agree on how is taking the innovation to the market. Have their buy-in and commitment of resource.	Formal process
R 19	Need to find resource to take innovation to market.	Formal process
R 19	Some units do not need to be on their toes all the time when comes to innovation. Some units (like mine) must be innovative ALL the time. Innovation is part of the team's makeup. It is necessity. Therefore, we can't generalise "corporate innovation" as one size fits all. Enforce one way of doing things and adopt one innovation framework may frustrate many people	Formal process
R 24	Use tools to allow rapid roll out. MVP. Lean-agile. Cannot wait for 2 or 3 years to implement an idea.	Formal process
R 24	Use tools to attract ideas. Innovation challenges can rely on open innovation. Crowdsourcing ideas. Leverage social network and create a community with other peers	Formal process

R 24	Having the resource, such as funding for opex and capex will be important. Else Ideation only. Not implementation.	Formal process
R 24	Incremental idea refinement can sometimes lead to great innovation. DO NOT cut it off or dismiss the power of continual improvement.	Formal process
R 24	Set good constraints. Articulate the constraints. Without constraints, one does not innovate well. The impact of innovation may not be as high.	Formal process
R 24	Help employees' to become innovation champions and change agents, especially when deploying the open innovation route.	Formal process
R 26	Bring IT team closer to the business. Else, the IT team is too removed from the action and users' needs.	Formal process
R 26	Working towards a higher decentralised structure. But ensure every 2 nd week, there is a formal process of task reprioritisation to keep the team focused and effective	Formal process
R 26	Business units are invited to discuss with the IT team and review the strategy.	Formal process
R 26	Everyone has an idea. Must help people to refine their ideas	Formal process
R 26	Taking on a strategic view to formulate the innovation strategy. Not just an innovation strategy without specific set goals and misalign with organisation's strategy	Formal process
R 26	If one asks business team for new idea, then one must find ways to test idea	Formal process
R 26	Recruiting the right people	Formal process
R 28	If necessary, purchase other companies. However, must ensure the M&A process is done properly. Integrating companies into one is not always an easy exercise.	Formal process
R 28	We adopt a social gamification platform to encourage internal open innovation type of ideation process. Big funnel to accept innovative ideas followed by community voting and selection	Formal process
R 28	We adopt the tiered-competition approach. Small incentives are provided to attract people and make the initiative fun. Larger incentives as the ideas are been promoted up to the group or enterprise level.	Formal process
R 28	We try to be focused and link the innovation ideation back to strategy. However, so far the implementation is not as established as we would like it to be.	Formal process
R 28	Selected employees are been invited to become the in-house "innovation champions"	Formal process
R 28	The operating model of the organization affect the decision making process. More autonomy per business should be given to fast track the implementation.	Formal process
R 28	Innovation should be looking into ideas to "future proof" the organization. Look for ways to disrupt the industry. Looking for ideas that will generate exponential growth.	Formal process
R 28	Use external venturing to generate new innovation just to prevent an idea been killed by other internal business units.	Formal process
R 30	Innovation is EVERYONE's job! Entrench this approach in formal practices. Load 90%employees's work time to formal activities. Give them 10% to play and explore.	Formal process
R 30	In my team, each member is responsible to come up with one innovative idea per year at least. For example, we have implemented a very simple idea but save the organization a lot of money.	Formal process
R 30	Ideas don't have to be disruptive or grand or transformational. They just have to create value for the organization. Even if the ideas are very much based on incremental improvement, they still contribute towards the competitiveness of the organization.	Formal process
R 30	By not shutting down small ideas that can create value, sometimes, one or two small ideas lead to big returns as the team keep on finding the solutions.	Formal process

R 30	Define work tasks that facilitate the team to explore and come up with new ideas.	Formal process
R 30	Must have a good mechanism to help these ideas to find good partners. Or else ideas will remain as ideas.	Formal process
R 30	Hold meetings to encourage everyone to share their ideas. Including the business partners	Formal process
R 30	Define joint accountability with the business unit to take the idea further	Formal process
R 30	Good structure is important. Flat and not hieratical. Centralised the core function. Decentralise the unit to be closer to business so they can promote joint innovation.	Formal process
R 30	Implement processes that make it easy for people to ask for help and get help.	Formal process
R 32	The organization has a well-defined process of in-house open innovation. This is coupled with using selective employees as "innovation champions" plus tiered-competitions.	Formal process
R 32	Good internal campaign to generate awareness and buy-ins	Formal process
R 32	Well matured, transparent process to award the idea winners	Formal process
R 32	The process also called for implementation and brought the idea generators close to the developers. The implementation teams from the business units are generally ready to roll out the innovation.	Formal process
R 32	Support from the executives of the business units means that ideation to implementation can be support. Opex and capex are also allocated.	Formal process
R 32	Flat and decentralized structure means that once there buy-ins are generated, all units can drive their processes independently. Drivers of each phase of the innovation value-chain have the autonomy. Such combination of practices makes the innovation possible and shortens the time to market.	Formal process
R 32	Always worried about the time to market! Use MVP approach.	Formal process
R 32	Even though my team deal with the day-to-day processes, we are continuously looking into ways to innovate the processes	Formal process
R 32	My team deals with some platforms that provide the core functions for the organisation. These platforms cannot be changes too frequently. However, we are still constantly looking for better way of doing things. It is part of the DNA of the team.	Formal process
R 32	Have best practices to know when and what to innovate. Also, know when it is important to play safe. For example some of the core function must be stable, robust and not to be touched all the time.	Formal process
R 32	The best practices should also ensure that the team knows which style of innovation suits which business function the most. Some business functions required the support to embark of disruptive innovation. Some business functions only need incremental innovation.	Formal process
R 32	When comes to renewing the process or improving the products, there is not a blueprint across the whole organisation. The organisation must allow each units to adopt their own practices instead of imposing specific methods. Rather encourage people to adopt a certain type mind set, behaviours and culture.	Formal process
R 34	Our organogram is dynamic. Flat structure.	Formal process
R 34	Every single week, collect feedback, formalised validation and prioritise tasks ahead.	Formal process
R 34	Different types of innovation required. Different innovation portfolios for different units. Hence different strategies. Above all, emphasize on building a norm conducive for innovation.	Formal process
R 34	Set the right expectation. So you team knows what you are expecting of them.	Formal process

R 34	Innovation does not always have to search for blue ocean. Incremental innovation can be valuable. Sometimes, incremental innovation may lead to a hurdle that with a bit more effort, the process lead to disruptive innovation.	Formal process
R 22	NPD team incentivised to create new products	Incentives
R 23	Inspiring excellence: Companywide Innovation competition. Categories – Process improvement, New product development, Technical efficiency: 1. All managers has to submit (they can form teams with staff) 2. Any employee can submit Inspiring excellence process: 1st round – Concept submission 2nd round – Presentation to business unit exco 3rd round – Build business model Exco 4th round – Put together prototype with help from assigned	Incentives
R 8	Innovator of the month IT specific competition – Related to cost reduction, continuous improvement - Monetary prize for winner	Incentives
R 31	Incentive policy linked to innovation is currently being designed	Incentives
R 12	Annually top ideas recognised - Monetary	Incentives
R 27	Innovation challenge – Dedicated teams made up of cross-functional departments to vet ideas. (Electronic platform to submit ideas) (3 prizes of monetary value)	Incentives
R 2	Reward people who innovate something awesome	Incentives
R 7	Must be able to measure it and assign to people in their KPIs.	Incentives
R 9	Any bright ideas will be welcome. There is an innovation panel. Reward for the wining ideas range from a few thousands to R0.5mil	Incentives
R 13	Tired competition process to encourage open innovation. Unit rewards good ideas. Then winning ideas compete with other ideas within the business function. Then winning ideas compete in the over organization competition. Different levels of rewards are allocated to the winners.	Incentives
R 18	Construct good KPIs with appropriate room for playing around. Reward and recognition to match the effort.	Incentives
R 28	We should include innovation in the KPIs in the future. Innovation should be everyone's job. However, it is perhaps easier said than done.	Incentives
R 30	Use tiered-competition with good reward and recognition to attract ideas, and encourage implementation. Sometimes rewards are not just about money. Allowing flexible working time and giving additional leave days' work well too.	Incentives
R 6	Drive innovation through corporate branding and awareness	Internal process
R 31	Ideation system (web based innovation system) being design and developed at the moment	Internal process
R 2	Focus strongly on skill development. In house development capability.	Internal process
R 5	Proper change management but also be implemented to prevent the chaos as the result of innovation or intrapreneurship.	Internal process
R 7	Try to promote in house implementation	Internal process
R 11	All units and divisions are different in their needs to innovate. Each may need slightly different process to assist them. Organisation must find processes to suit the context of their units and provide necessary support.	Internal process
R 11	Same human resource to be dedicated to the implement of innovation is often be tasked with maintaining day-to-day work. Hence, a KPI conflicts unless resolved. Who is going to do the work if someone's function is been shift. Looking into	Internal process

