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The impact of IT governance and partnership on business and IT alignment

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ABSTRACT

Business and information technology (IT) alignment has been researched to enable organisations to leverage technology to gain a competitive advantage and enhance their financial performance. This research is based on assessing the level of alignment between business and IT, particularly focusing on IT governance and partnership dimensions, using Luftman's Strategic Alignment Maturity (SAM) model. The maturity levels of IT governance and partnership were assessed using quantitative methods to determine the level of alignment. The research further explored how alignment between business and IT affects the Chief Information Officer (CIO) in delivering the IT strategy, collaborative strategies to ensure alignment, and leadership qualities the CIO should have to enable improved alignment. Semi-structured interviews were conducted to explore the research and find a deeper understanding of how alignment affects the CIO in delivering the IT strategy. The study found that although the SAM model rating was a suitable tool to measure the level of alignment, it was unsuitable to provide a deeper understanding of how the implementation of alignment affects the CIO. The CIO is required to understand collaborative strategies that will influence the organisation to bring about alignment and enable IT to meet the organisational strategy. The 11 executive participants interviewed, provided deeper understanding on strategies the CIO should use to enable alignment, including enabling the CIO to manage his/her relationships at both strategic and operational level; understand the politics influencing top down within the organisation; and the availability of basic IT services, amongst others. It was further found that the CIO should understand business and communicate in a language that business is able to understand, while at the same time possessing the different leadership qualities required to lead the organisation. The study contributed to the literature by identifying the effects and mitigation of alignment from a South African CIO's perspective, operating in a less mature technologically advanced country as compared to more matured developed companies and countries previously researched.

Keywords

mis/alignment; IT governance; leadership; partnership; information technology

DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Celia Mantshiyane

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CHAPTER 1: INTRODUCTION TO RESEARCH PROBLEM

1.1 Introduction

The study explored the alignment between business and information technology (IT) in medium and large organisations which had been operating for more than five years in South Africa. The exploratory study assessed the maturity of governance using the IT governance and partnership maturity dimensions and determined how the alignment affects the Chief Information Officer (CIO) or Head of IT as leaders in delivering IT strategy. It further assessed what collaborative mitigation strategies and CIO leadership qualities should be implemented to ensure alignment which would increase competitive advantage and leverage more from IT to meet strategic business objectives (Vom Brocke & Rosemann, 2010).

1.2 Background to the research problem

Alignment is the degree of “fit” and “integration” between business strategy and IT strategy (Gutierrez, Orozco and Serrano (2008), which enables value and increases profits for the organisation. Gerow, Grover and Thatcher, 2016 define alignment as “the higher level, externally focused strategic level of alignment” (p.479). Majstorović (2016) refers to business and IT alignment as strategic alignment, which is when both phenomena are positively correlated. Improving IT governance triggers the involvement of IT in the strategic planning process and therefore enables improved communication between businesses and information systems (IS) (Orozco, Tarhini, & Tarhini, 2015). Governance of business and IT enables the business to make decision on IT deliverables in-line with the organisation strategy and provides business the authority to make prioritise and allocate IT resources in-line with the objectives. (Systems Audit and Control Association (ISACA), 2018).

Business-IT alignment influences the ever-changing business environment, and currently the digital world is changing faster than ever before. Organisations have a keen interest in this alignment to realise business value and improve their performance (Orozco et al., 2015).

“Those organisations that successfully align their business strategy with their IT strategy will outperform those that do not. Alignment leads to more focused and strategic use of IT which, in turn, leads to increased performance” (Chan & Reich, 2007, p. 298). They further emphasise that the aligned organisation are able to leverage on cost optimisation, effective IT asset utilisation and enable organisational growth. To achieve business and IT alignment, an organisation must have processes that are mature enough to ensure that decisions are taken for both business and IT foster alignment. De Haes and Van Grembergen (2009) stated that,

for an organisation to be effective, it requires good leadership, processes and structures in place that integrate to deliver the organisational strategy and objectives.

In the last decade, research has been conducted on the alignment between business and IT. As business today uses technology to gain competitive advantage (Almeida, Pereira, & da Silva, 2013), it has become critical for IT to deliver value in the ever-changing technology environment. Almeida et al. (2013) continued to mention that good, "IT Governance is no longer a nice to have, but a must-have and can contribute to higher returns on assets at a time when businesses are increasing their technology investment" (p. 186). Thus, converting or translating IT from its traditional function towards "IT for business" is still a challenge in the current business environment. European Conference on Information Systems. Gutierrez, Mylonadis, Orozco and Serrano (2008), explained that, initially, IT was traditionally seen as a support function, however with new IT era that leads to digitalisation, IT has transformed to a strategic partner and an enabler for delivering business strategy. With the current digital era, businesses that are still struggling to align IT to deliver value that is aligned with the business strategy and increase IT governance maturity in which it could add to the success or failure of the business strategy. However, misalignment between business and IT is still at the top of the general failures of IT governance and continues to hinder the achievement of optimal technological value that business requires. Introducing IT governance ensures that different stakeholders collaborate in a synergistic way to ensure that the benefits of any IT implementation are aligned throughout the various business units.

1.2.1 Academic problem

In the recent past, research has increased in the interest of business and IT alignment and ranked it as a top management need concerns of business executives and the board (Henderson & Venkatraman, 1992 Luftman, 2000; Orozco et al., 2015; Weill & Ross, 2004). Van Grembergen and De Haes (2018) described IT governance as dealing with decisions and responsibilities concerning businesses. The research authors continued to state that, with current complex organisations, IT governance is an important managerial challenge. Several business benefits, such as improved delivery of IT service quality, return on IT-enabled investment, increased alignment of investment towards strategic goals accrue as the main justification to support IT governance implementation. Karahanna and Presto's (2013) research included the relationship between the CIO and business executives (C-suite) influences organisational value creation and how the relationship amongst top management also influences alignment. However, the current research lacks information and knowledge on how the CIO is affected by the alignment dimensions in the organisation in delivering the IT strategy. The SAM model includes six dimensions to measure alignment but excludes practical

mitigation strategies – necessary from the CIO’s point of view – that can be implemented to ensure the necessary leadership relational and different organisational dynamics aspects required to ensure collaboration that affects both business and IT. Hiekkanen, Pekkala, and Collin (2015) argued that improving IT governance practices is insufficient to achieve business and IT alignment, since misalignment can be due to social and cultural aspects of the organisation falling to see IT as a strategic partner. Research on business and IT alignment has not been conducted in a South African context, since the maturity of alignment can be different compared to more mature technologically advanced countries which have previously been researched. The South African competitive advantage using technology has emerged over the years. However, it is still complex, unclear and lacks holistic understanding. The collaboration of implementing the IT strategy and leadership required to ensure consistent business and IT alignment are still ambiguous as IT evolves all the time.

Abbasi, Tarhini, Hassouna, and Shah (2015) explained that despite significant investment in IT, many projects are still being reported as failure. Also, Luftman et al. (2015) found that despite business and IT alignment is still a top topic amongst management concerns, it consistently appear at the top of both global and local management concerns, even though there has been vast research on IT and business alignment in the last decade. However, it is still complex to achieve academic research and knowledge is required to keep up with technological changes regarding alignment. In the final analysis to resolve the central problem of translating IT from its traditional function towards “IT for business”, the purpose of the current research was to assess the maturity of governance alignment between business and IT of medium to large general organisations (in existence for more than five years). The research further focused on how the maturity level dimensions of alignment affect the CIO as a leader in delivering IT strategy; what collaborative mitigation strategies can be implemented to ensure alignment; and what CIO leadership qualities are necessary to enable alignment. The mis/alignment will be assessed by analysing the following dimensions:

Luftman (2015) explained IT governance dimensions as follows:

- **business and IT strategic planning** – business and IT strategic planning sessions as processes managed across the enterprise;
- **organisational structure** – organisation’s hierarchy structures of an organisation that manages the enterprise communication;
- **the steering committee** (if any) – is a formal IT steering committees that includes executives, managing and holding IT accountable for delivering the IT strategy in-line with the business strategy objectives;

- **prioritisation of IT initiatives** – includes processes for identifying and prioritising projects, resources, and risks within an organisation;
- **investment management** – IT investment management process, providing awareness;
- **business and IT perception of trust** and value between business and IT by IT service users.

According to Carter, Grover, and Thatcher (2011), the CIO needs to have an outside-in approach that is able to look externally from his/her IT environment to business, to gain appreciation of challenges faced by business. Misalignment affects the delivery of the business strategy, while alignment enables the CIO to deliver on IT strategy in alignment to the organisational business strategy. The research incorporated the CIO's mitigation strategies necessary to ensure alignment. Previous research proved that alignment adds competitive advantage to the organisations (Luftman et al., 2015; Vom Brocke & Rosemann, 2010).

Since alignment between business and IT is an issue in most organisations (Tarhini, Al-Dmour, & Obeidat, 2015), it is critical to evaluate how mis/alignment dimensions affect the CIO's delivery of the IT strategy, and what mitigation strategies can be used to ensure collaboration within organisations, including leadership qualities required from the CIO. Luftman et al. (2015) stated that CIOs spend most of their time addressing non-technical issues especially in the project management environment and IT strategy. In ensuring alignment between IT and business, as well as implementing IT strategy, it is necessary to understand the non-technical mitigation strategies that CIOs would apply to ensure alignment within the organisation. It is also valuable to understand how IT is perceived by users regarding the role they play in the organisation, as well as how the perception of trust and value would affect the business and IT alignment.

The maturity level dimensions for both business and IT will be assessed using Luftman's (2015) Strategic Alignment Maturity (SAM) model, which describes key management practices and strategic IT choices at each of the five levels, namely: (i) ad hoc process; (ii) committed process, (iii) established focused process; (iv) improved/managed process; and (v) optimised process. The governance maturity assessment evaluates management processes necessary to ensure business-IT governance alignment, which relates to: (i) business strategic planning; (ii) CIO reporting line; (iii) IT strategic planning; (iv) IT investment management; (v) IT steering committee effectiveness; (vi) IT budget control; and (vii) IT initiative prioritisation. Moreover,

the partnership maturity assessment evaluates management processes of partnership to ensure alignment, namely: (i) trust of services from IT; (ii) IT value perception; (iii) the role of IT strategic planning; (iv) risks and rewards sharing between business and IT; and (v) business sponsor on IT initiatives. Luftman (2000) argued that achieving alignment was an evolutionary process, which required the following conditions, namely: (i) strong support from senior management; (ii) good working relationships; (iii) strong leadership; (iv) appropriate prioritisation; (v) trust and effective communication; and (vi) a thorough understanding of the business and technical environments. Since the organisations selected for this study have been in existence for more than five years, it was deemed necessary to evaluate how the evolutionary (maturity) process of IT strategic planning, organisational structure, steering committee, IT prioritisation, and investment management processes are executed within each organisation. As argued by Orozco et al. (2015), governance alignment increases organisations' business value and improves their performance. The maturity level dimensions affect the CIO's delivery of IT strategy. As a leader, the CIO should ensure collaboration with the business to ensure that alignment is achieved. It is also critical to evaluate how the business' perception of IT with regard to trust and value enables governance alignment.

Although different models, namely, Business/IT fusion, and ITGPA (Information Technology Governance Process Assessment) (Hinssen & Derynck, 2009; Orozco et al., 2015), have concluded that governance alignment enables an organisation to gain competitive advantage, the SAM model was chosen as an appropriate model for this research. The SAM model accommodates all sizes of organisations in order to identify an alignment maturity score and is able to indicate opportunities where IT can improve business-IT relationships. It is the most globally used model (Majstorović 2016; Vom Brocke & Rosemann, 2010) as it can be applied to most organisations. However, less research has been conducted on how the IT governance and partnership maturity dimensions of alignment affect the CIO in delivering the IT strategy, collaborative mitigation strategies between business and IT, and the CIO's leadership qualities required to ensure alignment.

1.3 Aim of the research

The aim of the research was to:

- assess the maturity level of governance alignment between business and IT;
- assess the maturity level of partnership alignment between business and IT;
- establish how the governance alignment influences or affects the CIO in delivering the IT strategy to business;
- determine what collaborative strategies the CIO can implement to improve the governance alignment and partnership between IT and business; and

- determine what leadership qualities the CIO should have to enable alignment and collaboration.

1.4 Organisation of the study

Chapter 2 provides theory on business and IT alignment as well as research on the study of alignment with regard to IT, including the SAM model. The methodology on how the data was collected is provided in Chapter 4. Chapter 5 explains the participants' responses to the questionnaires measuring the IT governance and partnership alignment, and continues by explaining the participants' responses to the research questions stated in Chapter 3. An analysis of the results is given in Chapter 6 while ending off the research, and Chapter 7 concludes with the major findings, implications, limitations and recommendations of the study.

CHAPTER 2: THEORY AND LITERATURE REVIEW

2.1 Alignment between business and IT

The purpose of this research was to assess the maturity of business-IT alignment based on the governance and partnership dimensions using the SAM model. It further explored how alignment affects the CIO in delivering the IT strategy and what collaborative mitigation strategies are necessary to ensure alignment, and evaluated the leadership qualities required from the CIO to ensure alignment in an organisation.

The research on business and IT alignment gained momentum in the late eighties (Henderson & Venkatraman, 1992; Luftman, 2000), continued into the twentieth century (Chan & Reich, 2007; Reich & Benbasat, 2000), and still dominate the research between business and IT in more recent research (Luftman, Lyytinen, & Ben Zvi, 2017; Majstorović, 2016; Orozco et al., 2015). With the introduction and use of technology, businesses continuously strive to align business and IT to enable them to meet their strategic objectives and gain competitive advantage. Silvius (2013) views alignment as IT applications and infrastructure shaping the organisational business strategy and processes towards achieving business and IT alignment. Ahriz, Benmoussa, Yamami, Mansouri, and Qbadou (2018) stated that strategic alignment links the organisational strategy to internal and external functions, which include IT. "Strategic alignment aims to put coherence the strategy of an organisation and its internal and external functioning, which includes its information system" (Ahriz et al., 2018, p. 2472).

Luftman (2015) stated that the global importance of business and IT alignment has remained top of IT surveys since the eighties. He emphasised that alignment addresses how IT is aligned with the business, and, in turn, how the business should or could be aligned with IT. Business-IT alignment involves applying IT in an appropriate and timely way, in harmony with business strategies, goals, and needs (Luftman et al., 2017)). In recent years, the business and IT alignment research has intensified (El-Masri, Orozco, Tarhini, & Tarhini, 2015). Based on the continued perception by top executives, alignment is one of the highest management concerns (Luftman et al., 2017). ITGI is constantly conducting research on how to align business to IT, with the current - Control Objectives for Information and related Technology (COBIT) 5 framework updated from the first one, COBIT 1, which was released in 1996. Business-IT alignment is one of most research topics within IT Governance Institute (ITGI) their focus includes strategic alignment, value delivery, risk management, resource management and performance management, (ISACA, 2018).

Research suggests that “aligned” firms that gain competitive advantage and increased profits, leverage their IT resources and support to recognise and exploit market opportunities (Gerow, Grover, & Thatcher, 2016). Performances of business and IT are closely linked, and organisations cannot be competitive if their business and IT strategies are not aligned (Majstorović, 2016). However, aligning business and IT has proved to be difficult to achieve at a strategic level, as the lack of alignment between business and IT has been reported as one of the top challenges facing business in the recent past, even after three decades (Luftman et al., 2017). Luftman et al. (2017) stated that alignment from either a business-driven perspective (IT-enabled) or an IT-driven perspective must ensure that organisational strategies adapt harmoniously to achieve business value and performance.

With past and present technology advances, with the current digital and fourth industrial revolutions of technology regularly reported; the business-IT alignment remains one of the compiled objectives still to be reached by businesses. The World Economic Forum (2016) reported that the Fourth Industrial Revolution is an extension of the Third Industrial Revolution or Digital Revolution. Thus, an extension of the Fourth Industrial Revolution to the digital convergence of technologies is blurring the lines between the physical, digital, and biological spheres (World Economic Forum, 2016). Organisations continuously strive to enhance their competitive advantage using their IT departments to develop products and services that can take advantage of mobile connectivity, robotics, artificial intelligence, and unlimited access to knowledge. Thus, business and IT need to be integrated and aligned to reach organisational objectives.

As organisations have striven to align business and IT since the nineties, the first Strategic Alignment Model (SAM) was introduced by Henderson and Venkatraman (1992). The original SAM was based on four dimensions based on two domains, namely, external domains (business strategy and IT strategy), and internal domains (organisational and IT infrastructure and processes). When both the strategy and infrastructure domains integrate (an organisation strategy is able to determine the infrastructure of the business needed), weakness within the domains would be able to determine the alignment between business and IT, as well as the extent of strategic fit and functional integration. Even though the original SAM gained popularity and created a baseline in aligning business and IT, it received criticism from other researchers. Such critics found limitations to the model, for example, Burn and Szeto (2000) found that different highly IT-dependent organisations require different alignment processes as opposed to the model, depending on their complexity and industry. Other authors, Avison, Jones, Powell, and Wilson (2004) found that the strategic fit did not take into consideration the dynamics of the operational environment, making it difficult to align business and IT. Despite

the criticisms of the SAM model, it remains the most used model by most researchers because it is easier to use and measure alignment (Ahriz et al., 2018; Majstorović, 2016).

2.1.1 Other business and IT alignment models

Later, Luftman et al. (2000) added enablers and inhibitors of alignment to the framework of business-IT alignment. They extended the original SAM published by Henderson and Venkatraman (1993) with six dimensions or factors affecting alignment communication, namely, IT value, governance, partnership, scope and architecture, and skills. For each of these factors, they defined the attributes that determine the level of maturity (Luftman, 2000) and called it the SAM model. It was further researched in later years (Luftman, 2003; Luftman, 2015; Luftman et al., 2017) providing IT-business alignment management practices for research.

The SAM model was selected for the study for three key reasons: (i) a practical method for analysing organisational maturity of an organisation by ranking practices into five maturity levels; (ii) it is easier to apply to general organisations; and (iii) other assessment models were found not to be applied across the selected organisation of the research due to their theoretical conceptualisations (Gutierrez et al., 2008).

Luftman et al. (2015) updated the SAM model as part of activities that must be undertaken jointly in reaching alignment. The updated SAM model integrates six dimensions to ensure alignment between business and IT, as mentioned above. The dimension of management was changed to include IT governance instead of management. The other five dimensions remained the same as the original SAM, namely, Communications, Value, Partnering, IT scope, and IT skills development. Luftman et al. (2017) proved that the six dimensions enabled business-IT alignment, which eventually increased organisational performance. The SAM model maturity assessment ranks the maturity at five levels: (i) ad hoc/initiated; (ii) committed process; (iii) established focused; (iv) improved process; and (v) optimised process. The six dimensions of the SAM model are subdivided into a set of management practices, also called attributes. Because of the time frame of this research, only the governance and partnership dimensions (trust and value factors) were researched to determine the maturity level.

The SAM model recognises the initiative stage at level one of alignment between businesses, with the highest probability of misalignment between business and IT.

The governance alignment dimension includes business and IT strategic planning, organisational structure, steering committee (if any), prioritisation of IT initiatives (enterprise architecture) and investment management within the organisations. However, the partnership

dimension includes mutual trust, sharing of risk and successes between business and IT. Strategic alignment enables the organisation to realise its full IT potential and enables competitive advantage. For this research, alignment was assessed at a strategic level, focusing on bringing business and IT strategies in agreement (Gerow et al., 2016). Thus, the alignment will evaluate business and IT strategic planning, organisational structure, steering committee (if any), prioritisation of IT initiatives (enterprise architecture), and investment management within the organisations.

2.2 The six dimensions of the SAM model

The attributes listed below did not form part of the research scope but are briefly described in order to encompass all the dimensions of the SAM model.

2.2.1 Business and IT skills development

Improved organisational capabilities and skills lead to organisational effectiveness in delivering the organisational strategy. Managing business and IT capabilities and skills ensures that digital assets are used effectively, as well as eliminating investment losses and opportunities (Van Grembergen & De Haes, 2018). Aligning business and IT skills development enables organisational readiness to implement the business strategy. Luftman et al. (2017) mentioned that human resource practices include hiring, retaining, training, performance feedback, innovation encouragement, career opportunities, and skill development IT.

2.2.2 Value

Value refers to the contribution of IT, to the business, enabling understanding and acceptance of the IT contribution in-line with the organisational objectives. Majstorović (2016) explained the processes as approaches of IT that create value contributions to the organisation.

2.2.3 Communications

Effective two way Communication between business and IT enables an increases satisfaction and enables exchanging of business ideas, knowledge and information (Kitapci, Akdogan & Dortyol, 2014). This communication enables stakeholders to clearly understand their respective strategies, plans, business or IT environments, risks, priorities, and how to achieve them.

2.2.4 Dynamic IT scope and architecture

The following dimensions did not form part of the current research: communications, value, partnering, IT scope, and IT skills development. The research included IT governance and

partnership dimensions of the SAM model. These two dimensions are explained in detail below.

2.2.5 IT governance

Van Grembergen, De Haes, & Guldentops (2004) explains to sustain the IT governance within an organisation, they need an effective co-operation between leadership, structures and processes. However, Luftman et al. (2017) explained IT governance as a shared direction between business and IT on how business integrates its strategy with IT strategy, resources, and prioritisation. The authority of IT decision at a strategic, tactical and operational level regards decision making, as well as improvement in the alignment between businesses.

Traditionally, IT was a cost centre that was self-managed by either the CIO and considered as a support or an enabler for the organisation to meet its strategic objectives. With the current technological advances and organisations such as Google using technology and innovation to their competitive advantage, it is imperative for organisations to manage IT to be sustainable. Thus, governance outlines the authority that makes IT-related decisions, and both business and IT processes that management uses at the operational, tactical, and strategic levels intending to establish IT priorities and allocate financial, human, information, physical and material resources (El-Masri et al., 2015).

The Information Systems Audit and Control Association (ISACA) developed the COBIT framework which aims to align business and IT, with a view to optimise and enhance value to stakeholders. The framework separates the governance and the management of IT by optimising governing risk and resources, as well as realise benefits. IT performance is governed by the IT steering committee, and in most organisations, this committee is structured as a sub-committee of executive committee (EXCO) members. COBIT provides guidelines for the importance of governance and management of IT processes to the achievement of desirable IT governance and management outcomes; this is referred to as enterprise IT governance. This form of governance is implemented by establishing structures, processes, and relational mechanisms to govern IT assets, thereby achieving strong business-IT alignment, and ultimately improving the return on IT-enabled investments (Huygh, De Haes, Joshi, and Van Grembergen (2018). Though their research found that managing strategy, which is part of the COBIT process, was the most significant contributor to business and IT alignment. Managing strategy includes a process of harmonising strategic IT plans with business.

In South Africa, the release of the King IV Report on Corporate Governance for South Africa 2016 (hereafter King IV) has been a milestone for good governance (IoDSA, 2016). Principle 12 of the report states that the governing body should govern technology and information in a way that supports the organisation and to ensure that it achieves strategic objectives (IoDSA, 2016). King IV also states that “the board should ensure that IT delivers organisational strategy through alignment. In fact, governance has been found to be the most effective factor in the evolution process of business-IT alignment regardless of the alignment strategy” (IoDSA, 2016, p. 10). More importantly, the data analysed revealed that organisations that are more mature in IT governance are more likely to exhibit synchronous integration strategy (Belfo & Sousa, 2013; El-Masri et al., 2015).

The IT governance dimension in the SAM model evaluates the maturity of activities required to ensure alignment, as it includes activities of steering committees, IT-business liaisons, budget, and human resource management, which according to the SAM model, creates shared direction to achieve organisational performance (Luftman et.al, 2017).

Luftman (2000) stated that organisational size is not directly linked to alignment maturity. However, Chan et al. (2006) argued that centralised and decentralised organisational structures and organisational size affect alignment. They argue that operating in a decentralised organisational structure is challenging to promote strategic alignment, as the coordination from different locations is complex to mobilise. However, during this research, both centralised and decentralised organisational structure dimensions were not considered, as it was assumed that with current advancements technology, organisations are in a better position to coordinate the governance of IT. The core sample in this study included CIOs, heads of department, business executives and board members of medium to large organisations, as they operate at a strategic level with influential power and input into the governance of IT.

2.2.5.1 Business and IT strategic planning

The most effective form of communication with internal business (non-IT) executives is for CIOs to leverage informal discussions, IT briefings, board, executive and governance meetings (Luftman et al., 2017). The CIO should form part of the executive team that is responsible to give feedback to the board, this will ensure that IT related items are discussed in the board meeting. Majstorović (2016) stated that an integration strategy is combining business strategy with IT strategy to enable the integration of organisational and technology infrastructure and processes.

El-Masri et al. (2015) found that organisations that are most mature with their partnerships are more likely to implement an integration strategy, where IT strategy formulation follows and supports business strategy formulation simultaneously.

2.2.5.2 Organisational structure

The organisational structure aspect evaluates whether IT is centralised or decentralised, where the CIO reports to the Chief Executive Officer (CEO), or Chief Finance Officer (CFO) or the Chief Operations Officer (COO). Previous research has shown that, when a CIO reports to the CEO, business and IT alignment increases, as opposed to a CIO reporting to a non CEO-executive (Luftman et al., 2015).

Carter et al. (2011) stated that the digital transformation, ambiguity and rapid technological changes requires a more from a CIO role to sustain the technological support for the organisation to gain and realise competitive advantage against competition. Historically, when IT was viewed as a cost centre, most CIOs reported to CFOs. However, currently, most CIOs report directly to CEOs (Luftman et al., 2015)

The organisational structure or reporting was used to assess, as part of the alignment maturity dimension, to determine whether centralised or decentralised reporting affects the alignment between business and IT.

Carter et al. (2011) found that with the CIO reporting lower in the organisational hierarchy, their role in enabling the business strategy is less effective, as they would not be able to influence the business strategic objectives. Carter et al. (2011) further emphasised the reporting line of the CIO is key in aligning IT to business strategy and objectives.

2.5.2.3 Steering committee

King IV states that governance of IT and information remains the responsibility of the board, this viewpoint is included in principle 12 (IoDSA, 2016). Members of the IT steering committee include business executives (including the CIO). The steering committee is a governance body responsible for operating IT and ensuring continuous alignment between business and IT. The steering committee focuses particularly on implementing, tracking IT investments, setting priorities and allocating scarce resources. Firms using steering committees have been found to exhibit higher business prioritisation and improved performance (ISACA, 2018).

2.5.2.4 IT initiatives and investment management

IT has moved from being a cost centre to being managed as IT investment, increasing the value creation process and managing the capital expenditures that is associated with IT assets (Aharoni, 2015). Projects associated with capital investment of IT assets should be managed to integrate IT to the business strategy and objectives.

2.2.6 Partnership

Previous internal project IT failures have increased IT costs for most organisations, which leads to IT to become a cost centre for most organisations. As organisations shift from the traditional thinking of IT to IT for business thinking, organisations are heavily IT-dependent on achieving strategic business objectives using IT (Krotov, 2015). Business and IT alignment requires a partnership between business and IT to reach business strategic objectives. De Haes and Van Grembergen (2009) explained that a partnership requires both executive and senior management providing an excellent example to the rest of the organisation and acting as “partners”.

Partnering refers the relationship between business and IT in delivering the business strategy. This includes the IT’s role in the business strategy with business, trust and perception as partners in one another’s contribution. The integration of IT and business collaborates to increase mutual trust, realistic expectations, and build effective relationships. Luftman (2015) stressed that mutual trust should also include business and IT sharing risk and successes during projects or initiatives. Orozco et al. (2015) referred to a partnership as a relational capability which comprises of collaboration and shared learning. Orozco et al. (2015) further emphasised that the positive relationship between business-IT alignment and IT governance enables IT to deliver cost-effectiveness, asset utilisation, business growth, and business flexibility. Examples of relational capabilities include active participation by key stakeholders, shared understanding of business/IT objectives, effective conflict resolution (non-avoidance), partnership rewards and incentives for both business and IT. Karahanna and Preston (2013) emphasised that trust builds a relationship of collaboration, sharing of information with regard to technical, political, and organisation implication. They continued to stress that when the CIO is trusted within the organisation, s/he has the required support necessary to deliver the strategy from other top executives.

Using the SAM model, partnership maturity measures how each organisation perceives the contribution of the business and IT in reaching business objectives, business planning, cost value creation, trust among participants, and the sharing of risks and rewards. A CIO as a leader of IT plays an important role in providing guidance on organisational issues to

subordinates on overcoming business relationships and partnerships. This strategic guidance is more so as IT workers are more technically focused and thus unfamiliar with the business acumen (Carter et al., 2011).

A partnership between business and IT was found to be both an enabler and inhibitor for strategic alignment (Luftman, Papp and Brier, 1999). When assessing business and IT partnership using the SAM maturity dimension, the business perception of IT positively values the role of IT in strategic planning, shared goals, IT program management, relationships, and trust between all participants, business sponsors and champions of IT endeavours (Luftman, 2015). For an organisation to be innovative and sustainable, the new value proposition becomes possible when suppliers, business partners, and customers work together to co-create value, that is, organisational partners require an innovation ecosystem (Coltman, Tallon, Sharma, & Queiroz, 2015).

The SAM model provides dimensions and measurable attributes to determine the level of alignment between business and IT. However, the model does not consider practical guidance on how to implement collaboration for the CIO or Head of IT to implement. Even though the SAM model has been found useful in measuring the maturity of the business and IT alignment, and was used by most researchers, it lacks the dimension necessary for building a relationship and collaboration for the CIO as the leadership of an IT department and how they can partner with other business executives. This presents a gap in the SAM theoretical understanding of how the CIO's relational and leadership skills can facilitate business and IT alignment, as well as enable the IT strategy and business partnership regarding the maturity dimensions of the organisation.

2.3 The role of the CIO or Head of IT

The SAM model focuses on business and IT alignment that provides competitive advantage. The model provides measures to the maturity of the alignment between business and IT, using six dimensions (communication, competence, management, partnership, technological environment, and skills). Although the SAM model has been found useful and is used by most researchers, it lacks the dimension of the relationship and collaboration of the CIO as a leader to business leadership and IT users of the organisation in achieving alignment. This presents a gap in the SAM theoretical understanding of how the CIO relational and leadership skills can facilitate business and IT alignment, with a view enable the IT strategy and business partnership.

Krotov (2015) stated that most organisational top management distrust their IT departments and CIOs. This is argued to be a result of previously failed projects, failure of IT to deliver value to business, poor understanding of IT, lack of a clear vision with respect to IT, different perspectives of business executives and technology specialists, and poor relationship and leadership skills of CIOs. Karahanna and Preston (2013) found that the CIO has better leverage in attaining business and IT strategic alignment through creating shared values and language, and building trusting relationships than through formal and informal interactions with other business executives or IT users. IT leadership must be a leader that is able to liaison, build relationships, and strategist that is an IT spokesperson, resource allocator, entrepreneur (Wunderlich & Beck, 2017). They continue to add that “positive knowledge sharing climate between IT and business manager’s leads to higher managerial IT knowledge, resulting in higher IT use of business employees” (pg. 3).