	outsourcing. Nevertheless, bureaucracy and rigid organisational policies may not allow this.	
R 32	Eradicated unnecessary internal politics to reduce the tension.	Internal process
R 20	Initiator owns ideas – Owner forms part of full cycle – securing money from BU project funding pool is the owners responsibility	Intrapreneurial
R 23	Inspiring excellence: Companywide Innovation competition. Categories – Process improvement, New product development, Technical efficiency: 1. All managers has to submit (they can form teams with staff) 2. Any employee can submit Inspiring excellence process: 1st round – Concept submission 2nd round – Presentation to business unit exco 3rd round – Build business model Exco 4th round – Put together prototype with help from assigned	Intrapreneurial
R 23	Full time R&D lab team: 25 pax (MBA's, PHD's, Actuaries) – Job spec is to build concepts and present on a weekly basis to Exco. R&D part of innovation strategy – Build concepts and prototypes.	Intrapreneurial
R 23	Annual tech conference: Review technology ideas e.g. machine learning, Open API's. Prize R250k prize – The price is in the form of a trip to any technology location in the work.	Intrapreneurial
R 12	Formal process technology linked – Accelerator hubs 1. Open to public to come and incubate tech start-ups 2. Bank can then buy into idea	Intrapreneurial
R 27	Capital market division: source innovative products overseas, and license in SA	Intrapreneurial
R 14	Part of all staff KPI's needs to come up with innovation concepts	Intrapreneurial
R 29	IS Labs = Acquire equity in external submitted ideas if concept forms part of companies technology roadmap	Intrapreneurial
R 33	10% weekly work load to dedicate on own projects and improvements	Intrapreneurial
R 17	CIO responsible to lead Innovation sensing outside of company (related to technology)	Intrapreneurial
R 35	Group level innovation fund setup to fund innovative ideas divided into divisions as per ideas are posted - (Fund more of an enabler than prize money)	Intrapreneurial
R 13	Hence, a flat organisational structure helps. The head of the business have been empowered to run the business like entrepreneurs. This helps the speed up things.	Intrapreneurial
R 18	Some of the by-products can be sold to other partners. Such as FICA	Intrapreneurial
R 3	Customer/partner interaction sessions (Product road map sessions)	Learning
R 25	IT steering committee: Meet on quarterly basis (CEO of business involved – Three main business unit leaders involved). Discuss innovation to assist various divisions – cross functional skills within the business	Learning
R 17	Solutions team: Help business be innovative, experiment with new technology e.g. Business Intelligence, Driving efficiencies, and improving business process workflow	Learning
R 7	It TAKES time! In addition, effort.	Learning
R 9	Attend conferences and workshop to learn what is out there. Get people to see what other people are doing! Know what others are doing is important.	Learning
R 13	Some employees are been trained and task to facilitate innovation.	Learning

R 19	Keep abreast with the latest innovation management process out there.	Learning
R 26	Train IT manager to become internal consultants who can bridge the gaps between IT capabilities and business needs.	Learning
R 26	Create workshops and awareness event	Learning
R 32	Train my people	Learning
R 22	New product offering (Development) process: Various business units must create new products on annual process, through R&D labs	New product development
R 23	Full time R&D lab team: 25 pax (MBA's, PHD's, Actuaries) – Job spec is to build concepts and present on a weekly basis to Exco. R&D part of innovation strategy – Build concepts and prototypes.	New product development
R 23	Annual tech conference: Review technology ideas e.g. machine learning, Open API's. Prize R250k prize – The prize is in the form of a trip to any technology location in the work.	New product development
R 35	Innovation hub – Established to vet and test submitted innovation ideas – (4 resources assigned to innovation hub)	New product development
R 18	EVERYTHING as a service.... In addition, services must be good. Keep improving the services also lead to incremental innovation.	New product development
R 23	Inspiring excellence: Companywide Innovation competition. Categories – Process improvement, New product development, Technical efficiency: 1. All managers has to submit (they can form teams with staff) 2. Any employee can submit Inspiring excellence process: 1st round – Concept submission 2nd round – Presentation to business unit exco 3rd round – Build business model Exco 4th round – Put together prototype with help from assigned	Openness
R 25	IT steering committee: Meet on quarterly basis (CEO of business involved – Three main business unit leaders involved). Discuss innovation to assist various divisions – cross functional skills within the business	Openness
R 31	Not everything can be conducted internally so we have and continually creating an innovation ecosystem of partners and alliances (locally and internationally)	Openness
R 12	Formal process technology linked – Accelerator hubs 1. Open to public to come and incubate tech start-ups 2. Bank can then buy into idea	Openness
R 27	Innovation challenge – Dedicated teams made up of cross-functional departments to vet ideas. (Electronic platform to submit ideas) (3 prizes of monetary value)	Openness
R 33	Hackathon events: Every quarter – reward for new ideas (Full day sessions)	Openness
R 2	Anyone with idea can send to Head of Innovation – Openness to all employee	Openness
R 7	In the beginning, no idea is too small. (Open innovation). However, find ways to gradually improve the quality of the ideas received. Through advocacy, awareness and training	Openness
R 9	Both open and centralised innovation programmes	Openness
R 8	Technology awareness days – Vendors display current products to management that is in place. This drives user uptake and stimulates innovation – Through ensuring all employees understand system landscape	Openness
R 20	Relay innovation benefits back into organisation	Openness

R 24	Do not just think about ICT as innovation. Process, product, branding... Etc.	Openness
R 28	Sourcing external support can become helpful	Openness
R 22	Quarterly stand-up session with CEO, CFO: Any employee can pitch idea – Decision on road ahead gets made right there and then – Full day booked out of their diaries any employee can book a slot	Openness
R 29	IS Labs = Acquire equity in external submitted ideas if concept forms part of companies technology roadmap	Openness
R 35	Collaboration between departments once a quarter – Bounce ideas amongst one another	Openness
R 31	Not everything can be conducted internally so we have and continually creating an innovation ecosystem of partners and alliances (locally and internationally)	Partnerships
R 27	Word federation of exchanges: very focused around regulation, stock exchanges use this as platform to exchange ideas including innovation.	Partnerships
R 29	IS Labs = Acquire equity in external submitted ideas if concept forms part of companies technology roadmap	Partnerships
R 7	Have good partners. Some are good for incremental innovation. Some are for disruptive. Nevertheless, if most employees can just do the core innovation right, it will generate big impact. Then disruptive ones will follow.	Partnerships
R 9	Establish partnership with other companies and use their innovation	Partnerships
R 9	Procure other companies	Partnerships
R 18	Collaborate with many stakeholders. Vendors, start-ups, business units, executives	Partnerships
R 19	Innovation live inside the organisation. Rely on your people more.	Partnerships
R 24	Different part of the business needs different touches. The right external partners can be important. For example, if it is about innovating your CSI, then collaborating with NGOs will be important	Partnerships
R 1	Interviewee stated that the lack of innovation might be the reason for companies poor performing share price	Poor performance
R 8	Huge cost saving driving wrong behaviour (Current situation)	Poor performance
R 28	The R&D unit has been invited to partake in the process. Nevertheless, a bit of internal conflict at the moment as the integration between open ideation and R&D unit isn't well defined.	Poor performance
R 3	Customer/partner interaction sessions (Product road map sessions)	Relationship building
R 7	Find a way for customer to do the work for you.	Relationship building
R 13	The buy-in from ALL levels will be important. Not just about from the top.	Relationship building
R 16	Relative flat structure helps people to innovate. Help people to hold discussion and have autonomy.	Relationship building
R 16	Secondment IT people to be closer to business people. Try to minimize the segregation of employees from different functions.	Relationship building
R 18	Leverage others internal and external partners to make customer's life easier	Relationship building
R 19	Take a lot of resource to take the innovation to the market. One must consider the risk.	Risk taking
R 28	Innovation required risk taking. Innovation strategy must take risk but find ways to reduce risks.	Risk taking
R 33	Hackathon events: Every quarter – reward for new ideas (Full day sessions)	Simplify technology
R 17	CIO role focused on technology part of innovation within the firm. The innovation side of technology reports into CInO	Simplify technology

R 20	Initiator owns ideas – Owner forms part of full cycle – securing money from BU project funding pool is the owners responsibility	Start-up approach
R 29	<p>Research and Innovation department – Research technology with a time to market view of 18 months to 5 years.</p> <p>Department rates opportunities, then top ones get selected for proof of concept</p> <p>Incubation division receives concepts from Research and Innovation department to build business case and commercialise concepts</p> <p>Team Size: Research and Innovation = 7 people Incubation = 15 people</p>	Start-up approach
R 16	Encourage the process for the team to behave like a start-up	Start-up approach
R 3	Adaption of technology across various software and hardware ranges (Generated by Innovation Hub) – Linked to core software products as per company strategy. With a focus on SA\Developing country requirements	Strategic alignment
R 4	Formal strategy linked to logistics engineering department	Strategic alignment
R 22	NPD also forms party of idea generation strategy linked to headline innovation strategy	Strategic alignment
R 6	Six core company values: One is innovation pillar	Strategic alignment
R 6	IT strategy aligned with continuous improvement - Purchase new systems	Strategic alignment
R 8	Innovator of the month IT specific competition – Related to cost reduction, continuous improvement - Monetary prize for winner	Strategic alignment
R 10	Technology enhanced learning a big focus of the institution	Strategic alignment
R 31	Company has an innovation strategy and division in place: Key focus areas and priorities established (incremental vs game changing and radical)	Strategic alignment
R 17	<p>Innovation strategy 2 tiers:</p> <p>Current: Project team</p> <p>1-2 years: Solutions team</p> <p>3-5 years: CIO & CInO</p>	Strategic alignment
R 35	Collaboration between departments once a quarter – Bounce ideas amongst one another	Strategic alignment
R 2	Ideas are selected if they are aligned with the strategy	Strategic alignment
R 2	Align with strategy and break horizontal silos	Strategic alignment
R 7	Align with strategy and develop roadmap.	Strategic alignment
R 7	Do not use complicated strategy. If need be, have innovation champions to assist you.	Strategic alignment
R 7	Innovation portfolio must fit in with strategy. The ideas generated must be able to compete with other strategic ideas. By means of innovation, it means displacing some another ideas.	Strategic alignment
R 13	Time to market is important. Process must be able to fast track the whole value chain.	Strategic alignment
R 13	The process must ensure longevity and sustainability.	Strategic alignment
R 16	First principle touch the strategy	Strategic alignment
R 18	Methods to break silos. Bringing business with IT guys – closer	Strategic alignment
R 19	Innovation must align with the strategy. Often we witness managers drag the organisation bank down the path, which is not align with the strategy. Innovation must be there to support and magnify the success of strategy. Instead of derailing the strategy.	Strategic alignment