Previous research showed that, on average, organisations in which CIOs report directly to CEOs have higher alignment maturity than those reporting to other executives (Luftman & Ben Zvi, 2010). Even though the CIO’s reporting lines are not the focus of the current study, it is, however, important to evaluate executive reporting or relationship of top management on enabling alignment, as well as the collaborative mitigation strategies that can be implemented to ensure alignment regardless of the reporting lines. CIOs make executive decisions regarding IT equipment, create new systems and responsible for leading and directing the workforce in their specific organisations. In addition, the CIO is responsible for ensuring that the IT strategy is delivered, which adds value to organisational strategy. The improvement and maturity of IT governance alignment are central to the CIO’s responsibilities. Luftman et al. (2015) reported that the biggest mistakes CIOs can make are failing to be effective business communicators/partners, followed by being inadequate in demonstrating value. Weinzimer (2014) stated that the four-phase transformation model is a process with which the CIO can transform the organisation depending on the maturity level of the IT department:

1. Foundation phase, which includes providing basic services exceptionally well.
2. Understanding business and improving business skills for IT personnel.
3. Driving business value.
4. Leveraging technology strategically to innovate measurable value to the organisation.
This is regarded as the transformational phase.

Lee, Kim, and Kim (2006) stated that the quality of IT service is also crucial as it can affect the climate or relationships of the organisation. Basic services are the core of IT services, so before the IT department can deliver value and play a part in innovative products and services,

the basic services must be provided exceptionally well (“availability of IT services, support services” in Lee et al., 2006, p. 226).

The CIO, as the top manager responsible for strategic technological decisions, works with other top managers of the organisation to deliver the organisational strategy. Krotov (2015) stated that for the CIO to lead the organisation in IT-dependent strategic initiatives and deal with failure factors, s/he is expected to possess strong relationship-building skills. One of Krotov’s research recommendations for CIOs in mitigating some of the business and IT alignment, relational and expectation gaps, is to be effective communicators with the development of managerial, leadership, and political skills. Krotov found that the social capital of the relationship between the CIO and top management contributes to organisational performance which is mediated by IS strategic alignment.

Carter et al. (2011) viewed the CIO as a change agent who plans and initiates change within the organisation. With IT recently becoming a strategic differentiator in most organisations, such as Uber, Amazon, and Netflix, the role of the CIO has changed and gained importance (Matt, Hess and Benlian, 2015; Weill and Woerner, 2013). However, Haffke, Kalgovas, and Benlian (2016) argued for the difference between the traditional role of CIO as compared to the new role of Chief Digital Officer (CDO), which has increased with the new digital era. Haffke et al. (2016) mentioned that the establishment of a CDO is key to enabling digital transformation in businesses, unlike the CIO position which is a more traditional function of leading the IT function and taking responsibility for IT strategy and its execution. The role of the CIO is complex, realising that as the business changes, the CIO’s core competencies need to be supplemented in the digital transformational era (Carter et al., 2011).

Meanwhile, Weinzimer (2014) described a CIO’s role as strategic, which is more of a valuable resource to improve the business value of their IT organisations, by assisting in transforming IT into a strategic asset for an organisation. He continued to argue that becoming a strategic CIO requires delivering IT basic services exceptionally, understanding business while increasing user experience, focusing on initiatives that provide business value, and finally leveraging technology strategic to the innovative, measurable value of the business.

Hooper and Bunker (2013) found that a CIO with broad business knowledge and perspective adds more value to the organisation and enables partnership. Alignment requires a CIO who is able to communicate in a language that business can understand in order to achieve better alignment between business and IT.

Since the late nineties, CIOs have shifted from technical management to more value-adding IS. Currently the CIO's role has transformed into that of a proactive IT visionary who drives the business strategy by recognising the value of emerging IT capabilities for the business. Carter et al. (2011) explained CIOs' roles as informational, decisional and interpersonal by providing an outside-in instead of an inside-out approach. Their research concluded that CIOs need to establish a relationship with business colleagues outside the IT department. CIOs should invest in scanning the external environment outside IT and spend time monitoring and drawing on their professional knowledge more than their technical knowledge for them to be effective.

CIO leadership qualities are essential, as people, including subordinates, watch, rather than listen, to what their CIO does. Chan and Reich (2007) stated that IT personnel need to be skilled on the softer side of the business, outside their technical expertise. Karahanna and Preston (2013) investigated structural, cognitive, and relational social capital between the CIO and the top management team of an organisation that facilitates knowledge sharing between these two, which, in turn, enables alignment between the organisation's IS strategy and business strategy. Karahanna and Preston (2013) also found that the relationship among the organisation's top executives influences their ability to cooperate to formulate strategies that are consistent with the strategy thrusts of the business. Trust between the CIO and the senior management team enables business and IT alignment, encourages knowledge exchange through formal and informal mechanisms by the CIO with the senior management team, and influences shared cognitions and language. However, this does not influence trust between the team. It should also be noted that the CIO needs to have both business and technical knowledge so that s/he is able to exert power from strategic and technical decision making (Gerow et al., 2016).

Amin, Akram, Shahzad, and Amir (2018) explained that communication between a leader and followers should endeavour to have a positive impact on the followers when accomplishing shared goals or visions. Leadership refers to the behaviour and style of managers enacted in their different functions within the organisation's IT department. They see leadership as a set of behaviours influencing the IT department and stakeholders to manage or alter IT resources and IT-related processes directed at enhancing organisational performance (Eom, Kahai, & Yayla, 2015). The CIO is the most senior leader representing IT in an organisation (Wunderlich & Beck, 2017). Correa and Joia (2014) stated that the CIO's role is to be a professional responsible for the management of IT resources in an organisation, which are necessary to ensure alignment between business and IT strategies. Preston

et al. (2008) stated that a CIO's leadership profile influences both business and IT operations, leveraging on IT and business investments.

2.4 The transformational IT leader and charismatic leadership

According to Bass and Avolio (1993), "transformational leaders change their organisation's culture with a new vision and a revision of shared assumptions, values, and norms" (p. 112). For the CIO to achieve common goals as a transformational leader, s/he needs to motivate as followers (business and IT) to go beyond their interest and efforts in delivering. Moskovich and Achouch (2014) explained that for the CIO to be successful and overcome employees' resistance to change within the organisation in terms of aligning business and IT, it is important for the CIO as a transformational leader to use open and transparent communication and be the change agent leader that the organisation hope to accomplish through aligning business and IT. For the organisation to implement cultural changes in business and IT working together, the CIO needs to build trust amongst all parties.

McLean and Smits (2014) explained that the CIO should be a transformational leader, as s/he is responsible for transforming the organisation to produce innovation and effectiveness, while at the same time s/he needs to be a transactional leader to enable IT stability and efficiency to the organisation.

CHAPTER 3: RESEARCH QUESTIONS

3.1 Research questions

The research questions were formulated based on the preceding reviewed literature. The research questions were formulated to provide insight into the business and IT alignment, and collaborative mitigation strategies that the CIO can implement to ensure alignment (see Figure 1).

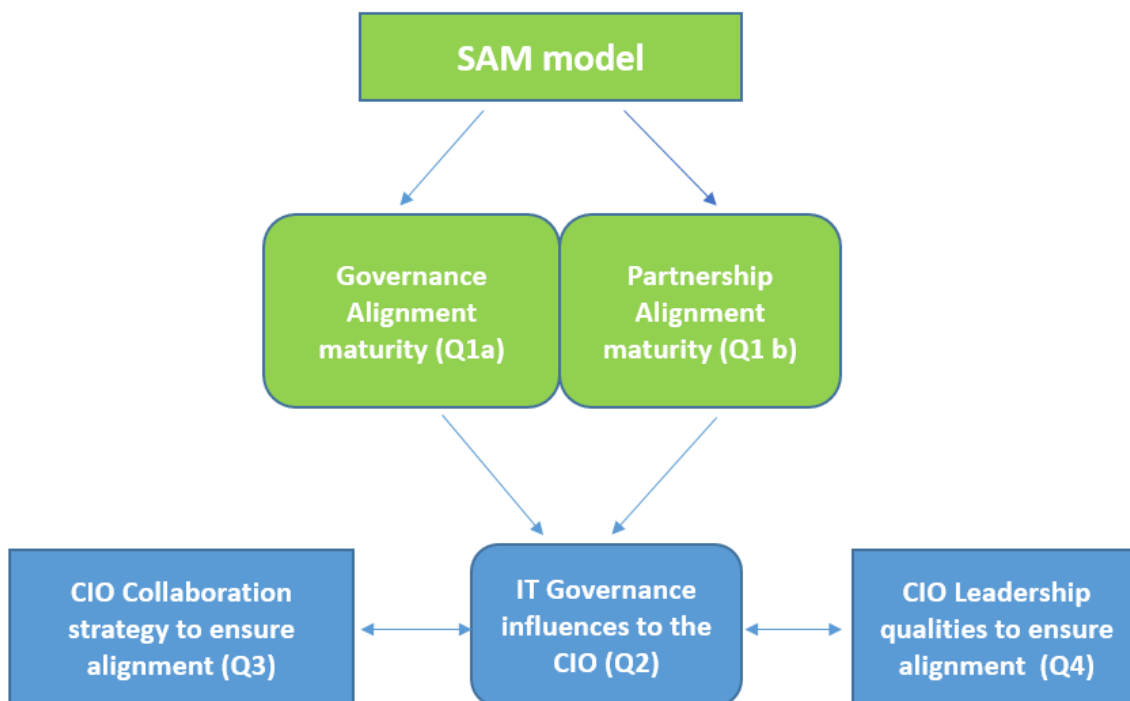


Figure 1: Research questions

3.1.1 Research question 1

Maturity level of governance and partnership alignment:

- a) **What is the maturity level of governance alignment between business and IT?**
- b) **What is the maturity level of partnership alignment between business and IT?**

The research questions were answered using questionnaires to collect the data from IT users in medium and large organisations within South Africa (see Appendix A). The different processes of both governance and partnership dimensions were posed to determine the maturity dimension at five levels, namely, ad hoc/initiated, committed, established focus, improved/managed process, and optimised process (Luftman, 2015). Governance alignment was assessed by evaluating strategic business planning, IT strategic planning, structure of the

organisation, budget control, IT investment management, steering committee(s), and prioritisation process of the organisation. Partnership alignment was assessed by evaluating perceived IT value, trust, the business planning process, organisational shared goals, risk, and rewards or penalties. Perception and trust between business and IT are critical, as IT is perceived to be a vital contributor to the success of organisations.

3.1.2 Research question 2

How does the governance alignment influence or affect the CIO in delivering the IT strategy to business?

Research question 2 was conducted using semi-structured interviews. As the business and IT alignment is key towards ensuring organisational performance; IT strategy and business strategy need to be in harmony with one another to deliver the organisational strategy. Despite the level of maturity, it is necessary for the CIO to deliver the IT strategy in alignment with the business strategy.

3.1.3 Research question 3

What collaborative strategies can the CIO implement to improve the governance alignment and partnership between IT and business? Research question 3 was conducted using semi-structured interviews. The CIO or Head of IT, as a leader, has to deliver the IT strategy. McLean and Smits (2014) explained that the CIO needs to be a strategist by becoming a boundary-spanner between the IS function and business strategists, ensuring that the business strategic opportunities are made possible by IT provide support and leadership for new business initiatives.

3.1.4 Research question 4

What leadership qualities should the CIO have to enable alignment and collaboration?

Research question 4 was conducted using semi-structured interviews. The CIO's relationship with other top managers is key towards ensuring that other business managers buy into the IT strategy. The CIO's leadership skills are key in delivering the IT strategy in alignment with the business.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Purpose of research methodology and design

This research was conducted using a cross-sectional approach based on both quantitative and qualitative research methods. The overall research strategy used to collect data deployed a mixed method designed for board members, business executives, CIOs, and IT users. This enabled the researcher to establish an in-depth understanding of the phenomenon of governance alignment, while at the same time, sent questionnaires to measure the maturity level of governance and partnership dimensions using the SAM model. The combination of both inductive and deductive approaches in a single study is advocated by Saunders and Lewis (2012).

The exploratory research design was used, as the study sought new insights and varied ways into the governance alignment construct using cross-sectional studies (Saunders and Lewis, 2012) from executives in executing organisational strategy.

The quantitative and qualitative research was used to analyse the governance alignment between business and IT. Qualitatively, interviews were held with various C-suite executives (CIOs, business executives, and board members) to determine the dimensions affecting the strategy and how this could be managed to ensure alignment. Quantitatively, questionnaires were sent out to IT users to assess the maturity dimensions of their organisations (IT Governance and partnership) using secondary data from the SAM model.

With the current complexity of achieving business and IT alignment within organisations, the philosophy of interpretivism was used to understand the broader business environment. Saunders and Lewis (2012) explained that interpretivism was concerned with organisational complexity based on the critical realist perspective, which was used to understand what takes place in a work environment. Because of the need for further development of theory in this nascent field, the exploratory study used an inductive approach, intending to seek new insights. The focus was to ask probing questions to assess the governance alignment between business and IT at medium to large organisations and how the maturity level dimensions of alignment affect CIOs or Heads of IT, and the mitigation strategies that CIOs use to ensure alignment (Wirtz, Pistoia, Ullrich, & Göttel, 2016).

4.2 Choice of methodology

On the one hand, a questionnaire was administered to IT users to collect data. This process used rated questionnaire statements from secondary data based on the SAM model (Luftman et al., 2015). Saunders and Lewis (2012) explained that questionnaires are used to collect data by asking each respondent to answer the same set of questions in the same order.

On the other hand, semi-structured interviews were scheduled with top management (CEOs, CIOs, and departmental heads) to enable better insight into the governance alignment and an understanding of how the alignment affects the IT strategy. It was also necessary to understand how CIOs should mitigate collaboration within the business and IT to enable alignment and cooperation.

4.3 Population

A population is a complete set of all respondents to the research available for the researcher to choose a subset from a testing sample (Saunders & Lewis, 2012). With no reliable sources available, the population for this study consisted of South African medium and large organisations, both public and private (in existence for more than five years as at 2018, where IT services were implemented. For semi-structured interviews, 11 participants were interviewed comprising business executive managers (including the CIOs) responsible for the implementation of the organisational strategy from selected organisations. The chosen sample was justified based on the primary aim to understand the governance of IT and deliver business value. Questionnaires were sent to users of IT services to determine maturity levels of governance and partnership within their organisations.

- Respondents from business held the following titles:
 - executive management role
 - board membership

- Respondents from IT leadership held the following titles:
 - CIO
 - Head of IT

- Respondents selected from both business and IT to determine governance and partnership maturity dimensions were:
 - IT service users

4.4 Unit of analysis

The unit of analysis was based on a selection of board members, business executives (including the CIO), and users of IT services in the selected organisations.

4.5 Sampling method and size

4.5.1 Semi-structured interviews

Non-probability sampling was used for the semi-structured interviews. Saunders and Lewis (2012) explained that non-probability sampling requires the use of one or more different group techniques that do not require a complete list of the population. Purposive and snowball sampling was used to choose participants who were able to help answer the research questions and meet the research objectives. Saunders and Lewis (2012) stated that purposive sampling is used mainly to select a small sample, while they further explained that snowball sampling may provide the possibility of finding additional potential participants. Executive management and CIOs are often difficult to access; hence, snowball sampling was the most suitable sampling technique.