R 19	Can take form of the growth initiatives or strategic initiative. However, whatever the form it takes, must be agile, fast, efficient and implementable.	Strategic alignment
R 24	Different units may need different strategies.	Strategic alignment
R 24	Strong alignment with the organisational strategy	Strategic alignment
R 26	To align with strategy	Strategic alignment
R 28	Innovation strategy must be integrated into the company and align with corporate strategy.	Strategic alignment
R 3	Horizon 1,2,3 plan: Improving legacy software (H1) Growth strategy (H2,3)	Strategy skills
R 17	CIO role focused on technology part of innovation within the firm. The innovation side of technology reports into CInO	Strategy skills
R 7	Always consider what can be delivered to whom and how can you make profit along the way. (Profit – both financial and non-financial)	Strategy skills
R 23	Annual tech conference: Review technology ideas e.g. machine learning, Open API's. Prize R250k prize – The price is in the form of a trip to any technology location in the work.	Technical skills
R 29	<p>Research and Innovation department – Research technology with a time to market view of 18 months to 5 years.</p> <p>Department rates opportunities, then top ones get selected for proof of concept</p> <p>Incubation division receives concepts from Research and Innovation department to build business case and commercialise concepts</p> <p>Team Size: Research and Innovation = 7 people Incubation = 15 people</p>	Technical skills
R 12	<p>Formal process technology linked – Accelerator hubs</p> <ol style="list-style-type: none"> 1. Open to public to come and incubate tech start-ups 2. Bank can then buy into idea 	Think out the box
R 22	Quarterly stand-up session with CEO, CFO: Any employee can pitch idea – Decision on road ahead gets made right there and then – Full day booked out of their diaries any employee can book a slot	Top team buy-in
R 23	<p>Inspiring excellence: Companywide Innovation competition. Categories – Process improvement, New product development, Technical efficiency:</p> <ol style="list-style-type: none"> 1. All managers has to submit (they can form teams with staff) 2. Any employee can submit <p>Inspiring excellence process:</p> <ol style="list-style-type: none"> 1st round – Concept submission 2nd round – Presentation to business unit exco 3rd round – Build business model Exco 4th round – Put together prototype with help from assigned 	Top team buy-in
R 23	Full time R&D lab team: 25 pax (MBA's, PHD's, Actuaries) – Job spec is to build concepts and present on a weekly basis to Exco. R&D part of innovation strategy – Build concepts and prototypes.	Top team buy-in
R 25	IT steering committee: Meet on quarterly basis (CEO of business involved – Three main business unit leaders involved). Discuss innovation to assist various divisions – cross functional skills within the business	Top team buy-in
R 2	High-level buy-in and their time to be involved. Important	Top team buy-in
R 7	The innovation team must work closely and be supported by c-officers and executive managers.	Top team buy-in

R 11	Process for top management to fast track a good idea is important. Such as prioritizing, increase urgency, giving people time to work on the problem, allocate resource (funding, time, HR) and give strategic guidance.	Top team buy-in
R 19	Scale rapidly needs the organisation to support and catapult the progress. Top management support is important.	Top team buy-in
R 24	Having the upper executive buy in works well.	Top team buy-in
R 28	Exco's involvement is crucial.	Top team buy-in
R 32	Works well because it was driven from the CEO and supported by all levels.	Top team buy-in
R 2	Must understand what business wants!	Understand your customer
R 7	Some innovation must be launched within short period. Or else miss the market. Competitors catch up very quickly. Whereas some innovation must be considered for long term. Therefore, the innovation portfolio matrices must be carefully considered.	Understand your customer
R 24	Select the right people for the right implementation.	Understand your customer
R 7	Most of the ideas must be customer centric. However, some can improve organisation. It does not mean that an idea may not be disruptive, therefore we should discard it. Some small ideas increase profit. Sometimes combine small ideas, it generates big impact.	Understand your customer
R 9	However, a good ecosystem with its distributors and business partners so we can understand the pains, wishes and needs of our customers.	Understand your customer
R 18	Know your customers' processes and adopt Dev ops	Understand your customer
R 28	Institute the practice of understanding the client's needs and life cycle. Innovation strategy must be client-centred.	Understand your customer
R 30	People who face the customers come up with the best idea. Make sure the team speaks with customers often.	Understand your customer
R 34	Constantly on the lookout of the competitors and the needs of the customers.	Understand your customer

APPENDIX C - INTERVIEW QUESTION TWO A: RESULTS

Respondent	Response	Theme
R 21	Waterfall may not work as well. Adopt agile. However, if the organisation has the “waterfall” innovation mind-set, then agile will not work well. Therefore needs to help the leaders of the organisation to change their mind-set.	Agile
R 28	Communicating about the importance of innovation and success with the employees all the time. However, this also compete with other corporate messages. Employees may be too tired to read so many long emails. Still have to do it.	Capacity
R 2	Lead by example: Visibly of the Head of innovation. Must have constant interaction with different functional heads and staff.	CInO leadership
R 11	No short cuts. It takes a long time and effort to create a culture and competency. Process and effort to assist people to understand the urgency must be continuously invested. Visions must be consistently articulated.	CInO leadership
R 19	Get the right people into the team. They will diffuse the spirit of innovation to other people. Enforce with good formal practices, policies as well as leadership and build a good culture. Then those who do not fit in will leave.	CInO leadership
R 19	Driving the team to think differently and have an attitude suitable for innovation. It is an incremental day-by-day process.	CInO leadership
R 19	Keep remember that your intention is make the organisation more innovation. Very moment counts.	CInO leadership
R 21	Motivate people to converse in ways that encourage innovation	CInO leadership
R 32	Encourage people to adopt a certain type mind set, behaviours and culture.	CInO leadership
R 32	Motivate everyone to love innovation. Want to innovate.	CInO leadership
R 32	Managers’ behaviours are always visible. Therefore, we must do what we said. People will follow.	CInO leadership
R 32	Constantly motivate my team to think and to lead themselves	CInO leadership
R 31	Frequent meetings and discussions	Communication
R 31	Definite collaboration	Communication
R 9	Increase social activities and sponsored social gathering but focus on talking about innovation	Communication
R 1	New people try to implement innovation but company culture quickly shuts it down	Company culture
R 1	Culture does not support innovation thus employees not open to share ideas	Company culture
R 20	Sourcing ideas external, reading newspaper – Following what competitors are doing	Company culture
R 3	R&D teams build solutions on own initiative	Company culture
R 3	Employees are constantly looking to improve current processes	Company culture
R 4	Culture of innovating, moving forward and exploring new ideas	Company culture
R 22	Involvement though communication process: Continuous improvement process (Aligned with six-sigma principle): Top down bottom up process 15 min stand-up session daily. Workflow to continuous improvement process team – Responsible Executive incentivised on cost savings	Company culture
R 8	Culture of reading up on what is “sexy” – Awareness of new technology	Company culture
R 25	Culture of continuous improvement learning from other divisions	Company culture
R 10	Institution has a culture of employing self-thinkers	Company culture

R 10	Innovative culture embedded into institution	Company culture
R 31	Energy levels and enthusiasm especially high with young engineers and scientists	Company culture
R 17	Innovative culture (Pockets of business in pockets News, Radio)	Company culture
R 17	Open door policy	Company culture
R 35	Formal so strong informal not present	Company culture
R 2	Must hold activities to encourage people to think differently. Internal marketing to advocate employees to innovate. Encourage people to talk about how to make process better	Company culture
R 11	Promote a culture of improvement. Creating and exercising the full value-chain of innovation become very one's job. Help people to find ownership	Company culture
R 11	Have the urgency to launch the appropriate action. Also, have the patience to wait for the reward.	Company culture
R 13	IC can be regarded as a cost centre and just merely about supporting other business. The attitude towards technology must change. Organization must begin to recognize ICT can catalyse the competitiveness of all business unit. Managers must treat CIOs like strategic business partners. Then again, the CIOs must also go out and create relationship.	Company culture
R 13	Institute a culture of constant improvement / doing better	Company culture
R 19	Create a good atmosphere. Not just about having funky furniture!	Company culture
R 21	Change can only be effective if the organization can sustain. Find ways to build sustainable innovation culture and processes.	Company culture
R 26	Building a culture of responsible innovation. At times, innovation can be a buzzword. The process may be fun to have. However, not leading to impact. Must attempt to reduce the urge of creating innovation for the sake of thinking that there is an innovation practice	Company culture
R 26	No formal innovation framework can capture how to build innovation spirit. Leaders must endorse and behaviour accordingly.	Company culture
R 28	Transforming and build an innovation culture. Nevertheless, it is not an overnight task.	Company culture
R 18	Must remember you and your team are here to serve the business owners. Important mentality.	Cross-Functional
R 32	Consult other units and seek their input.	Cross-Functional
R 12	Removing the fear to fail – Initiative ran by technology team, encouraging people to fail – Each member need to come up with three ideas – Idea to stimulate technology innovation	Fail fast
R 16	Drive the pace, quickly. Made decision, quickly.	Fail fast
R 19	Having a manager to create the space for the team to succeed. A good manager must find means to clear hurdles for the team. Create room for failure.	Fail fast
R 19	Understand that if the team does not experience any failure, the team is NOT pushing the boundary at all.	Fail fast
R 30	Happy to fail. Happy to try	Fail fast
R 22	Normal workers use Involvement though communication process for claim to fame, can advance in career, can win prizes (laptops, training)	Incentives
R 1	Social conversations around innovation	Informal process
R 1	Culture does not support innovation thus employees not open to share ideas	Informal process
R 20	Business facing resources will get hold of an idea and run with it by engaging with vendors to make it happen	Informal process