Purposive sampling was selected to determine the nature of the alignment between businesses and IT and how this alignment affects CIOs in implementing the IT strategy, as well as to assess mitigation strategies to improve the alignment. The participants were selected based on the experience, knowledge and understanding of business and IT alignment (Bloomberg and Volpe, 2012). Because of the nature of qualitative research, the sample size is not fixed at the outset but determined when saturation is reached. The sample size of 11 participants was determined sufficient as the information needed for the research was answered with sufficient confidence. According to Bengtsson (2016) states that the basis of information needed determines the sample size. The saturation point is reached either when no new insights are found from further data analysis (Guest, Bunce, & Johnson, 2006; Saunders & Lewis, 2012) or when the analysis of the data has produced categories and themes robust enough to cover what emerges later (Merriam & Tisdell, 2016). For the study, saturation was reached at the tenth interview, after which one additional interview was conducted to confirm that the saturation point had been reached.

4.5.2 Questionnaires

Section 2 of the questionnaire was sent out to a random sample of an estimated 200 IT users using Survey Tool. Saunders and Lewis (2012) advised that respondents should contribute and be directed to the website that hosts the questionnaire. Consent was granted by two

organisations targeting more than 200 users to complete the online questionnaire. In total, 103 participants completed the questionnaire.

4.6 Measurement instrument

Interviews were the primary measurement instrument due to the nature of the research (Saunders & Lewis, 2012). To ensure internal validity, multiple sources of evidence from the governance alignment literature and semi-structured interviews were used. The questionnaire design process was based on the existing theory of IT governance (Gerow et al., 2016; Luftman, 2015; Luftman, 2000). Firstly, the questions were pre-tested to ensure that the participants understood the intent of the research. Secondly, to ensure that the most relevant participants were selected for the research (semi-structured interview), their background was validated by verifying their positions and their roles before the interviews started.

To ensure reliability, questions that the participants would easily understand were posted using consistent semi-structured interviews. Thus, even though the participants were able to talk openly and widely about the governance alignment, the themes were pre-determined in the process thereby eliminating observer error. An audio recorder was used to ensure that the researcher could transcribe and interpret the results with limited bias. The responses have been transcribed verbatim. In addition, the participants' consent was obtained before the audio recording of the interviews started.

For the questionnaires, IT users were informed of the purpose, focus and anticipated outcomes of the research and the primary aim of their invitation to respond to the questionnaire. To ensure that IT users could respond adequately, the questions were made clear and logical to the respondents. Saunders and Lewis (2010) stated that the questions should provide answers to the research questions and objectives.

4.7 Data gathering process

Saunders and Lewis (2012) explained that a semi-structured interview is a method of data collection in which the interviewer asks about a set of themes using some predetermined questions. A semi-structured interview was scheduled to collect data to provide an understanding of how CIOs were affected by the business-IT alignment in delivering the IT strategy. The research encouraged the participants to talk openly and widely about the topic while ensuring that the set themes were answered in the process.

Surveys, in the form of a structured collection of questionnaires, were used to determine the maturity of governance and partnership. They were sent to IT service users and were assessed using the attributes of the SAM model. The questionnaires included five levels that describe attributes for governance and partnership dimensions to be assessed using a 1 to 5 Likert rating scale. Standardised online questionnaires were conducted since they were convenient for IT services users to respond to. All the participants were provided with a written description via email on the research purpose, scope, and anticipated outcomes. The research followed the GIBS ethical code of conduct and ensured that appropriate behaviour was upheld throughout the research. This included truthfulness that demonstrated when analysing the data while at the same time ensured confidentiality participates (Bloomberg & Volpe, 2018). The questionnaires were ranked to compute mean and mode scores, in which values for variables represent common, middle or average values (Saunders & Lewis, 2012).

Semi-structured interviews were conducted using predetermined questions to establish new knowledge about the governance alignment between business and IT of medium to large organisations, and the maturity level dimensions of alignment affecting CIOs or heads of IT. The governance alignment was assessed by analysing business and IT strategic planning, organisational structure, steering committee (if any), prioritisation of IT initiatives (enterprise architecture), and investment management within the selected organisations. The assessment included the business' perception of the role of IT and the perception of trust and value between business and IT. This aspect was assessed using the partnership dimension of the SAM model. Cross-sectional research was designed to collect data from board members, business executives, CIOs, and IT service users during a specified period. Pilot-test interview questions to be verified to ensure that participants understand the questions of the research (Bloomberg & Volpe, 2018). As a result, before the interview, a pilot test was conducted to ensure that the interviews yielded information relevant for the research. The interview process was similar for all participants, with the time set for the interview at the maximum duration of one hour.

4.8 Analysis approach

Qualitative data analysis is a process of encoding interview transcripts to search for constructs that can be used to make conclusions on research data. Qualitative data analysis was used due to the exploratory nature of the research (Saunders & Lewis, 2012). The raw audio recordings of interviews were transcribed and loaded into ATLAS.ti for data analysis. Merriam and Tisdell (2016) recommended that an immediate analysis of data is an effective strategy for guiding a qualitative research project and generating focused results. This data analysis was performed on the day or the day after the interviews were conducted. When analysing

the results, it should provide the truthfully and be reliable results, that when replicated by it would provide similar finding and data (Bengtsson, 2016).

A quantitative data analysis, based on the SAM model, was conducted to determine the way in which variable values represent common, middle or average evaluations, to identify an alignment maturity dimension score (level 1 to 5) of governance and partnership. The data were analysed using the Statistical Package for Social Sciences (SPSS). Saunders and Lewis (2012) stated that the software requires data to be in the form of a data matrix, where each column represents a separate data variable and, in each row, a separate member about how the data have been obtained.

In assessing the SAM model, the questionnaires provided different maturity levels for the governance and partnership dimensions as shown in the following levels:

- Level 1 – the lowest level of Strategic Alignment Maturity
- Level 2 – committed to begin the process for Strategic Alignment Maturity
- Level 3 – established a focused Strategic Alignment Maturity
- Level 4 – managed Strategic Alignment Maturity.
- Level 5 – optimally aligned Strategic Alignment Maturity

In the qualitative data analysis, the above-mentioned levels were used to generate better insights into the governance alignment construct from different executives, understanding how the alignment maturity affects delivering the IT strategy, as well as how the CIOs would mitigate collaboration between business and IT as part of a partnership (see Figure 2).

Climbing the Strategic Alignment Pyramid

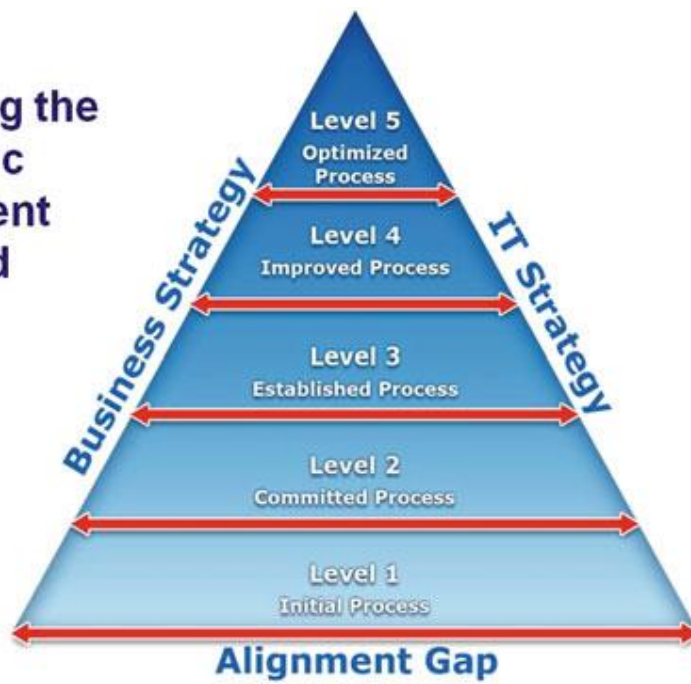


Figure 2: SAM model – Strategic alignment rating

Source: Rosemann and Vom Brocke (2015)

CHAPTER 5: RESEARCH RESULTS

5.1 Introduction

This chapter details the results for both the quantitative and qualitative (mixed method) research methods that were outlined in the previous chapter. Quantitatively, a questionnaire was used to determine the governance and partnership alignment maturity, using descriptive statistics, to determine the average scores of each process. Luftman (2015) used the mean as the average result to calculate the SAM model maturity level, determining the mean, mode and median as a way to measure maturity of alignment. The categorical and numerical data describes the central tendency of the SAM model rating required to provide the average (mean), the median and the mode, indicating the average rate and an alignment rate that occurs most often in the questionnaires, which is critical in analysing the data results (Saunders & Lewis, 2012).

For the quantitative results, semi-structured interviews with the 11 executive members (C-suites) of the medium and large organisations were conducted for this research.

The first part of the findings relates to the questionnaire results for research question 1, which includes mean descriptive results of how IT users perceive the alignment of IT and business within their organisations. The second part of the findings, which were the main findings of this research, relates to qualitative results for research questions 2, 3 and 4 mentioned in Chapter 3. The results are presented based on themes that were identified from the interviews, providing insight into what influences the CIO in delivering the IT strategy, and what collaborative strategies are necessary to improve alignment. Lastly, the leadership qualities that are required of the CIO are given.

- How does the governance alignment influence or affect the CIO in delivering the IT strategy for the business?
- What collaborative strategies can the CIO implement to improve the governance alignment and partnership between IT and business?
- What leadership qualities should the CIO possess to enable alignment and collaboration?

5.2 SAM maturity assessment (Quantitative)

This section describes the results of the quantitative survey with a research methodology outlined in Chapter 4. The quantitative results were formulated to determine the governance and partnership alignment maturity level collected using questionnaires from IT users in various organisations. The quantitative results present the maturity dimension rating for each question. Fifteen questions were sent to a total of 270 IT users from various organisations. A total of 103 responses were received, resulting in a response rate of 38%. The descriptive statistics included the mean, mode, and median scores for each governance and partnership alignment maturity scale.

5.2.1 Governance alignment assessment

Governance maturity evaluates business and IT participation, as well as formal discussions, priorities, and allocations of IT resources within an organisation (Rosemann & Vom Brocke 2015). The maturity dimension of the SAM model was determined by posing eight questions, which were rated from level 1 to level 5, according to a maturity continuum with the participating organisations.

The governance alignment had eight questions, which included strategic planning, CIO reporting line, IT and business strategic planning budget, investment, prioritisation, and the IT steering committee. The 103 responses indicated that most organisations were ranked on an average of level 3 maturity scale, which indicated that an established focus has been implemented in the governance alignment between business and IT (see Table 1).

Table 1: SAM governance alignment

Governance Alignment					
	N		Mean	Median	Mode
	Valid	Missing			
How would you rate the level of alignment between business and IT in your organisation, from the below maturity scales?	103	0	2.86	3.00	3
How is business strategic planning formulated in your organisation?	103	0	3.44	4.00	4
To whom does your organisational CIO report?	103	0	3.41	3.00	5
How does IT conduct their IT strategic planning session?	103	0	3.26	3.00	4
How effectively are IT investments managed?	103	0	3.14	3.00	3
How would you evaluate the effectiveness of the steering committee in managing the value and performance of IT?	103	0	3.00	3.00	3
How effective is the IT budget control process?	103	0	3.14	3.00	3
How are IT initiatives prioritised?	103	0	3.19	3.00	3

The SAM model uses eight criteria (questions) for assessing the governance maturity to determine the level of alignment within the organisation, discussed in detail below.

5.2.1.1 Governance alignment maturity

The 103 respondents rated the level of alignment at an average of 2.86, which is slightly below level 3 – an established strategic alignment rate according to the SAM model. However, 33.3% of the participants rated the governance alignment maturity at level 3, which indicates that most organisations had formal participation processes and engagement between business and IT.

5.2.1.2 Business strategic planning maturity

Processes that included business planning including IT were rated at 3.44, which is above the threshold of 3. More than 45% of the respondents rated their organisational strategic planning at level 4, which indicates that both business strategic planning and IT planning are managed across the organisation, where both of these dimensions are currently integrated.

5.2.1.3 CIO reporting line

About 37.62% of the respondents reported that their CIOs reported to CEOs within their organisation, whereas the second highest structure reporting was the CIO reporting to the COO at 20.79%. Research shows that for the CIO to be effective s/he needs to report to the CEO (Carter et al., 2011), and take an “outside-in” approach to leverage his/her access to top management. This aspect was rated at level 5.

5.2.1.4 IT strategic planning session

The results indicated that most IT strategic planning is conducted across the organisation, with 40% of the respondents giving rating level 4 to how IT strategic planning is formulated in their organisation. Luftman (2015) found that at level 4, most organisations view IT as a business asset. The average maturity was rated at 3.26.

5.2.1.5 IT investment management

Fewer participants (29%) rated IT investment at level 3 (Effective – Traditional; Process enabler), which indicates that IT spending is still controlled by the budgeting process. This may indicate that IT departments are still perceived by business as cost centres, but at the same time, according to Luftman (2015), awareness of IT’s “investment potential” is emerging. Meanwhile, 28% of the respondents rated IT investment at level 4, which indicates a perception of it as a value centre, where costs are effectively managed.

5.2.1.6 Effectiveness of the steering committee

Some of the participants (27%) had established an IT steering committee that is chaired by the business. Such a committee meets quarterly with regular communication; however, it is not yet effective to manage IT performance and effectiveness in line with delivering the business strategy and organisational objectives.

5.2.1.7 IT budget control

The highest number of participants (43%) rated this aspect at level 3, as their IT departments are managed at a cost centre level with some investments tracked at an organisational level. Level 2 indicates that IT budget control is at a functional departmental level, which is less effective as IT is viewed as a cost centre, while IT is done at the functional level and not linked to the business objectives to enable the delivery of the business strategy.

5.2.1.8 IT initiatives prioritised

About 32% of the respondents rated IT prioritisation at level 3, which is a reactive approach to managing IT initiatives. Luftman (2015) stated that, at this level, project prioritisation responds to “the loudest voice”, indicating that prioritisation is giving preference to departments that complain more than other departments, which is a reactive approach.

5.2.2 Partnership alignment assessment

The next maturity assessed was the partnership alignment between business and IT. The assessment for partnership, according to Luftman (2015), determined how each participant perceives the IT contribution to business, including trust, risk and rewards that are shared within the organisation. The partnership alignment assessment also evaluates the level of trust between business and IT.

Based on the above governance alignment assessment, 103 respondents indicated that most of the organisations were ranked on average at level 3 on the maturity scale, which indicated that an established level of partnership existed between business and IT. However, based on trust, sharing of risks and successes has been implemented in the governance alignment between business and IT (Majstorović, 2016) (see Table 2).

Table 2: SAM partnership alignment

Partnership Alignment						
		How would you rate the level of partnership between business and IT?	Do you trust IT to provide you with a required service to meet your business objectives as a user?	How do you perceive IT value?	Does the organisation share goals, risks, rewards, or penalties with the IT department?	Does the business sponsor or champion IT aspects on project initiatives?
N	Valid	103	103	103	103	103
	Missing	0	0	0	0	0
Mean		2.99	3.40	3.39	3.19	3.10
Median		3.00	3.00	3.00	3.00	3.00
Mode		2	3	3	2	3

5.2.2.1 Overall partnership between business and IT

The participants rated the overall partnership between business and IT at level 2 (30.69%), which shows that although there is some level of partnership between business and IT, it is not effective. Luftman (2015) explained level 2 as transactional, based on management interactions between IT and the business rather than based on partnerships.