R 20	Sourcing ideas external, reading newspaper – Following what competitors are doing	Informal process
R 20	Problem: Guys trying to find solutions but they do not realise the problem	Informal process
R 3	Company mission: Innovate through the imagination of our people	Informal process
R 3	R&D teams build solutions on own initiative	Informal process
R 3	Employees are constantly looking to improve current processes	Informal process
R 4	IT Department, pow wow sessions	Informal process
R 4	Culture of innovating, moving forward and exploring new ideas	Informal process
R 22	Involvement through communication process: Continuous improvement process (Aligned with six-sigma principle): Top down bottom up process 15 min stand-up session daily. Workflow to continuous improvement process team – Responsible Executive incentivised on cost savings	Informal process
R 22	Normal workers use Involvement through communication process for claim to fame, can advance in career, can win prizes (laptops, training)	Informal process
R 6	Pockets of innovation where employees brainstorm concepts around: new products and continuous improvement in order to move business forward	Informal process
R 23	Spaces designed to promote innovation, and out of the box thinking – Design elements touches on visual side and is focused on creating an environment for being creative	Informal process
R 23	Lunch time relax – Pair two random employees for lunch, cross pollinate ideas	Informal process
R 8	Attend conferences to stimulate innovative behaviour	Informal process
R 10	Knowledge sharing principles amongst institutions	Informal process
R 10	Conference attending culture	Informal process
R 14	Office working lunch sessions – Invited external speakers come in to discuss new trends and technologies	Informal process
R 17	Food court – Exchange ideas	Informal process
R 17	Informal approach to vetting ideas – Done through CIO & CInO having informal conversations with subject matter experts in the business	Informal process
R 18	Not enough informal activities.	Informal process
R 18	Not enough frequent and consistent informal activities to break down the silos	Informal process
R 24	Find ways to reuse resources or combine resources	Informal process
R 24	Help people to adopt different thinking; design thinking, system thinking, and creative thinking.	Informal process
R 24	Find ways to probe people to think about their current situation differently	Informal process
R 24	Build internal network of collaborators.	Informal process
R 26	Persistence in creating informal dialogues between IT team and the business teams.	Informal process
R 26	Need to help the ICT team members to learn to influence others	Informal process
R 28	Informal organization, the shadow side of the organization, is an enormously powerful vehicle. Leaders must try to catalyse informal conversation amongst the employees to produce more innovation	Informal process
R 34	The “innovation strategy” can only take the team to a level. Without a good informal support, the team cannot be productive.”	Informal process
R 34	Remove egos in the team.	Informal process
R 34	Entrenching the business people with tech awareness and acceptance. Advocate the importance of tech. However, advocate the importance of collaboration even more.	Informal process

R 34	Help people to move out the old mind set.	Informal process
R 34	Find the cheapest yet effective solutions to mitigate the problem. Sometimes, solutions do not have to be fancy. By holding this philosophy, the team can be creative.	Informal process
R 34	Emphasize on building a norm conducive for innovation.	Informal process
R 34	Leading by walking around. Have visibility. Be approachable.	Informal process
R 34	Empower the team. Give juniors space to growth and allow them to fail. Give seniors the opportunities to assist others and to shine. Help the team to take accountability and respond to problems maturely and professionally. Build the team so you can be 100% confident that if the manager steps away, the team will go on and support one another. However, always know how things are so you know when to step in, or when to ask someone to step up.	Informal process
R 33	Openness, any person can approach CIO and pitch concept – if the concept is good then it will become a project	Internal process
R 21	Reduce the attitude of “this is NOT my job”. Innovation is everyone’s job.	Internal process
R 21	Innovation is a long journey. Leaders must take their people along. Informal influences and build the spirit will be critical.	Internal process
R 3	R&D teams build solutions on own initiative	Intrapreneurial
R 3	Employees are constantly looking to improve current processes	Intrapreneurial
R 22	Normal workers use Involvement through communication process for claim to fame, can advance in career, can win prizes (laptops, training)	Intrapreneurial
R 6	Pockets of innovation where employees brainstorm concepts around: new products and continuous improvement in order to move business forward	Intrapreneurial
R 6	Regional resources come up with solutions to improve service delivery	Intrapreneurial
R 10	Various ongoing Individual research efforts	Intrapreneurial
R 31	Ideas are always welcome and everyone is expected to find better more improved ways of conducting their functions	Intrapreneurial
R 31	Open door policy encourages risk taking and innovation	Intrapreneurial
R 8	Culture of reading up on what is “sexy” – Awareness of new technology	Learning
R 25	Culture of continuous improvement learning from other divisions	Learning
R 31	Participation at workshops, conferences etc.	Learning
R 14	Office working lunch sessions – Invited external speakers come in to discuss new trends and technologies	Learning
R 7	Training people how to think, how to articulate their ideas and how to observe.	Learning
R 13	Give people the room to interact. Not telling people how to interact. However, give people the ability to think about innovation. Toolkit to hold helpful discussions.	Learning
R 16	Involve people in setting up the detail. Empower people to have visions.	Learning
R 18	Must educate IT team to know who the business owner for what area of work is. So they can pitch to the right stakeholders	Learning
R 24	Learn as you go. Adapt while you are implementing the innovation strategy. Not strategy is perfect.	Learning
R 28	Implement fun events to articulate and enforce the messages.	Learning
R 23	Spaces designed to promote innovation, and out of the box thinking – Design elements touches on visual side and is focused on creating an environment for being creative	Openness
R 23	Lunch time relax – Pair two random employees for lunch, cross pollinate ideas	Openness

R 31	Ideas are always welcome and everyone is expected to find better more improved ways of conducting their functions	Openness
R 31	Open door policy encourages risk taking and innovation	Openness
R 27	Vendor open days to demo products – to discuss product road maps and related technology	Openness
R 33	Openness, any person can approach CIO and pitch concept – if the concept is good then it will become a project	Openness
R 17	Food court – Exchange ideas	Openness
R 28	Regular top down communication is important.	Openness
R 4	IT Department, pow wow sessions	Openness
R 22	Involvement though communication process: Continuous improvement process (Aligned with six-sigma principle): Top down bottom up process 15 min stand-up session daily. Workflow to continuous improvement process team – Responsible Executive incentivised on cost savings	Openness
R 29	Technical leadership forum – Get speakers in to present topics. Idea is to get staff to listen and entice conversation around topics and innovation in general (Attempt to foster communication)	Openness
R 17	Informal approach to vetting ideas – Done through CIO & CInO having informal conversations with subject matter experts in the business	Openness
R 10	Institution has a culture of employing self-thinkers	Personal traits
R 10	Innovative culture embedded into institution	Personal traits
R 31	Energy levels and enthusiasm especially high with young engineers and scientists	Personal traits
R 23	Lunch time relax – Pair two random employees for lunch, cross pollinate ideas	Relationship building
R 31	Definite collaboration	Relationship building
R 29	Technical leadership forum – Get speakers in to present topics. Idea is to get staff to listen and entice conversation around topics and innovation in general (Attempt to foster communication)	Relationship building
R 17	Open door policy	Relationship building
R 13	Build reputation so CIO and his/her team can start advising business units. Build collaboration and trust relationship.	Relationship building
R 30	Diffuse the work ethos that encourage employees to support one others	Relationship building
R 30	Collectively as a team, learn to give up smartly	Relationship building
R 30	Informally reinforce people's purpose and align their focus; because only when you are focus, you can know the problem in depth	Relationship building
R 20	Business facing resources will get hold of an idea and run with it by engaging with vendors to make it happen	Risk taking
R 24	Spend time to convince people to take risk and ignite their curiosity	Risk taking
R 25	Continuously looking to automate manual processes	Skill development
R 10	Knowledge sharing principles amongst institutions	Skill development
R 14	Office working lunch sessions – Invited external speakers come in to discuss new trends and technologies	Skill development
R 25	Continuously looking to automate manual processes	Strategic alignment
R 9	Align with the right stakeholders and build understanding	Strategic alignment
R 13	Having the attitude of constantly looking for ways to deliver faster and better. Increase the urgency and be more tactical.	Strategic alignment
R 21	Stronger ties with technopreneurs	Strategic alignment
R 11	Leaders should be matured enough to realize that they do not always have to come up with the answers. Their jobs are to help	Strategy skills

	employees to come up with great questions and solutions align with organisation's strategy. Leaders must practice the "Not-Knowing" philosophy.	
R 27	Vendor open days to demo products – to discuss product road maps and related technology	Technical skills
R 19	Work with users! Customers in the driving seat! Customer co-creation	Understand your customer

APPENDIX D - INTERVIEW QUESTION TWO B: RESULTS

Respondent	Response	Theme
R 2	Informally help my team and other staff to explore new ways. But first only after you understood the process	Business skills
R 2	Get the right people on the bus – hiring the right people. It is easier to innovate when you start hiring the innovative people.	CInO leadership
R 7	Articulate the vision informally.	CInO leadership
R 24	Able to influence or know whom to leverage.	CInO leadership
R 24	Bring in new ideas / freshness to be introduced / keep things interesting /	CInO leadership
R 20	Hype created around Cloud 9, new life in organisation	Communication
R 22	Cross functional innovation \ continuous improvement teams join up in new product offering & Involvement though communication initiatives	Communication
R 17	Open door policy – Anyone can approach solutions team or CIO\CInO	Communication
R 9	Enhance informal knowledge sharing – harnessing the sharing of tactic knowledge. Encourage alternative methods of input.	Communication
R 20	Safe environment to innovate, no one gets judged – All ideas are welcome	Company culture
R 23	Company time allocated to promote innovation	Company culture
R 7	Good PR to informally influence and educate people. Fun PR activities.	Company culture
R 7	Innovation is ABOUT people interaction. Even when an idea is rejected, talk to people why so they can improve the idea. This also increases people's support	Company culture
R 7	Culture of specialisation hurts organization. Specialisation hurts innovation. At least not to run units in silo. So all units know one another's business.	Company culture
R 23	Annual discovery hackathon: Invite top IT students from SA universities, 4-day prototype building sessions (days) and competition. Discovery employed 21 of the students that partook in the 2014 event	Cross-Functional
R 17	Cross functional workshops setup by solutions team to explore submitted concepts	Cross-Functional
R 7	Understand the psychology of your people and the psychology of your customers.	Cross-Functional
R 28	Let employees know that when comes to innovation, if they fail but tried hard, it is ok.	Fail fast
R 4	No formal process, staff approach innovation leaders and logistics engineering department – Embedded in culture	Formal\Informal Interplay
R 22	Align people – remove organisational silos	Formal\Informal Interplay
R 6	Business improvement committee established to create link between the two formal\Informal organisation	Formal\Informal Interplay
R 23	R&D lab pull on cross functional groups	Formal\Informal Interplay
R 8	IT workshops to display new technology	Formal\Informal Interplay
R 25	Nothing in place	Formal\Informal Interplay
R 31	Innovation Division established to coordinate all innovation activities	Formal\Informal Interplay
R 27	None	Formal\Informal Interplay

R 14	Innovation committee	Formal\Informal Interplay
R 29	IS LABS = submit ideas, any person can submit	Formal\Informal Interplay
R 33	Idea factory where people could contribute ideas	Formal\Informal Interplay
R 35	Technology specific: Hackathon open to internal teams – App develop teams. Monetary price vouchers Top ideas presented to Exco – Top ideas gets selected and executed	Formal\Informal Interplay
R 5	One needs to promote the mindset of continual improvement. As the pursuit of improvement, create the desire to innovate.	Formal\Informal Interplay
R 5	Have a good platform to assist employees to engage with one another. Beyond just the e-platform.	Formal\Informal Interplay
R 5	Engage and increase communication with employees informally through social media. Promote continual improvement through social media	Formal\Informal Interplay
R 11	Innovation required disruptive thinking. It is a social process. Training and PR work to help people to come up with great ideas is important. It is equally important to create the “implementation culture”	Formal\Informal Interplay
R 11	Help employees to hold helpful conversation with one another. Help them to inspire and challenge one another. Help them to hold collaborative conversations.	Formal\Informal Interplay
R 11	Teach and encourage employees to think.	Formal\Informal Interplay
R 11	Teach people self-mastery and learning. Need to be trained. Cannot assume people can just innovate.	Formal\Informal Interplay
R 11	Teach people to emphasize create solutions and not creating excuses. Starting from the leaders.	Formal\Informal Interplay
R 11	Provide a platform for them to meet with like-minded people. Supportive platform to top up people’s energy and engagement. Let them feel heard. Growing their passion.	Formal\Informal Interplay
R 13	Help the team to always looking for what is “cool” and “helpful” out there that can be applied in our organisation. Gathering new information and knowledge outside the organization will thus be important.	Formal\Informal Interplay
R 13	Hold each employee accountable so they can contribute directly or indirectly towards innovation.	Formal\Informal Interplay
R 13	Hold the mind set of “all innovation” can be important. NOT just about the transformational ones.	Formal\Informal Interplay
R 13	Help employees and manager to ask good questions, understand customers, unpack a problem and know the operating environment	Formal\Informal Interplay
R 16	The attitude towards innovation must be encouraged every day and with every possible opportunity.	Formal\Informal Interplay
R 16	The culture of innovation mind set already entrenched.	Formal\Informal Interplay
R 16	Encourage employees to adopt entrepreneurial and start-up mind set. Clearly communicate the goals and boundary to prevent unnecessary problems.	Formal\Informal Interplay
R 19	Investment committee wants to see ROI. So constantly have to balance tension between MVP and their expectations. Need to help them understand the process.	Formal\Informal Interplay
R 19	Have big picture in mind but also know how far to push so the investment committee will support your idea.	Formal\Informal Interplay
R 21	Have the leadership depth to allow your people to challenge you	Formal\Informal Interplay
R 21	Encourage your team to ask questions.	Formal\Informal Interplay
R 21	Reduce rigid structure. It can be a big problem.	Formal\Informal Interplay
R 24	Open innovation process must embrace openness, transparency and inclusivity. This is too avoid people thinking that such open innovation process is just another way for managers to play politics.	Formal\Informal Interplay

R 24	Find ways to drive and educate the people within the organization to think about cheaper, better and faster solutions	Formal\Informal Interplay
R 24	Build external network	Formal\Informal Interplay
R 34	Innovation takes time. Build trust with other stakeholders and manage expectations.	Formal\Informal Interplay
R 34	Set up a good innovation value chain. Effective and consistent communication between front line staff, managers, tech guys, executives, clients and other stakeholders will be important.	Formal\Informal Interplay
R 26	Need to help the ICT team to be a bit future savvy. Think about what solutions can help a better tomorrow.	Formal\Informal Interplay
R 26	Cultivate a good team spirit. For decentralised teams, cultivate a team that knows who to hold themselves accountable.	Formal\Informal Interplay
R 20	Cloud 9 innovation facility – Open to entire organisation	Formal\Informal Interplay
R 3	Quarterly ideation process + Product roadmap development. Involves cross functional teams (Sales, Marketing, R&D, Operations)	Formal\Informal Interplay
R 31	Incentive policy	Incentives
R 6	Through internal informal communication	Informal process
R 6	Change management process: Log call with concept	Informal process
R 18	Regular hackathons	Informal process
R 28	Send out the signals and message to encourage everyone to participate in this journey	Informal process
R 4	No formal process, staff approach innovation leaders and logistics engineering department – Embedded in culture	Intrapreneurial
R 14	IS Labs – Assistance to start-up companies (Help to find funding and IS provide free ICT support and guidance) – Aim is to encourage development of local technologies instead of leveraging from overseas products	Intrapreneurial
R 29	IS LABS = Vet ideas and support external submissions through incubation period	Intrapreneurial
R 17	Cross functional workshops setup by solutions team to explore submitted concepts	Intrapreneurial
R 9	Understand the challenges and problem of open innovation works. Get the Right mixed of people in the community.	Intrapreneurial
R 22	Cross functional innovation \ continuous improvement teams join up in new product offering & Involvement though communication initiatives	Learning
R 29	IS LABS = Vet ideas and support external submissions through incubation period	Learning
R 10	Tacit conversations under the radar	Learning
R 17	Interaction with solutions team	Learning
R 10	Innovation leaders connection the dots between brain trust and rest of organisation	Learning
R 23	External experts get involved to assist staff with packaging innovation ideas	Learning
R 35	Technology specific: Hackathon open to internal teams – App develop teams. Monetary price vouchers Top ideas presented to Exco – Top ideas gets selected and executed	New product development
R 14	IS Labs – Assistance to start-up companies (Help to find funding and IS provide free ICT support and guidance) – Aim is to encourage development of local technologies instead of leveraging from overseas products	Openness
R 17	Open door policy – Anyone can approach solutions team or CIO\CInO	Openness
R 20	Safe environment to innovate, no one gets judged – All ideas are welcome	Openness
R 20	Hype created around Cloud 9, new life in organisation	Openness

R 4	No formal process, staff approach innovation leaders and logistics engineering department – Embedded in culture	Openness
R 22	Align people – remove organisational silos	Openness
R 23	R&D lab pull on cross functional groups	Openness
R 10	Tacit conversations under the radar	Openness
R 35	Open door policy – Top down	Openness
R 7	Always informally to assess what you need and who you need in your innovation journey	Partnerships
R 9	Leverage sociophysics – let customers spur on customers. Let friends spur on friends. This creates a good ecosystem.	Partnerships
R 32	Build collaboration through building relationship so the team can guide business units. Be there trusted partners.	Partnerships
R 32	Know who is who; who does what. Having such information allows the team to approach the right people for partnership for the right tasks.	Partnerships
R 32	Ask the team to participate in other people's ecosystem	Partnerships
R 22	Cross functional innovation \ continuous improvement teams join up in new product offering & Involvement through communication initiatives	Relationship building
R 30	Encourage the team to sit with the user and build friendship. Creating trust is the foundation for future innovation.	Relationship building
R 30	Creating a group norm in which all members have a high affinity and passion towards innovation and continual improvement. Then leverage peer pressure to create healthy competition to spur the team members. Very soon, no group member wants to be the one who does not come up with innovative ideas during meetings.	Relationship building
R 7	Make it simple for people to understand and take part.	Simplify technology
R 23	Annual discovery hackathon: Invite top IT students from SA universities, 4-day prototype building sessions (days) and competition. Discovery employed 21 of the students that partook in the 2014 event	Skill development
R 23	Annual discovery hackathon: Invite top IT students from SA universities, 4-day prototype building sessions (days) and competition. Discovery employed 21 of the students that partook in the 2014 event	Start-up approach
R 14	IS Labs – Assistance to start-up companies (Help to find funding and IS provide free ICT support and guidance) – Aim is to encourage development of local technologies instead of leveraging from overseas products	Start-up approach
R 10	Innovation leaders connection the dots between brain trust and rest of organisation	Strategic alignment
R 31	Innovation Committee being established	Strategic alignment
R 14	Technology leadership forum (More product focused)	Strategic alignment
R 24	Understanding how other divisions work. Understand the strategic direction of the organization.	Strategic alignment
R 1	Nothing not part of strategy	Strategic alignment
R 7	Assist people to increase their mind-set on innovation. Assist them to be courageous and take risk. Perhaps even let them try to disrupt the disruptors.	Think out the box
R 8	Present solutions at IT innovation steering committee: Display\Demo new technology to IT stakeholders	Top team buy-in
R 31	Presentation of ideas and solutions at management meetings	Top team buy-in
R 35	Open door policy – Top down	Top team buy-in

R 35	Technology specific: Hackathon open to internal teams – App develop teams. Monetary price vouchers Top ideas presented to Exco – Top ideas gets selected and executed	Top team buy-in
R 7	Always make the c-level look good	Top team buy-in
R 9	From the CEO personally requests ideas from the employees. This is a powerful message. Every level of management strongly support the vision.	Top team buy-in
R 9	To create a culture that inspires excellence. Moreover, customer centric. Promote a “customer-behaviour-driven” type of mind-set.	Understand your customer