5.2.2.2 Trust of IT services

Even though partnership was rated at level 2, when the participants were asked if they trusted IT to provide them with services, they rated this at level 3. About 36.63% felt that some level of trust exists between business and IT – most of the time IT can be trusted to deliver services in line with the business objectives. The trust level between them is not optimal, however, as at times IT cannot be trusted to provide the required services to business.

5.2.2.3 Perception of IT value

The level of IT value was rated at level 3 by 34.31% of the participants, which indicates that IT is viewed as a business process enabler. However, interestingly, level 4 was also rated high by 33.33% of the respondents. The latter also indicates that some respondents viewed IT as a business strategy enabler/driver within their organisation.

5.2.2.4 Sharing goals, risks, rewards, or penalties

Goals, risks, rewards, or penalties were rated at level 2, with IT taking most of the risk with little reward for all goals to be delivered within the organisation. Level 2 indicates that IT takes all the risk of the majority of failures of the organisational project. Business wants IT to deliver services for them; however, the risks of failure or success and rewards are not shared with IT, and they take most of the risk with little reward for any success.

5.2.2.5 Business sponsor or champion IT aspects

More than 38% of the respondents rated the business sponsor at a functional level, thus indicating that most organisations do not have a unified process of the project or initiation sponsorship that is integrated and managed. The sponsorship of IT initiatives is not unified but managed at a functional level, which could cause an unstructured process of managing initiatives.

5.3 Qualitative results

This section presents the key findings from the semi-structured interviews conducted with the 11 C-suite executives from medium to large organisations that have been in existence for

more than five years. The key findings are presented as they relate to the research questions posed in Chapter 3 (questions 2 to 4). The results are presented based on themes that were identified from the qualitative analysis of the interviews, providing insights into how the governance alignment influences or affects the CIO in delivering the IT strategy to business; what collaborative strategies the CIO can use to improve the governance alignment and partnership between IT and business; and what leadership qualities are required for the CIO to enable alignment between business and IT.

5.3.1 Description of participants and context

All the names of the executives and businesses were changed from their original form to ensure anonymity for the respondents. Eleven interviews were conducted – nine were conducted face to face and two were conducted using telephony. Each participant interviewed occupied a C-suite position in their organisation, while four additionally occupied board positions within other organisations. Ten participants interviewed were based in Johannesburg, South Africa, while one was based in Durban, South Africa, during the period of the interview.

5.4 Results: Research question 2

This research question aimed to understand how the governance alignment influences or affects the CIO in delivering the IT strategy to the business. Below are the themes generated from the responses of the 11 participants.

5.4.1 Business and IT forums

Four themes were found to be influencers to the enablement of the CIO to align business and IT; however, the themes were explained in detail to the interviewees through the following sub-themes.

5.4.1.1 IT Strategic level governing process

For ten participants, the CIO reported to the CEO, which either federated or decentralised the structures of an organisation; only Y Department had the CIO reporting to the CFO. The CIO for all ten organisations was part of the EXCO and got involved in all strategic engagement of the organisation.

Through the participants' interviews, probing questions were asked to understand how governance alignment influences decisions around IT and the delivery of the organisational strategy and objectives. Ten participants (90%) found that having an IT steering committee

positively affects the CIO's performance by governing his/her performance in line with the IT steering committee objectives. It was noted that the ten organisations have an IT steering committee to govern IT performance and benefits expected from the CIO with regard to IT strategy. Their IT steering committee members include business executives from other departments. However, Ivan from Y Department indicated that his organisation does not have an IT steering committee to governance IT performance, which is rather self-managed.

Ivan: I think we are slowly getting to that level where we are bringing systems into the business and starting to formalise our IT process so that it becomes an integral part of the business. Right now, IT is purely viewed as a, as something that is there for emails.

Y Department evaluated its IT steering committee as an effective enabler to hold the CIO accountable for delivering the IT strategy. The organisation also had an effective steering committee, which is chaired by the business, meets quarterly, and has a clear mandate in terms of aligning business and IT. Only three organisations (Wety (Pty) Ltd, Nelson TY and Paint Lot) regarded their IT steering committees as valued partnerships, which effectively managed IT performance in line with business strategy and objectives.

Cedric: The executive collectively is to participate fully in the IT steering committee, so the IT steering committee must not be viewed as an IT steering, so it must be viewed as an executive committee. The executives must all feel that they own that committee. Failures and success must not be the CIO's but must be for all of them.

Sipho: We have nothing as technologies, but the systems are owned at the business. When they drive those IT steering committee it becomes better and the CIO should be a member of the executive committee because they'd make sure that at an EXCO level, IT is discussed at a strategic enabler and not as a business unit.

Ten participants (90%) stated that business strategic planning was formulated together with IT and managed across the organisation to ensure alignment.

Stephen: In our planning, in our strategy in our alignment processes we have to bring IT in right from the beginning, we can't go have a five-day INDABA on what business is going to do without having IT.

Mosafa: Most of the business planning, IT is getting called.

The project prioritisation process was found not to be effectively governed across the participating organisations, as the participants regarded the IT steering committee as a committee to prioritise IT direction and projects. One of the participants mentioned that business wanted IT to undertake all tasks, with limited resources.

Morena: So prioritisation is important when you have engaged business. I think it's important to prioritise and go back to business and negotiate the ten things; I have limited resources therefore I can only deliver this, out of the 10 things that you want me to do I have so much resources. Everybody must do something; it can't just be IT that must do, business must also prioritise. Business must come to the party. If we partner with them in the project or initiative. We expect that they will equally commit to that initiative, in all respect, time and resources.

5.4.1.2 Operational business and IT forums

It was found that strategic and operational forums were key to enable communication and break the silo between business and IT. Forums were used to increase alignment and ensure that everyone within the organisation is aware of IT outputs in line with their objectives. As it is critical for the CIO to align at a strategic level, it is equally important for him/her to get involved in the organisation's operational and tactical plans using business forums as a mechanism to increase harmony between business and IT.

Lebo: CIO needs to recognize people entrusted in the business and get involved in forums that are most important within the organisation. Different people have different impacts in the organisation; he needs to leverage on their charisma and so on.

The SAM model only mentions strategic alignment; however, through the interviews it was noted that tactical and operational alignment influences the CIO to align to business, as most of the IT users were participants.

Marina: Our CIO does not just keep the GMs and executives informed, they keep the staff informed of what's happening, so it's a roll down effect.

Other organisations had management committees including IT project sponsors engaging with IT on innovation and improvement of operational issues that will enable efficient operations.

Morena: We use platforms like ManCo (Management Committee), where we engage different business units on a monthly basis to make sure that we don't lose contact

with our key partners in business units. So that's a good platform to get feedback, to give input, to share with business what the IT roadmap is for the business and make them co-own the road-map with IT.

5.4.2 Expectation gap

While business-IT alignment enables integration between business and IT, the causes of misalignment were found to include politics and power struggles between business and IT. During the interviews, the expectation gap was found to be a factor that affected the CIO in delivering the IT strategy. Six of the 11 participants from both business and IT mentioned the expectation gap as a factor preventing business and IT alignment.

Morena: Some executives pick up a magazine in an airplane, where technology is implemented in America, where there is advanced connectivity, they come back and they want it. It doesn't work like that. They need to consider environmental factors, within which we as an organisation are operating. It's always important not to get carried away by what you read in the newspapers or what you see.

Unathi: I mean the main problem was that we're using knee-jerk reaction approach. Knee-jerk reaction approach is where IT develops a solution because there is a problem with a system that needs to fix the system. So there is no clear funnel that is used to prioritise IT development projects. So that was always resulting in a bit of a challenge and it was also depending on who's screaming the loudest.

One of the participants stated that IT is prioritised before business and thus imposes solutions without consulting business. While from an IT point of view, the Head of Security stated that business requirements from business change all the time, as business does not know what they require. The Chief Technology Officer (CTO) of Paint Lot added that business needs to appreciate what IT can do and cannot do, he continued to state that IT cannot do everything. The priority list of projects needs to be negotiated by IT in line with the availability of capabilities.

Lebo found that IT is not adding value by misrepresenting the needs of the business.

Lebo: Whatever IT is doing, is it the needs of business? Are they addressing the needs of the business? And have they prioritized addressing the needs according to the priorities of the business? Or according to the priorities of IT.

An executive responsible for IT, however, stated that business can also assist in closing the expectation gap by setting realistic timelines, as most of the time their timelines are rushed, which affects quality.

Salie: Business can also assist IT to deliver if they set realistic timelines as most of the time the timelines are rushed. As a result of that, it comes with disruption in the environment because everyone is rushing to meet the deadline and the quality gets impacted along the way.

The expectation gap was also linked to effective project prioritisation within most of the participants' organisations.

Unathi: Business follows a knee-jerk: reaction approach. This is when business was to have a project because there is a problem. So there is no clear funnel that you use to prioritize IT projects. So that was always resulting in a bit of a challenge and it was also depending on who's screaming the loudest.

5.4.3 Providing basic services and efficiencies to business ensure alignment

The governance misalignment leads to a gap in IT basic support services to the business. This includes IT system availability, which seems to be a prerequisite for the CIO to ensure that system "uptime" is optimal to the business at all times. Six participants found that the CIO should be able to provide basic services to the organisation effectively.

Sipho, a CIO at Mennice, stated that having the right to sit at the table of executives requires having IT basic systems available at all times – if you deliver the value first, then you deserve a seat at the table. While the Managing Director (MD) of S-Light Insurance stated that, operationally, businesses should be able to perform their daily duties because of IT basic services being available.

Marina: I also was moaning about IT and that means they were listening, not just to me, but to everybody who was moaning and groaning about IT, because they did something about it and now, we haven't had small things like downtime that affects everybody. The CIO takes it so seriously that he prides himself, not because he wants to make the CEO proud, but fix that for you because it's hindering you from doing your job.

While other executives found that addressing the basic is a must, it is not value-adding to the objectives of the organisation. The financial director and board member of POT HR found that IT basic services are not sufficient to deliver the strategy of the organisation. She stated that automation and business efficacy should be added by IT in every organisation. Automation of business processes to eliminate inefficiencies was viewed as the key deliverable towards achieving business-IT alignment.

Lebo: IT need to relook at our systems and bring in automation. Bring in automation get rid of inefficiencies get rid of.

Two executives perceived automation as an enabler to governance and risk controls within their organisational processes, while Marina stated that automation has enabled them to take a step further to develop new technological capabilities within the organisation for new revenue streams.

Cedric: Our controls are dependent on IT, cornerstone of risk management, they don't look at it to say human errors are actually the highest error or the cost to any organisation, but IT can eliminate that.

5.4.4 Power and politics

Power and politics are apparent among business and IT executives, which affects the CIO in delivering the IT strategy. As business executives engage, decision 'camps' and power seem to be at play. The EXCO has diverse business knowledge and experiences, which leads to disagreement, as business seems to be heavily reliant on IT to deliver the organisational IT strategy.

Stephen: IT thinking that they are above water, needs to stop. They need to understand that they are building systems for business.'

Dimpho: CIO needs to get input from other executives without being a guy that know everything.

IT was evident from one of the CIOs from Mennice's statement that IT knowledge seems to be intimidating for other executives, who are not as technically savvy.

Sipho: Other executives are intimidated by CIOs and their vast knowledge.

However, one CIO from Paint Lot argued that it was the CIO's responsibility to educate business about IT, while the MD of S-Light Insurance stated that business executives need to understand digitisation. Unathi from Nelson TY explained how most of their executives attended a course on digitisation to understand how IT can assist the business.

Marina: I think a lot of the time CIOs feel like they know everything, but with our CEO, he is enabling people to learn more because he is learning all the time.

5.5 Results: Research question 3

As organisations strive to meet their business objectives, business is striving for its IT department to be viewed as an enabler and a driver of strategy. Collaboration between business and IT improves governance and enables a partnership of alignment from all levels of the organisation (Gerow et al., 2016).

Most of the online survey participants rated the IT partnership with business at level 2. During the interviews with the C-suite executives, the partnership between business and IT was viewed to be at level 4 (very likely we have partnership). It seems that at a strategic level, the CIO partnership with business is deemed to add value and effective. However, the CIO needs to ensure that all levels of the organisation collaborate and work in harmony to enable the IT strategy to succeed.

The research question aims to find collaborative strategies that different executives found necessary for the CIO to implement in order to improve the governance alignment and partnership between IT and business. These include business and IT interactions at all levels that optimise collaboration to enable business strategy.

5.5.1 Engaging with different levels in the organisation

5.5.1.1 Executive and business committee

IT steering committees were implemented in most organisations of the executives interviewed, while ten participating CIOs reported to CEOs, and were part of the executive committee. However, Y Department did not have such arrangement.

Dimpho: Our CIO has got a seat at the executive table, so the CIO is no longer just talks digitisation and fancy big buzzwords, it's actually about the key business

objectives that are aligned with the strategic business objectives and communicate that effectively.

The CIO's involvement in other business forum interactions seemed to be adding value in collaboration with the business. Marina took pride in all the initiatives implemented by the CIO in ensuring that they engage in various forums with staff members.

Marina: They don't just keep the GMs informed, they keep the staff informed of what's happening, so it's a roll down effect and then they share with us to share with the staff as well. This is done through road shows and hackathons.

Feedback on IT services to the organisation was viewed as an important element of getting buy-in.

Morena: IT should always be talking to business, always giving feedback as to we as IT, where we are and always getting feedback from business in terms of how we are performing is important and the crux of it is communication.

He continued to add that the CIO needs to spend more time with the business, requesting their detailed plans in relation to their inhibitors.

The Head of IT Security from TRQ added that there should be clear lines of communication from the top to the bottom, it benefits the organisation, such as internal communication platforms to sensitize the entire business in terms of what business is currently busy with, what other initiatives are coming in future.

Salie: So various communication channels can be used, such as the internal communication platforms to sensitize the entire business in terms of what business is currently busy with, what other initiatives are coming in future. You know how each and every individual within the company can play a role, I think that will certainly increase that level of partnership.

Cedric emphasised that the CIO should also interact with outside partners of the organisation for him/her to be able to engage further and assist the organisation in reaching its strategic objective.

Cedric: The business need to rely that the CIO will provide technological innovation to them, so the CIO's job is to constantly research, constantly talk to other business outside the organisation to find new ways of helping the company to deliver its product efficiently, effective, faster and smarter.

5.5.1.2 Communication and stakeholder management

During the interviews, it was noted that the personality of the CIO as being open and approachable adds value to the aspect of collaboration within an organisation. Marina, the Marketing Executive, described her CIO as an engaging and down-to-earth leader, encouraging engagement at all levels of the organisation.

Marina: He is very much involved so, in terms of what we need to move forward, there is always interacting with the General Managers, the Business managers, and even the staff to enable everyone to say what we need to go forward.

Meanwhile, the CTO of Paint Lot added that communication becomes an issue or barrier, if IT does not engage with business, which results in business not engaging with IT in return. This ultimately leads to communication breakdown between business and IT.

The recurring theme during the interviews was the personality of the CIO who enables increasing and inclusive communication between business and IT. The CIO was required to be a good listener, a negotiator, an effective communicator, and a people's person. Dimpho, the CIO from Brey, found that informal engagement with different people adds more value than having formal engagements with many people, with limited time for anyone to do their presentation.

Dimpho: So you present what you've gathered at the formal presentation. But you've gathered a lot of data and a lot of information during these informal discussions.

5.5.1.3 Business language knowledge and experience

Business language and knowledge was viewed as an enabler for collaboration between business and IT, where both IT and business engage on the same lingo. Technical jargons were found to hinder understanding of IT which leads to misalignment. CIOs who were too technical and lacked business language were found to be non-collaborative and failing to add value to stakeholders, while at the same time lacking the ability to educate business on IT.