APPENDIX E - INTERVIEW QUESTION THREE: RESULTS

Respondent	Response	Theme
R 12	Innovation leader: Companies need to be more agile	Agile
R 12	CIO future embrace change	Agile
R 2	Know how to prioritisation	Agile
R 20	CIO Future – Need to be solid business man – turn technology into business value	Business skills
R 4	CIO of future more rounded and business focused – Needs to understand business levers	Business skills
R 6	CIO of the future must become the business driver	Business skills
R 23	CIO future: selecting correct off the shelf solution and successfully implement (Market differentiator, no longer in bespoke solutions – But how one implements best available technology)	Business skills
R 25	CIO of the future will need to conduct more site visits get out on ground level to understand business from the bottom up	Business skills
R 10	CIO of future: Guide business on technology, fill gap between technology and business	Business skills
R 10	CIO of future: Know your business	Business skills
R 31	Innovation leader must have a lot of business acumen	Business skills
R 27	CIO Future: Need to be business leader (Business Acumen) not traditional techie	Business skills
R 29	CIO Future: Responsibility must change from managing systems to understanding how the user interacts with business process	Business skills
R 29	CIO Future: Needs to add more value to business processes	Business skills
R 17	CIO future: Not a technologist	Business skills
R 35	CIO future: Responsible for creating new revenue streams	Business skills
R 16	They need to be combination of tech skills and business skills	Business skills
R 27	Innovation Leader: Need to have relevant capacity to be an innovation leader (Adequate time)	Capacity
R 2	Taking risk. Focusing on doing things in-house (lean start-up companies) unless necessary or more feasible, do not outsource.	Capacity
R 1	Must be more of a business than technical person	CInO leadership
R 3	Future CIO – Must be client facing	CInO leadership
R 3	Future CIO – Strong IT governance	CInO leadership
R 3	Future CIO – Need to know customer needs more than latest technology fads	CInO leadership
R 4	Entire C-Suite needs to understand technology	CInO leadership
R 4	CIO of future more rounded and business focused – Needs to understand business levers	CInO leadership
R 22	Innovation leader must be able to unlock innovation from team members – using big picture view to achieve this	CInO leadership
R 22	Leader needs to create safe trusting environment – Let people understand its ok to fail at Innovation, not all ideas are winners	CInO leadership
R 22	Must have EQ to guide teams rather instructing – Move away from command and control mentality	CInO leadership
R 6	CIO of the future must lead strategic drive	CInO leadership
R 6	CIO of the future must be disrupter of business process and drive continuous improvement	CInO leadership
R 23	Passion for innovation	CInO leadership

R 23	Intense curiosity	CInO leadership
R 23	Need to question the how and what on an ongoing basis	CInO leadership
R 23	Must love learning new things	CInO leadership
R 23	Continue learning in technology space	CInO leadership
R 23	“Find old process\need and remove complexity” – How do we make a client’s life easier?	CInO leadership
R 8	Innovation Leader: Questions the status que	CInO leadership
R 10	Innovation leader can’t tell people what to do, must influence them into the direction required	CInO leadership
R 10	Innovation leader: Passion for innovation	CInO leadership
R 10	Innovation leader: People must respect you	CInO leadership
R 31	To really become innovation leaders the C-Suite must take turns to wear the CIO cap (With support of technical resources)	CInO leadership
R 12	Innovation leaders makeup: Need to have a strong entrepreneurial flavour	CInO leadership
R 27	CIO Future: Must be innovation leader and have relevant exploratory mind-set	CInO leadership
R 27	CIO Future: Must be strategic not caught up in daily operations (Forward looking)	CInO leadership
R 14	Mining the future – scouting future opportunities	CInO leadership
R 2	CInO must also be proactive approach	CInO leadership
R 2	Articulate what can be achieved. Help the staff and team to envision.	CInO leadership
R 2	Positivity and infuse others with positivity!!!	CInO leadership
R 2	Intrapreneurial	CInO leadership
R 2	Pass on the knowledge. Pass on intrapreneurial spirit	CInO leadership
R 5	Good EQ.	CInO leadership
R 5	Strong passion about innovation.	CInO leadership
R 7	Able to influence others. NOT TO Scare people away	CInO leadership
R 7	Tech skills + business skills + foresight = ability to filter ideas and come up with good ideas.	CInO leadership
R 7	Check blind spot.	CInO leadership
R 7	Understand organisation politics and know how to leverage politics	CInO leadership
R 9	Understand the journey of promoting innovation and its challenges	CInO leadership
R 9	Understand social physics and Collaboration technology	CInO leadership
R 9	Able to make tough decisions. Have both the strategic vision and technical knowledge.	CInO leadership
R 11	Inspiration and influence. The ability to help people to relate to the mission of innovation and form informal accountability for catalysing the process.	CInO leadership

R 11	Comfortable with uncertainty. Comfortable with a messy job description. Love complexity. Tolerance towards VUCA environment.	CInO leadership
R 11	Someone who has the strong domain knowledge but knows a bit about everyone's business. Someone who also knows the customers. NOT a specialist. Therefore, he/she will not default to one specific way of dealing with problems.	CInO leadership
R 11	The ability to use simple action to help others to be more positive, felt engaged, inspired and fuelled-up.	CInO leadership
R 11	No ego. As often this, a CInO catalyse innovation and let someone else take the glory. Job to make others look good. Not about himself or herself	CInO leadership
R 11	No ego also helps the CInO to remove emotion, and practise the philosophy of "not-knowing"	CInO leadership
R 11	A good connector. A good integrator. A good translator.	CInO leadership
R 11	Know who is who in the organization. Know the politics too.	CInO leadership
R 11	Conflict resolution – dealing with people's attitude towards change. Capable of managing conflict and helping people to see different perspectives	CInO leadership
R 11	Understanding change.	CInO leadership
R 11	Understanding the power of bricolage.	CInO leadership
R 11	Perseverance. Good attitude towards failure (a good sense of humour)	CInO leadership
R 11	Understanding human behaviour	CInO leadership
R 11	Reflect. Critical evaluation.	CInO leadership
R 11	Take risk. Proactive	CInO leadership
R 11	Uncover people a bit more. There is another part of people. Not easily shown at the work context. Only then, a CInO can help others to challenges the rules.	CInO leadership
R 11	Sometimes, the misfits are the best innovators. So do not write people off until you are sure. Respect others.	CInO leadership
R 13	Know who to challenge the team to help them to pursue bigger challenges and push the boundary	CInO leadership
R 13	Someone who is excited about innovation and capable of making other excited about innovation.	CInO leadership
R 13	Create a team of people who is passionate about innovation and skilled in making helpful contributions.	CInO leadership
R 13	Someone who can test ones won assumptions. Always wanting to find out more and not holding a preconceived idea/perspective.	CInO leadership
R 13	Respect people and not discriminate.	CInO leadership
R 13	Have patience. Trust his/her team.	CInO leadership
R 19	Love ambiguity. Love the dual nature of the role. Keep old things going well. Nevertheless, keep improving and innovating well.	CInO leadership
R 19	Help the executives who are not as excited about tech to become excited	CInO leadership
R 19	Know how to employ the right people.	CInO leadership
R 19	Know how to help and inspire people to thinks differently	CInO leadership
R 19	"Take a bucket of Lego; see a world a possibility". Can see the possibility.	CInO leadership
R 19	Can generate possibility through combining things/resources. Assemble many different tools to create new and improve product.	CInO leadership
R 19	Play one's strength.	CInO leadership

R 21	Resilience	CInO leadership
R 21	Capable of looking at the current state while predicting the future needs.	CInO leadership
R 21	Someone who has the disruptive innovation mind-set and capable to trying new things to take company away from current modus operandi	CInO leadership
R 21	Love uncertainty. Love risk. Happy to adapt. Understand that there is no assurance – anything can be gone by tomorrow. Able to take a bet	CInO leadership
R 21	The efficacy of believing that he/she can solve the problem	CInO leadership
R 21	Capable of filtering out the “noise” and focus on the intent	CInO leadership
R 26	To assume a pro-active role	CInO leadership
R 26	Future savvy	CInO leadership
R 26	Knows how to build a team good for innovation	CInO leadership
R 26	Knows how to justify your approaches to the Executives.	CInO leadership
R 30	Desired to make a difference / make things better. Passion for innovation and improvement.	CInO leadership
R 30	Avid learner	CInO leadership
R 30	Good leadership and good technical competency	CInO leadership
R 30	Take accountability	CInO leadership
R 30	Absorb the failure of the team	CInO leadership
R 30	Give people a voice and the opportunity to voice their opinions	CInO leadership
R 32	Consultative, approachable and open-minded	CInO leadership
R 32	Build collaboration and create trust	CInO leadership
R 34	Good network; internal and external. A connector. A relationship builder. Creating good partnership.	CInO leadership
R 34	Need to know the policies, processes, regulations, product life cycles. Some of the small detail can lead to significant impact. Look into the detail; but link with the big picture.	CInO leadership
R 34	Capable of looking for opportunities from faults or crisis.	CInO leadership
R 34	Lead by example. React to all situations in the professional manner. Your work ethic imprinted to the team’s behaviour.	CInO leadership
R 1	Must be strategic and understand company strategy – Must be part of board	CIO organisational position
R 1	Reporting line must be to CEO and not CFO	CIO organisational position
R 4	Entire C-Suite needs to understand technology	CIO organisational position
R 25	Innovation leader must get close to business leaders and ensure top level buy in	CIO organisational position
R 10	CIO need to be part of top structure	CIO organisational position
R 31	CIO Future: CIO needs to do to become the enterprise-wide innovator not only linked to IT	CIO organisational position