Stephen: *IT should stop with the acronyms, break it down better that it aligns with strategic business objectives. IT has a seat at the executive table, so the CIO is no longer just talking digitisation and fancy big buzzwords, communication is actually about the key business objectives.*

Salie added: *The CIO must be able to translate the technical jargon into business narrative.*

It was evident from all the participants that the CIO with business knowledge and less of technical knowledge is required to align business and IT, as well as the ability to transform the organisation, through a language that both business and IT can understand.

Although eight participants stated that the CIO should have business knowledge, technical background is still considered important. This includes an ability to translate technical IT requirements into business value, delivering alignment through a common understanding among key stakeholders.

Dimpho: *CIO has to become a Jack of all trades. You got to know business more than everyone else, unfortunately that's the reality we are faced with, because ICT, which is our capability, touches the entire business so you've got to know everyone's business and know.*

Participants who held business executive positions also found that they would rather have a CIO who knows more of business and has less technical knowledge. However, Morena and Stephen further stated that in future, the CIO will emerge more from business operations than a technical background, as CIOs are not required to be technical but must have an understanding of IT.

Stephen: *The CIO has moved from what it was about five years ago. CIO needs to have a business part to their brain ... What I'm finding is that more traditional CIO is needed any more you need that CIO that understands business to deliver what needs.*

Morena: *Going forward, CIOs are not going to emerge from technical, they'll emerge from finance, CIO emerge from marketing, and CIO will emerge from all other areas.*

Stephen: *A perfect CIO is person that has grown up from an operation, so someone that is coming up through the ranks of. Project management, Business analysis, operational head and then into a CIO role.*

Only one participant found that technical know-how is more important for the CIO to deliver value and advice to business.

Unathi: *CIO experience and knowledge quantities is the technical aspect, obviously in IT environment you need to understand what needs to be done to deploy resources accordingly.*

5.5.2 One strategy for business

The role of IT as a business strategy enabler and driver in strategic business planning was rated at level 4 by 29% of the participants for the online survey. Level 4 was also found to be the highest level rated during the C-suite executives' interviews, with only two rating the maturity at level 2, "business process enabler", while Ivan from Y Department rated the role of IT in strategic business planning at level 1, which indicates that planning is done without IT.

One of the participants admitted that as business, she still considers IT as an outsider to business strategy. She stated that at times business meets without IT, but business requires IT to perform as an enabler to the business strategy.

FD: *Let's say maybe we were to send out invitations right now to go and discuss our business strategy, it's not going to include IT. And yet we're saying, they are our enabler or strategic partner. It means that is not true, if we can do business our strategy without IT, then are not a strategic partner therefore.*

Other executives found that both IT strategy and business strategy in their organisation are formulated as one strategy and not separated. They viewed IT as an important driver and enabler for them to meet their strategic objectives.

Stephen: *I think is fundamental is bringing down the wall between IT and business. They're not two separate functions. Business and IT are not two separate functions. They need to work hand in hand. And have one aligned of strategy.*

Sipho: *The IT and business should become one, it shouldn't be separated because it delivers one strategy and that strategy is for the organisation.*

Five participants stated that the CIO has to be viewed as a part of business and needs to be relevant to the business strategy.

Marina: The CIO should start taking the initiative to become relevant and contribute to the business strategy and implementation.

Lebo: Getting involved in business strategy sessions, enables the CIO to be seen as part of business and increases his relevancy.

An IT steering committee was implemented in ten participants' organisations which was seen as an enabler to manage an integrated business and IT strategy. As most executives from business are part of the IT steering committee, they were able to hold IT accountable to deliver an aligned IT strategy to the business.

Cedric: The IT steering committee is one of the vehicles that the company needs uses so that we don't work in isolation. Business is part of the IT strategy and the business is comfortable with what is delivered.

5.6 Results: Research question 4

Research question 4 focused on leadership qualities necessary for the CIO to enable alignment in an organisation. As each participant gave their ideal leadership qualities, the list was endless; however, the insights collected were themed according to different leadership qualities.

The MD of S-Light Insurance stated that the kind of leadership quality required by the organisation needs to be aligned with the organisational strategy.

Cedric: So my view is always not to be blanket on leadership because it depends on the strategy of the company so you can't have a CIO who is a visionary while the company is on a maintenance mode. We need a CIO who is a dreamer, a visionary, who is not scared to be disruptive. We need a disruptive CIO at this stage, because we are in that mode.

Salie: CIO must be able to move people with him, he must be a people's person, a visionary and he must be transformational.

Nine of the participants responded to qualities of a transformational and charismatic leadership for their ideal CIO. This was viewed to be more apt, as most organisations were striving to align and transform their organisations to digitalisation.

Lebo: An ideal CIO leader should be everything to the organisation.

Salie: An individual that has a vision that foresees trend, he should be able to address emerging trends, emerging risks, he must be at the centre of IT and business and be able to communicate to both sides in terms of what is required going.

However, two participants stated that the ideal CIO should be a servant leader to align business and IT.

Marina: The new world of work speaks to servant leadership CIO.

Morena: CIO as a leader must walk the talk – I doing what you said you will, and doing what you said you will do, because if he doesn't, trust as a leader is lost.

Most organisations were striving to align and transform towards digitalisation. In addition, they also stated that the CIO leadership qualities are important for a leader to mobilise and enable subordinates to work together through a transformation journey of delivering the IT strategy. Most of the executives felt that the transformational leadership required to align the business relies on the CIO, and did not express their collective leadership qualities as executives.

It was also noted that for the CIO to transform the business to a required level of alignment in each organisation, e/she may sometimes need to be a transactional leader to his/her subordinates as well, with a view to close some of the expectation gaps that all executives mentioned above. This is linked to managing IT basic services and closing the expectation gap between business and IT.

Sipho: CIO cannot even have business partners and will not even accept a meeting if your e-mail is not working. So the basic must be in place that ends with the right to the table.

CHAPTER 6: DISCUSSION OF THE RESULTS

6.1 Introduction

This penultimate chapter provides a detailed discussion of the results outlined in Chapter 5 from the analysis of the questionnaires and semi-structured interviews presented. The research questions posed in Chapter 3 were answered and analysed to provide an overarching insight into the findings. Each research question was analysed to provide insight into the governance alignment of IT and business. This was performed by comparing interview themes and literature that supports IT and business alignment. The primary objective of the research questions was to provide insight into the business and IT alignment, CIO collaboration and mitigation strategies that can be implemented to ensure alignment.

6.2 Discussion of results: Research question 1

The first question was formulated to evaluate the IT governance and partnership maturity using the SAM model from IT service users. Understanding maturity provides insight on how IT and business processes enable alignment according to the SAM model questions. In their research, Tarhini et al. (2015) found that governance and partnership were the two most important factors for the business and IT processes in an organisation. Hence, an evaluation of the two dimensions is vital to this study.

6.2.1 *IT governance*

According to Rosemann & Vom Brocke (2015), formal process participation of both business and IT enables governance alignment, which in turn, leads to alignment between business participation and IT strategy. To determine the maturity dimension of the SAM model, eight questions were posed to participants. These questions were rated from level 1 to level 5, according to maturity of processes with the participating organisations. As a result, the respondents rated the alignment rate at 2.86, which was slightly below the average rate of 3.00. However, the other seven questions were rated at an average of 3.00. The median and mode values were an average of 3.00, which indicates that the organisations have established an average level of alignment focused on business delivering organisational objectives. However, for the organisation to close the gap between IT understanding business, and vice versa, the maturity of governance needs to be optimal and effective. As Gerow et al. (2016) stated, aligned firms leverage more value from IT and create sustainable competitiveness and profit growth.

Even though most organisations established an IT steering committee to manage IT performance, different levels of efficiency of the committee were recognised. Y Department had no IT steering committee, that is, level 1, which means that IT self-manages its performance. According to Luftman (2015), level 1 organisations do not have an aligned business-IT strategy, as they do not account for the required performance to meet organisational strategy. Two other executives, Lebo and Unathi, rated their IT governance alignment at level 2, which indicates that efforts are in place to start the process of governing IT, however, not yet effective to enable alignment. Six executives rated level 3 in line with the questionnaire results found that they have an established focus for strategic alignment. Two participants indicated that their organisations are at level 4. Thus, their organisations leveraged their IT assets across the enterprise and focused on enhancing business application towards sustainable competitive advantage (Luftman, 2015).

The above results indicate that IT governance processes have been implemented in most of the organisations. However, the level 3 maturity indicates that processes of governing and implementing IT are not effectively aligned to provide a positive relationship between business and IT (De Haes & Van Grembergen, 2009; Orozco et al., 2015).

Forming an IT steering committee structure and implementing IT governance processes is insufficient. The committee is a structure but will only add value when it effectively manages the objectives set to enable strategic alignment, which includes business and IT value delivery, risk management, resource management, and performance management. It could be argued that different organisations should use best practice guidelines or the COBIT IV framework to effectively implement IT governance, as the framework provides key milestones and responsibilities for each stakeholder between business and IT.

6.2.2 Partnership alignment

The dimension as described by the SAM model measures how business and IT perceive one another other regarding value, trust, risk sharing, IT prioritisation, and responsibilities. Effective long-term partnerships are sustained when IT and business partners exhibit trust and positive attitudes toward one another's potential contributions (Henderson, 1999). The executives completed the questionnaire and 55% responded by rating partnership as an effective relationship between business, and IT established the process (level 4), which indicated that the business and IT relationship is mature enough to deliver the strategy.

Ten executives selected level 3 and level 4 for their IT maturity according to SAM maturity dimensions. Ivan was the only executive who viewed their IT SAM maturity at level 2, while

Stephen and Dimpho scored their organisation at level 3, which indicates that organisations are partnering to identify opportunities between IT and business. However, six other executives found that their partnership has matured to level 4, which indicates that business views IT as a valued partner, an enabler, and a driver of their competitive advantage (Luftman, 2015). Most of the participants who shared risk and rewards within the organisation with IT and business provided effective sponsorship and championing of all IT projects.

It is clear that the overall partnership was evaluated by participants lower than IT governance dynamics within organisations. Partnership was evaluated based on trust, IT value, the role of IT, project sponsorship and risk and rewards sharing within the organisation. The results indicate that level 2, of trust and sharing of risk and rewards, was the most frequently recurring rated level, where the business perception of IT is emerging as an asset to the organisation (Luftman, 2015). This indicates that the organisation has to formalise the partnership dimensions in line with the SAM model, while at the same time, the CIO would still have to work on creating partnerships with business for them to trust IT as an enabler or strategic partner (Orozco et al., 2015).

6.3 Discussion of results: Research question 2

Research question 2 aimed to explore how the governance alignment affects the CIO. Five themes were identified by participants in answering question 2:

- IT governing structures;
- operational forums;
- expectation gap between business and IT;
- power and politics; and
- basic services and efficiencies to ensure business alignment.

6.3.1 IT governing structures strategic level

Almeida e al. (2013) state that organisational structure mechanisms are visible IT governance mechanisms, which are the organisational units and roles responsible for making IT decisions, such as committees, the EXCO, and business/IT relationship managers. The SAM model identifies business strategic planning, IT strategic planning, CIO reporting structures, budgetary control, IT Investment management, steering committees, and prioritisation process as enablers for business and IT alignment (Luftman, 2015, 2017). Therefore, this research extends the body of knowledge of how the alignment would influence and affect the CIO. The research question is discussed based on the theme that arose through analysis of the results.

Improving IT governance practices may not enable alignment if IT is not viewed as a strategic value to the organisation (Hiekkanen et al., 2015). These authors continued to argue that IT should be perceived as a strategic enabler to improve alignment.

During the interviews, it was noted that for all the ten participants the CIO reported to the CEO (either in a federated or decentralised structure), which enabled the CIO to influence and contribute to the business strategy while representing IT. Luftman et al. (2015) agreed that the CIO reporting directly to the CEO enables higher alignment maturity than when the CIO reports to a non-CEO executive. The CIO is able to increase alignment by ensuring s/he has formal engagements at a strategic level. Hiekkanen (2015) explained that the CIO needs influence amongst his/her peers and to ensure that IT and business plans are synchronised in line with the organisational goals.

The IT steering committees and other governance processes are responsible for governing IT through formal participation in budget discussions, project priorities and allocation of IT resources within an organisation (Rosemann & Vom Brocke 2015). The literature argues that improving IT governance triggers the involvement of IT in the strategic planning process and therefore enables improved communication between businesses and IS (Orozco et al., 2015). The results presented in Chapter 5 showed that all ten participants had established IT steering committees, business and IT planning processes, integrated IT strategy, as platforms that include business executives and IT, within their organisations to hold the CIO responsible for delivering the IT strategy. All the IT steering committees were chaired by business evaluating IT performance against agreed business objectives.

One executive participant did not have any formal committee including the IT steering committee or as most of their IT services are at a basic level and outsourced to external suppliers, he added that their organisation has no alignment between business and IT. However, the other ten executives all had most governance processes including an IT steering committee rated at level 4 and 5. However, when asked about the alignment rating the executives rated the level of alignment at level 3. This implies that the establishment of governance structures, including the IT steering committee and other formal processes is not a guarantee for alignment. Hiekkanen et al. (2015) explained that the implementation of IT governance frameworks and practices does not imply that IT is aligned to, and sustains, the organisation. Alignment depends on social and cultural dimensions of the organisation that views IT as a strategic partner and enabler.

The SAM model advocates a level 5 (matured structures) of fit throughout the organisation, or that the organisation is effective for alignment (Luftman, 2015). However, it is clear that CIOs need to be aware that having IT matured or established formal governance processes in place within their organisations may not necessarily guarantee alignment. Karahanna and Preston (2013) found that the CIO has better leverage in attaining business and IT strategic alignment through creating shared values and language, and shared cognitions, and building trusting relationships than through formal and informal interactions with other business executives or IT users. This element is discussed further in the following themes.

6.3.2 Business forums

During the interviews, it was clear that other tactical and operational business forums were found to be effective in aligning business and IT, over and above strategic executive forums. However, the SAM model does not include other business forums other than the strategic committees. Other business forums were found to be effective in ensuring the alignment between business and IT apart from formal established structures and processes at a strategic level. It was interesting to find that CIOs who got involved in organisational forums, besides aligning only at the executive level, were found to be effective in closing the gap between and aligning business and IT. This can either be achieved in projects, new initiatives or challenges faced by the organisation.

Operational business forums were found to be an enabler for alignment at an operational level, making it more effective than a top-down alignment, with feedback on the bottom-up effect from the tactical to the strategic level. Business forums were used as a mechanism to increase harmony within the business and IT. Avison et al. (2004) found that the SAM model does not account for the dynamics of the operational environment, making difficult to align business and IT.

During the interviews with executives, eight participants found that other business forums were an effective mechanism for the CIO to use to ensure alignment with the business. The forums could either be tactical or operational, as a key enabler for effective communication and breaking silos between business and IT.

Morena: We use platforms like ManCo (Management Committee), where we engage different business units on a monthly basis to make sure that we don't lose contact with our key partners in business units. So that's a good platform to get feedback, to give input, to share with business what the IT roadmap is for the business and make them co-own the roadmap with IT.

Lebo: CIO must recognise which business forums are most important.

Communication by the CIO with different levels of the organisation provides continuous feedback to IT, engages members of the forums in regular communication, and provides a clear, detailed picture of the required objectives. CIO participation in a business forum keeps different stakeholders focused on their responsibilities thereby ensuring that all members have an opportunity to participate during these sessions (Zhong & Lim, 2008).

Marina: CIOs don't just keep the just the General Managers and executives informed, they keep the staff informed of what's happening, so it's a roll down effect.

During the analysis of the SAM model with regard to alignment, several limitations were identified. Such limitations of the SAM model require different alignment processes from strategic, tactical and operational levels. Burn and Szeto (2000) found that organisations require measures of alignment not only at a strategic level. The authors found that some limitations to the model do not account for different processes of alignment at both tactical and operational levels. They also mentioned that different organisations require different alignment processes. However, the COBIT IV framework uses Capability Assessment as a model to measure the level of strategic, tactical and operational level alignment (ISACA, 2018), which could be an effective tool to use for alignment.

Forums were used to improve alignment and ensure that all stakeholders within the organisation are aware of IT, outputs in line with their objectives and get involved in the process of IT, by providing and engaging, not only IT managers but CIOs as well. It was found to be critical for the CIO to align at a strategic level, as it is equally important for him/her to get involved in tactical and operational business forums, as a mechanism to increase harmony between business and IT.

Marina: CIO is very much involved, regarding what we need to do to move forward. There's always interacting with the general managers, the business managers, and even the staff to enable everyone to say what we need to go forward.

One of the organisations had a monthly management committee, with the CTO as a member. In Nelson TY, executive members or project sponsors attended weekly meetings. This was a new initiative that the CIO and CEO found necessary in improving their alignment.

6.3.3 Basic services and efficiencies to business ensure alignment

The participants mentioned the importance and quality of IT basic services as a prerequisite for ensuring trust and alignment between business and IT, enabling reliance on IT services. In addition, all the participants mentioned the availability of IT services, which includes basic services, such as email, core systems and others, as a prerequisite to alignment.

The SAM model measures trust between business and IT: three executive participants rated trust between them at level 3, while the other eight participants rated trust higher at level 4. The SAM model provides a strategic view, while, according to the participants, IT basic services seem to be a hindrance towards aligning business and IT. Basic IT services include system availability optimal to the business at all times providing systems that enable productivity and eliminate loss of revenue due to the non-availability of systems. Lee et al. (2006) emphasised that providing IT service quality is an important driver influencing IT and business maturity. Thus, IT service quality has become a crucial management driver affecting the climate maturity (Lee et al., 2006, p. 226).

Sipho (CIO): The CIO needs to deliver value first, and that gives him a right to sit in the EXCO table. CIO cannot even have business partners and will not even accept a meeting if your e-mail is not working. So the basic must be in place that ends with the right to the table.

Morena: IT service and product quality first. Because for as long as we have noise in the environment – email is not working – you are not delivering essential services, So system uptime, or service uptime availability is always key to getting a better perception from business to IT.

The MD of S-Light Insurance stated that a business should not find itself in a situation where it is unable to perform its daily duties, because of IT basic services being unavailable. In support of this notion, Weinzimer (2014) stated that IT basic services are the foundation of IT services provisioned for by the CIO. The author further stated that providing IT basic services exceptionally earns the CIO the trust needed to collaborate on other measurable projects.

Efficiency was also found to be part of IT quality service, which includes automation of systems and elimination of human error. Six participants found automation to be an enabler to governance and risk controls within their organisational processes, eliminating human error and inefficiencies.

Lebo: IT need to relook at our systems and bring in automation. Bring in automation get rid of inefficiencies get rid of.

Cedric: Our controls are dependent on IT, cornerstone of risk management, they don't look at it to say human errors are actually the highest error or the cost to any organisation, but IT can eliminate that.

In organisations that lack effective IT basic services, the CIO should focus his/her efforts on implementing or developing new IT architecture that is capable of delivering on promises, such as timely information provision or improved reliability of service delivery. The value of IT is recognised when the use of technology in basic services is consistent, which is referred to as “value in use” (Grönroos & Voima, 2013). The CIO should disengage from strategic action when it becomes inconsistent with the firm’s present trajectory (Carter et al., 2011, p. 27).

This was evident through one participant who stated that the CIO concentrated on fixing operational efficiencies and eliminated downtime that hinders employees and enabled productivity.

Marina: I also was moaning about IT and that means they were listening, not just to me, but to everybody who was moaning and groaning about IT, because they did something about it and now, we haven't had small things like downtime that affects everybody. The CIO takes it so seriously that he prides himself, but operation that hindered us from doing your job.

6.3.4 Power and politics

The relationship between top management and the CIO increases strategic alignment, which leads to improved performance within the organisation (Johnson & Lederer, 2010). It was evident through the interviews that executive politics and relations affected the alignment. The CIO’s relationship with other top management is key in ensuring that other business managers buy into the IT strategy. Top management team members generally possess unequal powers, with strategic agendas. As the CIO and members of the top management engage in formal and informal interactions, they are able to assess one another’s motives and develop trust (Karahanna & Preston, 2013, p. 21).

The participants explained the relationship dynamics between business and IT as an inhibitor to alignment. Two of the executive managers vividly mentioned politics and power struggles between business and IT, and disgruntlement arising from these behaviours.

Stephen: Again this is where you have egos in IT industry. I own the infrastructure; this business is nothing! That sort of an environment can't work anymore.

Lebo: We don't see IT as part of the business ... Let's say maybe we were to send out invitations to discuss our business, it not going to include IT.

Karahanna & Preston, 2013 stated that competing goals from the top executives is a result of self-serving goals which is based on individualism, while causing unstructured and ambiguous decisions from the top. Gerow et al. (2016) explained that the CIO has a higher influence over other executives, as they lack detailed knowledge about technology and, in turn, need IT executives.

Two of the CIO participants managed to ensure that executive politics do not affect relations between them and other executives.

Mofasa: Hear their input, and don't always be the guy who gives solutions, even if you have the answers. Give possible solutions to other executives, for them to give solutions (on your behalf) and let them shine and let them feel good. You don't have to be the guy who knows everything.

Sipho: Chief Information Officers are quite knowledgeable people; IT can be intimidating naturally because of the knowledge we possess. So you need to be humble and actually make sure that your partner sees you as a partner.

Morena, as a CTO, expressed how other business executives treat IT, which he finds to be undermining alignment objectives.

Morena: Other business executives need to know how to communicate their needs to IT. They must have an appreciation of the capabilities of IT (what IT can do and cannot do for business).

The above indicates that politics and power struggles are visible within the EXCO, which hinders alignment between business and IT. On the contrary, the SAM model does not

consider EXCO dynamics as part of business and IT alignment. This aspect can be extended in future research.

However, it was noted that in Insurance 1, the CIO was constantly engaging in formal and informal interactions, and the participants found that there were political dimensions within the organisation between business and IT.

Marina: There's always interacting with the general managers, the business managers, and even the staff to enable everyone to say what we need to go forward. So I think it's a very different kind of environment where people are encouraged to mobilise some of their ideas, no matter what department, or title or anything they have and that's what he's actually given platform for, for people to be able to do that.

6.3.5 Service product expectation gap

Based on interviews, the expectation gap was a factor that was found to affect the CIO in delivering the IT strategy. This theme links to the abovementioned theme of basic services from IT and includes all other products and services offered by IT. Even though, as Weinzimer (2014) stated, the CIO plays a strategic role, s/he needs to ensure that s/he delivers IT basic services at an optimal quality to the organisation to eliminate non-productivity. The CIO needs to understand business while increasing user experience, focusing on initiatives that provide business value, and finally leveraging technology strategic to the innovative, measurable values of the business.

The CIOs interviewed found unrealistic expectations for IT from business, and vice versa. This was apparent across all the participants, and even where governance structures were established, there seemed to be a level of un-cleared expectation that remained unfulfilled.

Six participants from both business and IT mentioned that the expectation gap between business and IT was affecting the alignment between business and IT.

Morena: Some executives pick up a magazine in an airplane, where technology is implemented in America, where there is advanced connectivity, they come back and they want it. It doesn't work like that. They need to consider environmental factors, within which we as an organisation are operating. It's always important not to get carried away by what you read in the newspapers or what you see.

Unathi: *I mean the main problem was that we're using knee-jerk reaction approach. Knee-jerk reaction approach is where IT develops a solution because there is a problem with a system that needs to fix the system. So there is no clear funnel that is used to prioritise IT development projects. So that was always resulting in a bit of a challenge and it was also depending on who's screaming the loudest.*

Turel and Bart (2014) differentiated the expectation gap according to the organisation's IT strategy. If the CIO's IT strategy is in line with the organisation's, the need for speed and reliability of systems is low, as the organisation is either defending its market position or in the process of transforming its IT systems. However, when an organisation uses IT offensively, in a "strategic mode", the IT system is required to have high speed and availability. During the interviews, it was noted that most of the participants' IT strategies were transformational with new systems currently being implemented. However, the business' expectation of IT as a strategic enabler arises from the clarity of the IT strategy roadmap and timelines.

Moreover, one of the participants stated that business' requirements change all the time, as business does not know what it requires. The CTO of Paint Lot added that business needs to appreciate that IT cannot do everything. The priority list of projects needs to be negotiated by IT in line with the availability of capabilities. It is evident that the expectation between business and service quality can be defined as the difference between a customer's expectations of the service performance prior to the service encounter, and his/her perceptions of the service after it is rendered.

6.3.6 Conclusion to findings on research question 2

Even though governance structures and processes were implemented in certain organisations to align business and IT, this research found that tactical and operational business dynamics affect the CIO's delivery of the IT strategy to business. This happens even though the CIO operates at a strategic level. Human dynamics also come into play as the CIO interacts with other executives, as a solution enabler, to provide systems for the organisation to operate effectively and efficiently. Measuring the SAM model dynamics provides an indication of where to improve alignment processes. However, common themes from the participants indicated that other factors, such as business strategic forums, managing the expectation gaps, providing IT basic services and internal politics, affect the alignment.

The reviewed themes indicated that an organisation could have IT governance processes and structures in place, but this does not guarantee effective alignment as the CIO needs to enable alignment. Tactical, operational forums and relationships with other executives should be

leveraged by the CIO, at the same time, keeping up to date with IT services to business that could hinder alignment. According to Weinzimer (2014), the CIO needs to transform the IT department and business by using the four-phase transformation model depending on the business' level of maturity. The first phase includes ensuring the provision quality of basic services; the second is understanding business and improving skills for IT personnel; the third is driving business value; while the last phase is innovating measurable value which is required to transform the organisation.

The CIO's engagement with all staff members seems to assist him/her in identifying gaps and getting feedback with regard to IT services provided to the organisation, while this enables the CIO to increase trust and buy-in from the business. It is inferred from the research that strategic alignment requires more than putting processes and structures in place as matured by the SAM model (Orozco et al., 2015).

6.4 Discussion of results: Research question 3

Research question 3 aimed to explore collaborative strategies that the CIO can implement or deploy within the organisation to improve the governance alignment and partnership between IT and business. The following themes emerged from the interviews with executives:

- communication and stakeholder management;
- executive committee and business;
- one strategy for business; and
- business language knowledge and experience.

Leadership effectiveness leading to collaboration requires the social system to evolve and adapt to interaction dynamics (Hiekkanen et al., 2015). Integrating IT and business is crucial in achieving business-IT alignment which facilitates mutual understanding, and teamwork between IT and business (Eom et al., 2015). In order to achieve alignment, IT requires strong support from senior management, good working relationships, strong leadership, appropriate prioritisation, trust, and effective communication, as well as a thorough understanding of the business and technical environments (Luftman, 2015, p. 9). Five themes were identified to form collaborative strategies that can be implemented by the CIO to improve alignment and partnership.

6.4.1 Communication and stakeholder management

All the participants responded positively to the CIO's communication ability as an enabler to collaboration, which emphasised his/her inclusive personality within the organisation. The CIO

was required to be a good listener, a negotiator, an effective communicator, and a people's person.

Orozco et al. (2015) argued for a continuous engagement that creates relational capability and comprises collaboration and shared learning. Orozco et al. (2015) further emphasised that the positive relationships between business and IT include active participation by key stakeholders, shared understanding of business-IT objectives, and effective conflict resolution and partnership for both business and IT.

The CIO's position in the organisation is unique in that it provides an opportunity for engagement at strategic, tactical and operational levels, which would add value in fostering collaboration between business and IT. Eom et al. (2015) found that the CIO's participation in strategic action does not guarantee success in managing IT projects or initiatives, while Luftman et al. (2015) emphasised that both relationships and collaboration are required from the CIO.

Marina: They don't just keep the GMs informed, they keep the staff informed of what's happening, so it's a roll down effect and then they share with us to share with the staff as well. This is done through road shows and hackathons.

Formal and informal network interactions made by the CIO facilitate knowledge sharing, development of shared cognition and common vocabulary (Karahanna & Preston, 2013). However, Luftman et al. (2015) rated the interaction with non-IT executives, internal IT and general staff members as the top ten activities or engagements the CIO should spend his/her time on. It was observed that most participants preferred a CIO who is able to engage with various stakeholders within the organisation, while at the same time, leveraging the relationship with other executives.

The CIO does not have to only engage only with executive level, as it will limit his/her ability to connect with what is on the "ground". Carter et al. (2011) stated that for the CIO to gather operational information within the organisation, s/he should engage business outside of IT to enable him/her have a deeper understanding of change in the technology landscape. This will enable him/her to network with other professionals within the organisation and increase collaboration and partnership at project level or any other organisational IT activities.

Collaboration and partnership between business and IT seem to be influenced by the CIO reporting to the CEO and having IT as part of the organisational structure. During the

interviews, only Y Department viewed IT as lacking partnership with the business, as the CIO reported to the CFO and most of the organisation's IT services were outsourced.

6.4.2 Executive committee and business

Ten of the participants confirmed that their CIOs reported to the CEO and EXCO, thereby enabling the CIOs to engage at a strategic level. IT steering committees were implemented in ten organisations of the executives interviewed, where the CIOs reported to the CEOs and were part of the EXCO. However, only Y Department did not have such a setup. It was noted that the CIO reporting to the CEO was able to influence and enable collaboration at both strategic and operational levels of the organisation.

6.4.3 One strategy for business and IT

One of the collaborative methods that the CIO should implement to increase partnership between business and IT is having one strategy for business and IT. The participants confirmed that separate business and IT strategies should be consolidated into one strategy, and they emphasised that having separate strategies promotes a silo mentality within the organisation.

Stephen: Business and IT are not two separate functions. They need to work hand in hand. Business and IT should have one aligned of strategy, which brings down the wall between IT and business.

Lebo: IT should be in all organisational strategies and add value, IT should be at the heart of business strategy.

The SAM model measures the role of IT in strategic business planning and how effectively IT conducts its strategy planning sessions. This indicates that business and IT strategy planning sessions are viewed as two separate processes enabling alignment. However, it was noted that because some executive participants found that the processes added value to alignment, the business and IT strategy planning processes should be integrated into one process.

Sipho: IT aligning to business has passed. It's a term that has lived its cause. IT should be integrated to business and have one strategy with business that is the future.

For the CIO to collaborate with business, s/he should be involved in the business strategy sessions of the organisation. The IT strategy planning process should be integrated within the business planning process and not viewed as a separate function. Stakeholder management

and relationships with other executives are key for the CIO to be seen as part of the business and to be considered as relevant to delivering the business strategy.

Ten of the participants had effective IT steering committees, which enables alignment in creating one strategy within the organisation. The IT steering committee manages the IT strategy in alignment with business and holds IT accountable for performance, thereby creating one strategy between business and IT to deliver business objectives.