R 31	To really become innovation leaders the C-Suite must take turns to wear the CIO cap (With support of technical resources)	CIO organisational position
R 35	CIO future: Not responsible for keeping the “lights” on	CIO organisational position
R 32	Network and influence; both internally and externally. Decentralised structure means everyone has his or her autonomy. Therefore, for large innovation to work, CIO needs to be able to influence others to work with him/her.	CIO organisational position
R 6	CIO of future must ensure there is a close relationship between business and IT	Communication
R 8	Need to communicate very well - Convert technical concepts into laymen’s terms – Do not intimidate your audience by using technical jargon	Communication
R 10	Innovation leader: Communication \ negotiation skills to bring people together	Communication
R 7	A corporate strategy translator, a corporate protocol translator. Above all, a GREAT connector	Communication
R 2	Not just understanding one aspect of business // Understand the data // understand strategy	Cross-Functional
R 2	Understand operation and as well as people	Cross-Functional
R 16	Someone who has spent a few years rotating across business functions – so the person can know business well. Not just each business unit operating in silo.	Cross-Functional
R 18	Able to combine the existing resource in innovative ways (Bricolage needed)	Cross-Functional
R 32	Know who is who; who does what. Having such information allows the team to approach the right people for partnership for the right tasks.	Cross-Functional
R 3	Current – CIO dual responsibility (Maintaining Infrastructure, Ensuring smooth running of systems)	Current CIO Resp
R 12	Externally focused on what is happening in industry – look for disrupters	External approach
R 12	CIO Future: Remove fear of failure	Fail fast
R 5	Managing expectation	Fail fast
R 19	While fail fast, fail forward and fail smart helps you to accept failure, but have to keep in mind that without implementation, there is NO innovation! Therefore, must have system thinking and take consideration of the whole value chain.	Fail fast
R 34	Able to take a punch on the chin. Know that failure is part of the game.	Fail fast
R 30	Knows how to reward others and energize them	Incentives
R 22	CIO future - Needs to spend time on shop floor, understand business from the bottom up	Internal process
R 31	CIO Future: Needs to understand business inside out	Internal process
R 8	Run lean IT team and structure	Intrapreneurial
R 33	CIO future: Intrigued to find better ways to do things	Intrapreneurial
R 33	Innovation leader: Want to make a difference – be very entrepreneurial	Intrapreneurial
R 19	In the future, not all CIOs can just take on the transitional CIO role. Must be entrepreneurial.	Intrapreneurial
R 21	A bit entrepreneurial.	Intrapreneurial
R 26	Behave a bit like a start-up founder. Entrepreneurial.	Intrapreneurial
R 30	Cost-saving mind set. Want to maximize the return from minimal investment. Entrepreneurial way of engaging with a problem.	Intrapreneurial
R 22	CIO future - Needs to spend time on shop floor, understand business from the bottom up	Learning

R 25	CIO of the future will need to conduct more site visits get out on ground level to understand business from the bottom up	Learning
R 25	Data analytics – Understanding customer requirements	Learning
R 10	CIO of future: Understand your customers	Learning
R 27	CIO Future: Know business top to bottom	Learning
R 33	CIO future: Enabler of technology must be very resourceful	Learning
R 11	Constantly learning.	Learning
R 21	Learning	Learning
R 34	Keep learning	Learning
R 27	CIO Future: Must be strategic not caught up in daily operations (Forward looking)	Non-operational
R 33	CIO future: Enabler of technology must be very resourceful	Non-operational
R 35	CIO future: Not responsible for keeping the “lights” on	Non-operational
R 27	CIO Future: Must be innovation leader and have relevant exploratory mind-set	Openness
R 33	CIO future: Open minded cannot be stuck in ways	Openness
R 22	Leader needs to create safe trusting environment – Let people understand its ok to fail at Innovation, not all ideas are winners	Openness
R 23	“Find old process\need and remove complexity” – How do we make a client’s life easier?	Openness
R 31	CIO Future: CIO needs to do to become the enterprise-wide innovator not only linked to IT	Openness
R 31	To really become innovation leaders the C-Suite must take turns to wear the CIO cap (With support of technical resources)	Openness
R 1	Get hands dirty be involved from floor level up	Personal traits
R 20	Low ego, not protecting turf	Personal traits
R 20	Engage with peers	Personal traits
R 20	Challenge the unknown	Personal traits
R 20	Challenge conformity	Personal traits
R 20	Leaders job to ensure other people succeed	Personal traits
R 3	Future CIO – Live eat sleep innovation	Personal traits
R 22	Innovation leader must be able to unlock innovation from teamers – using big picture view to achieve this	Personal traits
R 6	Facilitator between providers, lever of exciting products – Identify and promote pockets of excellence	Personal traits
R 23	Passion for innovation	Personal traits
R 23	Intense curiosity	Personal traits
R 23	Must love learning new things	Personal traits
R 10	Innovation leader must be empathic	Personal traits
R 10	Innovation leader: People must respect you	Personal traits
R 14	CIO Future: Dynamic, Curious, Tolerance for failure, Bring people together	Personal traits
R 17	CIO future: Need to be creative outside normal work circumstances and tasks	Personal traits
R 7	Passionate about innovation! Innovation is PERSONAL!	Personal traits
R 7	Associational thinking skills.	Personal traits
R 7	Love people. Have time to talk and listen to people. Understand people.	Personal traits

R 7	Adaptive, so the message can fit with your audience's preferences. Good in sales. Simple changes in phrasing may change the outcome profoundly.	Personal traits
R 7	Can create partnership. Not a loner.	Personal traits
R 7	The desire to be a troublemaker!	Personal traits
R 7	Patience and resilience to keep repeating your message.	Personal traits
R 7	Take a step back for other people to take glory.	Personal traits
R 18	Personal branding. Build respect through other successes.	Personal traits
R 28	Foresight	Personal traits
R 28	Understanding people, organisational politics and history.	Personal traits
R 28	Passionate about innovation	Personal traits
R 30	Curiosity	Personal traits
R 30	Competitive by nature. Want to be ahead of the competition	Personal traits
R 30	Open-mindedness and happy to accommodate an honest discussion	Personal traits
R 30	Care about the people he/she work with. Go deeper to understanding the team and the partners	Personal traits
R 30	Resilience and happy with pressure.	Personal traits
R 34	To facilitate and guide the team. Help the team to come alive. NOT here to control. Else, innovation does not happen. Not a control freak.	Personal traits
R 34	Open-minded.	Personal traits
R 34	Hold an attitude that encourage continual improvement	Personal traits
R 34	Likes people. Good EQ. Good social skills	Personal traits
R 34	Influence. Trust building.	Personal traits
R 34	Listening skills	Personal traits
R 34	To serve. (Leaders eat last). Reduce politics and hierarchy. Be visible to all the team members	Personal traits
R 34	Pro-active	Personal traits
R 34	Keep cool during heated situations.	Personal traits
R 22	Leader needs to create safe trusting environment – Let people understand its ok to fail at Innovation, not all ideas are winners	Personal traits
R 22	Must have EQ to guide teams rather instructing – Move away from command and control mentality	Relationship building
R 10	CIO of future: Understand your customers	Relationship building
R 10	Innovation leader can't tell people what to do, must influence them into the direction required	Relationship building
R 10	Innovation leader: Communication \ negotiation skills to bring people together	Relationship building
R 2	CInO to immerse himself/herself in other functions so build relationship	Relationship building
R 5	Resilience. As it often takes a lot of work to make people interested or convince the naysayers.	Relationship building
R 5	Being able take people on a journey	Relationship building
R 7	Respect people. Respect the idea originators	Relationship building
R 7	Inspire people. Encourage others to take innovation "personally".	Relationship building
R 13	Build relationship with multiple layers of employees	Relationship building
R 26	Persistence in connecting with business units	Relationship building

R 26	Clearly understand the emerging trends. Always learning. Always exposing to the latest thinking and latest technologies.	Relationship building
R 7	Push a bottom innovation – know where you are but face the challenges. Take risks.	Risk taking
R 28	Love taking risk.	Risk taking
R 32	Happy to take risks. Also, know when it is important to play safe. For example some of the core function must be stable, robust and not to be touched all the time.	Risk taking
R 8	Innovation Leader: Must focus on Consumerisation of IT – e.g. Can use IT tools without reading a manual (iPhone etc.)	Simplify technology
R 8	Need to communicate very well - Convert technical concepts into laymen's terms – Do not intimidate your audience by using technical jargon	Simplify technology
R 29	CIO Future: Responsibility must change from managing systems to understanding how the user interacts with business process	Simplify technology
R 33	CIO future: Enabler of technology must be very resourceful	Simplify technology
R 35	CIO future: Needs to understand strategy and use technology to move company forward	Simplify technology
R 7	Understand the way to solve a problem is to focus on the problem and the possibility. Not focus on the solution.	Simplify technology
R 31	CIO Future: CIO can start to become someone driving innovation with the scope and context of IT and thereby making a contribution by being more innovative	Skill development
R 31	CIO Future: CIO needs to do to become the enterprise-wide innovator not only linked to IT	Skill development
R 31	CIO Future: Needs to understand business inside out	Skill development
R 18	Have the hybrid competency: tech + business; small detail + big picture; new world + old world; operationally minded + love making change.	Skill development
R 17	Must be strategic	Start-up approach
R 2	How to put together the business case to justify innovation, Lean approach / consulting style / value-driven. Able to pitch value proposition Become like a start-up/ understanding prototyping / Knows how to optimise resource.	Start-up approach
R 18	Behave like a start-up CEO.	Start-up approach
R 20	CIO – fundamentally part of business strategy	Strategic alignment
R 3	Future CIO – Strong IT governance	Strategic alignment
R 4	CIO of future more rounded and business focused – Needs to understand business levers	Strategic alignment
R 6	CIO of future must ensure there is a close relationship between business and IT	Strategic alignment
R 8	Innovation Leader: Must focus on Consumerisation of IT – e.g. Can use IT tools without reading a manual (iPhone etc)	Strategic alignment
R 8	CIO future – Source best off the shelf solution - Source all as a service product (Consumption based model, limit fixed costs)	Strategic alignment
R 8	Run lean IT team and structure	Strategic alignment
R 25	CIO of the future will have a balance between innovation and keeping lights on (Making sure IT infrastructure is up and running)	Strategic alignment
R 25	Data analytics – Understanding customer requirements	Strategic alignment
R 31	CIO Future: CIO can start to become someone driving innovation with the scope and context of IT and thereby making a contribution by being more innovative	Strategic alignment
R 31	CIO Future: Have the capacity to do both “keeping the lights on”, which can't be taken for granted, and innovation	Strategic alignment

R 12	CIO Future: Creating environment where people can fail fast and create new ideas	Strategic alignment
R 27	CIO Future: Need to ensure IT and business operate as one unit and not separate organisational verticals	Strategic alignment
R 29	CIO Future: CIO needs to understand user experience and less about systems – Customer facing background	Strategic alignment
R 5	Know how to align with strategy.	Strategic alignment
R 13	Understanding timing and context	Strategic alignment
R 13	Understanding dilemma of innovation. Breaking the boundary while trying to get the day-to-day job done.	Strategic alignment
R 16	Must be an all-rounder but mostly a strategist	Strategic alignment
R 19	Strategy	Strategic alignment
R 32	Produce a common standard to encourage people to adopt it. Therefore, everyone can star on the same anchor.	Strategic alignment
R 34	Understand that all types' innovation are equally important. (Core, adjacent, and transformative).	Strategic alignment
R 1	Must be strategic and understand company strategy – Must be part of board	Strategy skills
R 20	CIO – fundamentally part of business strategy	Strategy skills
R 6	Time to market is crucial – Related to any IT initiative	Strategy skills
R 10	Innovation leader can't tell people what to do, must influence them into the direction required	Strategy skills
R 33	CIO future: Intrigued to find better ways to do things	Strategy skills
R 35	CIO future: Needs to understand strategy and use technology to move company forward	Strategy skills
R 2	An avid learner Learning and know what are the leading tools out there that can help the situation.	Strategy skills
R 5	Understand innovation. The process, challenges, the opposing forces within the organisation.	Strategy skills
R 7	Understanding the strategy. Able to create the right balance of Short-term vs long-term gain through. You need quick wins. You also need game-changers.	Strategy skills
R 23	CIO future: selecting correct off the shelf solution and successfully implement (Market differentiator, no longer in bespoke solutions – But how one implements best available technology)	Technical skills
R 8	Innovation Leader: Must focus on Consumerisation of IT – e.g. Can use IT tools without reading a manual (iPhone etc)	Technical skills
R 8	CIO future – Source best off the shelf solution - Source all as a service product (Consumption based model, limit fixed costs)	Technical skills
R 25	CIO of the future will have a balance between innovation and keeping lights on (Making sure IT infrastructure is up and running)	Technical skills
R 14	CIO Future: Someone very focused on governance	Technical skills
R 2	Know the technical domain well. Technical skills is also important and know the latest what is out there!	Technical skills
R 5	Technical skills. Change management.	Technical skills
R 9	Use data. Evidence-based approach.	Technical skills
R 9	Understand the methodologies of promoting innovation	Technical skills
R 9	ISO Standard of systems complexity. Dealing with change	Technical skills
R 11	Technical competency, plus up to date knowledge of the business and relevant issues.	Technical skills
R 16	Must have strong tech grounding	Technical skills
R 18	They have to be technically competent	Technical skills
R 21	Need to understand IT and the new trends	Technical skills

R 26	Future CIO cannot escape risk management and governance	Technical skills
R 26	Compliance and other regulations	Technical skills
R 32	Governance	Technical skills
R 35	Innovation leader: Entrepreneurial, must almost ignore governance elements – And think outside the constraints of normal business	Think out the box
R 13	Able to help others to think out of the box, challenges the status quo and take risk	Think out the box
R 19	A bit naïve with the potential challenges. Keep challenging the status quo.	Think out the box
R 1	Innovation must come from TOP (CEO)	Top team buy-in
R 4	Entire C-Suite needs to understand technology	Top team buy-in
R 25	Innovation leader must get close to business leaders and ensure top level buy in	Top team buy-in
R 10	CIO of future: Guide business on technology, fill gap between technology and business	Top team buy-in
R 31	CIO Future: CIO needs to become the enterprise-wide innovator not only linked to IT	Top team buy-in
R 27	CIO Future: Need to ensure IT and business operate as one unit and not separate organisational verticals	Top team buy-in
R 7	Able to make those who support you look good. Able to make the c-level officers look good.	Top team buy-in
R 18	Influence. Capable of educating the CEOs and other key stakeholders. CEO's understanding of tech is important.	Top team buy-in
R 17	Understand the business	Understand business
R 2	Understanding the business, process and BD // across business	Understand business
R 7	A CInO must be capable of doing 80% job of any other functional manager's job. Hence, a deep understanding of many units will be important.	Understand business
R 13	Know about the business, IT, market, customers and employees	Understand business
R 18	Be conscientious in learning and very aware of both the technology and business trends.	Understand business
R 18	When some CIOs lost touch with technology, they are no longer as effective. They must immerse themselves in the tech space	Understand business
R 19	Understanding process	Understand business
R 21	Need to understand the market segment	Understand business
R 21	Need to understand business and focus on business outcomes	Understand business
R 28	Strategy savvy. Understanding the business processes	Understand business
R 30	Understanding business.	Understand business
R 34	Tech savvy but understanding business	Understand business
R 29	CIO Future: CIO needs to understand user experience and less about systems – Customer facing background	Understand your customer
R 17	Understand the market	Understand your customer
R 35	CIO future: Responsible for creating new revenue streams	Understand your customer

APPENDIX F – INTERVIEW QUESTION 1: THEME FREQUENCIES

No	Theme	No of Respondents	Percentage %
1.	Formal process	32	91,4
2.	Strategic alignment	18	51,4
3.	Openness	16	45,7
4.	Incentives	13	37,1
5.	Intrapreneurial	12	34,3
6.	Learning	11	31,4
7.	Partnerships	8	22,9
8.	Top team buy-in	8	22,9
9.	Understand business	8	22,9
10.	Agile	7	20,0
11.	Internal process	7	20,0
12.	CInO leadership	5	14,3
13.	Communication	5	14,3
14.	Company culture	5	14,3
15.	Relationship building	5	14,3
16.	Capacity	4	11,4
17.	New product development	4	11,4
18.	Fail fast	3	8,6
19.	Poor performance	3	8,6
20.	Start-up approach	3	8,6
21.	Strategy skills	3	8,6
22.	Business skills	2	5,7
23.	Risk-taking	2	5,7
24.	Simplify technology	2	5,7
25.	Technical skills	2	5,7
26.	CIO organisational position	1	2,9
27.	Cross-functional	1	2,9
28.	External approach	1	2,9
29.	Think out the box	1	2,9

APPENDIX G – INTERVIEW QUESTION 2A: THEME FREQUENCIES

No	Theme	No of Respondents	Percentage %
1.	Company culture	19	54,3
2.	Informal process	16	45,7
3.	Learning	10	28,6
4.	Openness	10	28,6
5.	Relationship building	6	17,1
6.	CInO leadership	5	14,3
7.	Intrapreneurial	5	14,3
8.	Fail fast	4	11,4
9.	Strategic alignment	4	11,4
10.	Skill development	3	8,6
11.	Communication	2	5,7
12.	Cross-functional	2	5,7
13.	Internal process	2	5,7
14.	Personal traits	2	5,7
15.	Risk taking	2	5,7
16.	Agile	1	2,9
17.	Capacity	1	2,9
18.	Incentives	1	2,9
19.	Strategy skills	1	2,9
20.	Technical skills	1	2,9
21.	Understand your customer	1	2,9

APPENDIX H – INTERVIEW QUESTION 2B: THEME FREQUENCIES

No	Theme	No of Respondents	Percentage %
1.	Formal\Informal Interplay	23	65,7
2.	Openness	8	22,9
3.	Learning	6	17,1
4.	Top team buy-in	6	17,1
5.	Intrapreneurial	5	14,3
6.	Strategic alignment	5	14,3
7.	Communication	4	11,4
8.	CInO leadership	3	8,6
9.	Company culture	3	8,6
10.	Cross-functional	3	8,6
11.	Informal process	3	8,6
12.	Partnerships	3	8,6
13.	Relationship building	2	5,7
14.	Start-up approach	2	5,7
15.	Business skills	1	2,9
16.	Fail fast	1	2,9
17.	Incentives	1	2,9
18.	New product development	1	2,9
19.	Simplify technology	1	2,9
20.	Skill development	1	2,9
21.	Think out the box	1	2,9
22.	Understand your customer	1	2,9

APPENDIX I – INTERVIEW QUESTION 3: THEME FREQUENCIES

No	Theme	No of Respondents	Percentage %
1.	CInO leadership	24	68,6
2.	Strategic alignment	17	48,6
3.	Personal traits	15	42,9
4.	Technical skills	13	37,1
5.	Business skills	12	34,3
6.	Understand business	10	28,6
7.	Learning	9	25,7
8.	Strategy skills	9	25,7
9.	Top team buy-in	8	22,9
10.	CIO organisational position	7	20
11.	Relationship building	7	20
12.	Intrapreneurial	6	17,1
13.	Openness	6	17,1
14.	Simplify technology	5	14,3
15.	Communication	4	11,4
16.	Cross-functional	4	11,4
17.	Fail fast	4	11,4
18.	Non-operational	3	8,6
19.	Risk taking	3	8,6
20.	Start-up approach	3	8,6
21.	Think out the box	3	8,6
22.	Understand your customer	3	8,6
23.	Agile	2	5,7
24.	Capacity	2	5,7
25.	Internal process	2	5,7
26.	Skill development	2	5,7
27.	Current CIO responsibility	1	2,9
28.	External approach	1	2,9
29.	Incentives	1	2,9

APPENDIX J – INFORMED CONSENT FORM

Thank you for agreeing to participate in this study, which will take place from June to October 2015. This form details the purpose of this study, a description of the involvement required and your rights as a participant.

The purpose of this study is:

To gain insight into the strategic corporate entrepreneurship factors affecting the transitioning from chief information officer to chief innovation officer.

The benefits of the research will be:

The results of this research may have practical value for understanding why corporate innovation fails and create insights into how to fast track corporate entrepreneurship initiatives through leveraging the strategic elements involved in the formal and informal organisational interplay.

Your participation:

Your participation in this study will consist of an interview lasting approximately one hour. You will be asked a series of questions related to the research topic. You are not required to answer all the questions. You may pass on any question that makes you feel uncomfortable. You are encouraged to ask questions or raise concerns at any time about the nature of the study or the methods I am using. Our discussion will be audio taped to help me accurately capture your insights in your own words. The tapes will only be heard by me for the purpose of this study. If you feel uncomfortable with the recorder, you may ask that it be turned off at any time. You also have the right to withdraw from the study at any time. In the event you choose to withdraw from the study all information you provide (including tapes) will be destroyed and omitted from the final paper. Insights gathered by you and other participants will be used in writing a qualitative research report. If you have any concerns, please contact my supervisor or myself (Our details are provided below).

By signing below I acknowledge that I have read and understand the above information

Signature of participant _____ Date _____

Signature of researcher _____ Date _____

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