6.4.4 Business language knowledge and experience

Ten participants found that the CIO should be able to translate IT language into business to enable collaboration between business and IT. Technical jargon from the CIO was found to hinder business' overall understanding of IT, thereby leading to misalignment.

As one of the participants emphasised, the CIO's knowledge of business leads to a better understanding of what business wants from IT. The more traditional CIO, who originated from a hard-core IT technical knowledge, needs to transform to a more business CIO, who is able to translate IT technical jargon into a language that business can understand. Gerow et al. (2016) found that the CIO will have greater influence over other business executives when s/he has both business and IT knowledge that is able to integrate IT into business.

Stephen: The CIO has moved from what it was about five years ago. CIO needs to have a business part to their brain. Traditional CIOs are not needed any more; we need CIOs that understands business to deliver what business needs.

IT technical jargon, acronyms, and buzzwords were found to hinder business in understanding IT which, in turn, hinders collaboration from both parties because of misunderstanding. CIOs should be able to translate IT language to business outcomes and objectives that can be understood by everyone in the organisation, adding to the value of IT and enabling alignment between business and IT. Carter et al. (2011) stated that a CIO is an advocate from IT to business by translating technical language to address business problems using business language. As the CIO and IT speak the same language as business, a similar social perception is created enabling both parties to be willing to work together and improve collaboration and performance (Eom et al., 2015).

CIOs who were too technical and lacked business language were found to be non-collaborative and lacking in adding value to stakeholders, while at the same time lacking the

ability to educate business on IT. It was also noted that for the CIO to deliver IT strategy, s/he still requires technical knowledge to be able to translate business objectives to IT objectives. Hooper and Bunker (2013) stated that the CIO has to have technical experience and knowledge to be able to be hands on when needed. S/he should have the technical experience and knowledge to be able to engage with his/her technical staff, understand technical solutions, and provide support on technical issues experienced in his/her department.

Unathi: CIO experience and knowledge quantities is the technical aspect, obviously in IT environment you need to understand what needs to be done to deploy resources accordingly.

During the interviews, two participants stated that future CIOs would emerge from a business background. This was not evident through the research, but Hooper and Bunker (2013) reported that CIOs found that project management experience and knowledge, and business analysis skills are key skills.

It was noted that for the CIO to enable collaboration and partnership, the CIO needs to understand business and translate the IT technical terms into a language that business can understand. CIOs who were found to be technical did not add value to the business by collaborating with IT.

Morena and Stephen further stated that future CIOs would emerge from business operations rather than a technical background, as they are not required to be technical, but must have an understanding of IT.

Stephen: The CIO has moved from what it was about five years ago. CIO needs to have a business part to their brain ... What I'm finding is that more traditional CIO is needed any more you need that CIO that understands business to deliver what needs.

Morena: Going forward, CIOs are not going to emerge from technical, they'll emerge from finance, CIO emerge from marketing, and CIO will emerge from all other areas.

Stephen: A perfect CIO is person that has grown up from an operation, so someone that is coming up through the ranks of. Project management, Business analysis, operational head and then into a CIO role.

Only one participant found that technical know-how is more important for the CIO than to deliver value and advice to business.

Unathi: CIO experience and knowledge quantities is the technical aspect, obviously in IT environment you need to understand what needs to be done to deploy resources accordingly.

Luftman et al. (2015) found that CIOs of the future will require more business and less technical knowledge. They further stated the IT leadership roles require different skills as compared to traditional IT technical knowledge.

6.4.5 Conclusion to findings on research question 3

For the CIO to enable collaboration and partnership between business and IT, s/he has to interact at both strategic, tactical and operational levels of the organisation. The CIO is required to engage in both formal and informal engagement with business, as it adds value to him/her to keep engaged with what is happening. The CIO is an advocate for IT to business, and vice versa, which means that s/he should be able to communicate both technical and business language for both stakeholders. At the same time, the IT strategy should not be in isolation of the business strategy, it was noted that an organisation should have one strategy to enhance alignment and this eliminates working in isolation. It is crucial for the CIO to integrate business and IT in achieving alignment, but this requires the CIO to spend more time on the social aspect of business than on technical requirements. Future CIOs should be considered to have business knowledge and skills to be able to understand and translate solutions from business to IT, and vice versa.

6.5 Discussion of results: Research question 4

Research question 4 aimed to explore the leadership qualities required for the CIO to enable business and IT alignment. Leadership qualities are important for the CIO to get buy-in and persuade followers to the IT vision. The CIO leadership qualities are critical as drivers to delivering the organisation strategy and objectives. Nine of the participants interviewed found that their ideal CIO leader should be transformational and charismatic. A CIO is required to be a visionary, a good communicator, a change agent, a mobiliser, and s/he should be able to influence the organisation to enhance technology and buy-in. Rowold and Heinitz (2007) explained that transformational and charismatic leaders are agents of change, and visionaries who can build the strong emotional ties necessary to change followers' belief systems and attitudes within the organisation. They further stated that higher performance beyond

performance expectations are fostered in an organisation by a transformational and charismatic leader.

The participants found that for the CIO to improve alignment, which requires cultural changes and increased performance from IT for the organisation to reach its strategic objectives aligned to business, s/he needs to be a change agent, a good communicator, reliable, a visionary, an analyser, a people mobiliser, trusted, accessible, a dreamer, authentic, and the list goes on.

Mosafa: CIO needs to be technical that is one part of the toolbox or toolkit. You need a variety of tools for you to become an effective CIO. CIO needs to be a good listener, communicator ... You need to be a researcher ... CIO challenge, is that he should be jack of all trades.

It was clear that the CIO as a leader has more leadership responsibilities and qualities than any other executive in the organisation. Many people rely on his/her leadership qualities and more is required of him/her as compared to his/her counterparts. Not only should the CIO have followers within the IT department but within business as well. This includes other business executives as s/he required to lead both business and IT integration. Business participants did not see themselves as collective leaders to deliver the IT strategy, though the interview it was clear that executive participates seems to be a highly reliance on the CIO than any own leadership skills and enablement to deliver the business strategy. The two CIO participants (Sipho and Morena) stated that business executives need to play their role as leaders to align business and IT.

Salie: An individual that has a vision that foresees trend, he should be able to address emerging trends, emerging risks, he must be at the centre of IT and business and be able to communicate to both sides in terms of what is required going.

Lebo: In a CIO position, you must be everything as a leader.

Rowold and Heinitz (2007) transformation leadership is a CIO ability to transform change to his followers, enabling them to change their beliefs and attitudes, while increasing their ability to perform above expectation.

While at the same time lack of leadership was mention from other business executives, however as a leader the CIO would have to lead them (as part of his followers) to the new vision or change that is required for the organisation.

Sipho: One of the failures we have as leaders, is the maturity of the organisation leadership must be considered. In immature organisation, you find their executives who do not understand their roles ... Business executives must be part and parcel of the technology decision which means they must work hand in hand with the CIO.

Morena: Everybody must do something, it can't just be IT leadership, and business executives must also prioritize and lead.

Two participants found that a CIO should be a servant leader to the organisation as s/he plays a critical role that requires a leader who values the diverse opinions or inputs of others, as IT has to work with diverse business units and deliverables. Effective servant leadership on the part of a CIO requires collaboration between business and IT and must be trusted supportive and caring to all parties involved, understanding the organisational pain points for IT systems increasing alignment between business and IT.

Liden, Wayne, Liao, and Meuser (2014) explained that a CIO who is regarded as a servant leader is viewed as positive and exhibits desired behaviours that followers look up to. The CIO needs to create a culture of trust, caring, and support that will stimulate cooperation for both IT and business. To enable business-IT alignment, the CIO must lead as a servant as s/he would then be able to increase followers' job performance and shape the organisational behaviour to increase cooperation and harmony between business and IT.

During the interviews, most of the participants wanted a transformational and charismatic leader, while others mentioned that a servant leader was required to deliver the IT strategy. However, it was clear that it was equally important for the CIO to be a transactional leader as well, when required, or depending on the IT maturity of the organisation. The CIO needs to assist IT in stabilising the basic services and closing the expectation gaps mentioned in research question 2.

Sipho: CIO cannot even have business partners and will not even accept a meeting if your e-mail is not working. So the basic must be in place that ends with the right to the table.

There are two types of leadership that are essential for ensuring the vitality of the IT function, namely: (i) a transformational leadership to produce innovation and effectiveness; and (ii) a transactional leadership to produce stability and efficiency within the IT department. It was, however, noted that while a transformational leader was required more than a transactional CIO, s/he should be able to function in a transactional mode when required. S/he should be able to build an IT team with self-confidence, boost morale, recognise goals, and assist when required in solving business problems (Amin et al., 2018).

CHAPTER 7: SUMMARY AND CONCLUSIONS

7.1 Introduction

The first part of the research measured IT governance and partnership maturity alignment between business and IT, to understand the current state of alignment within the South African context in medium and large organisations. The finding supports Luftman's (2015) research of alignment maturity, which stated that an organisation should implement processes and structures to align business and IT to an effective and efficient level that adds to the organisation's competitive advantage. However, the study further explored how alignment affects the CIO in delivering the IT strategy, collaboration and partnership dimensions, and leadership qualities required by the CIO as a leader in delivering the IT strategy to business. It was necessary to measure medium and large organisation maturity levels in terms of business and IT alignment on governance and partnership. Interviews with business executive members assisted in exploring what they deemed necessary for the CIO to implement to align business and IT.

Thus, the exploratory research has successfully answered the research problem set out in Chapter 1 and Chapter 3, namely, to understand and explore the strategies necessary to align medium and large organisations; how the alignment affects the CIO; and to assess what collaborative mitigation strategies and leadership qualities should be implemented to align business and IT.

7.2 Major findings

7.2.1 IT governance and partnership alignment

The SAM model was found to be suitable to determine the level of maturity of alignment between business and IT as a starting point to determine the maturity of alignment of an organisation to the required effectiveness and efficiency leading the organisation to competitive advantage. The effectiveness of alignment between business and IT increases efficiency and effectiveness at levels 4 and 5 of the SAM model. According to Luftman (2015), alignment at level 4 drives the organisational process enhancements to sustainable competitive advantage, and IT is viewed as an innovative strategic contributor to organisational success. Organisations at level 5 have leverage on IT assets enterprise-wide, making it difficult to determine if the organisation is an IT company or a commercial company.

The participants who responded to the questionnaires were from South African medium and large organisations that rated their IT governance maturity at level 2.86, while their partnership alignment was rated at level 3. According to the SAM model, on average, level 3 maturity indicates that the organisation has established processes in place to manage the IT traditional direction into an aligned process with business and indicating that the organisation is on the right track, in that processes are being embedded in the business (Luftman, 2015).

The participants still felt that IT is not that effective in providing the required alignment to meet the organisational objective. IT governance processes were in place, according to the participants. However, alignment between business and IT was not yet effective enough to deliver the organisational strategy. A partnership between business and IT was based on transactional interactions between IT and the business rather than based on partnerships indicating minimum trust. Business views IT as a cost centre, while risk and rewards are not shared with IT which indicates a silo mentality between IT and business. However, as most of the participants rated alignment at level 3, it indicates that the current processes in place are established, thereby enabling alignment within most of the organisation. Only one organisation did not have any IT governance processes established as most of their IT services were outsourced to an external company, while at the same time indicating that they is no alignment between business and their business strategy. Y Department only views IT function as a function that provides basic services (emails and payroll), which indicates that their partnership maturity is very low as well. However regardless of the business model alignment processes governance and partnership processes can be established with the outsourced company to improve the effectiveness of their IT services.

As an organisations strives to align business and IT, the CIO should be aware of other factors affecting alignment besides processes and structures that are recommended by the SAM model. Aligning business and IT is more complicated than measuring the rate of alignment (SAM model). To effectively manage the level of alignment, relational dimensions should be considered and implemented by the CIO (as a leader and the responsible executive to deliver the IT strategy) to increase business and IT alignment, for instance, the operational level of analysis includes social and structural or operational components. The dynamics at this level offer insights into how IT governance mechanisms influence business process performance (Beimborn, Schlosser, & Weitzel, 2009). As organisation mature in alignment business and IT using the SAM model recommended process, the objective “target” of an organisation may shift depending on the business expectation or processes. Managing IT is more complex and should be considered in response of the changing business environment (Gerow, Thatcher, & Grover, 2015).

7.2.2 Influences of governance alignment to the CIO

The need for the CIO to deliver the IT strategy is influenced by the organisational environment and relationship which the CIO has internally within the organisation, to enable him/her to effectively deliver on the intended strategy aligned to business strategy. The results indicated that in order for the CIO to be effective as a strategist, s/he needs to provide the required basic services within the business, engage in business forums, and exert top-down influence by mastering politics and relations with other executives within the organisation.

The CIO's other influences on alignment were found to be his/her involvement in strategic level governing processes, including the reporting lines of the CIO to the CEO. The IT steering committee process was deemed an effective process to manage IT performance in line with the set organisational objective and to hold the CIO to account on his/her departmental performance. Even though most of the participants indicated that they had strategic governing processes in place at level 3, it did not necessarily guarantee an alignment. This means that the CIO needs to be aware of other influences that s/he is required to implement that would enable or increase alignment. Weinzimer (2014) found that the level of alignment between business and IT is dependent upon the level of transformation of the IT department in the required strategy. He found that the CIO has four phases of transformation in the IT department, namely: the foundation phase is providing basic services exceptionally well; the second is understanding business and improving skills for IT personnel; the third is driving business value; while the last phase is the highest level of transformation where the CIO leverages technology strategically to innovate measurable value to the organisation.

The CIO's involvement in strategic and business forums enables and influences the alignment within the organisation. For the CIO to influence the alignment, s/he must also be involved in business forums besides the strategic committees. Providing basic services to business was also deemed very important by business, as a lack of essential IT services leads to non-productivity for the employees. It is recommended that the CIO as an executive not only consider having a strategic view and vision to meet the organisation strategy but also ensure that the basic service quality of system availability is maintained within the organisation. For the CIO to be effective, s/he also needs to manage the expectations of services between business and IT. The CIO needs to ensure constant business and IT engagement and to provide for the realities of the environment or context of the organisation that s/he needs to manage to ensure that the expectation gaps are closed.

7.2.3 Collaborative strategies

The research concluded that the CIO needs collaborative strategies to improve the governance alignment and partnership between IT and business. Orozco et al. (2015) argued for a continuous engagement that creates relational capability and comprises of collaboration and shared learning. Orozco et al. (2015) further emphasised that the positive relationship between business and IT alignment includes active participation by key stakeholders, shared understanding of business/IT objectives, and effective conflict resolution and partnership for both business and IT. The research results support Luftman et al. (2015) as they rated interaction by the CIO to business as one of the top ten activities or engagements the CIO should spend his/her time on to increase the alignment between business and IT.

Continuous communication within the organisation and stakeholder management was found to be effective in collaborating business and IT. While, Whitley, Boyd, & Morgan (2017) states that the IT leader should strengthen his or her relationships within the organisation with other executive's member and staff members. The CIO is seen as an advisor and enabler to the organisation strategy, which requires him/her to be constantly engaging in and collaborating with all levels of the organisation.

The results indicated that an organisation must have one strategy for both business and IT, rather than having IT strategy and business strategy separated into two processes or documents. Almeida et al. (2013) stated that on the board, the CIO should represent the role of IT in the overall business strategy. Reporting to the board is done by the CIO as an integration between IT and business; thus the same approach should be used to manage reporting as one business strategy. Further research results indicated that for the CIO to enable alignment, s/he must be able to communicate in a language that the business can understand, eliminating the IT acronyms and technical language.

The research results agreed with Carter et al. (2011) that the CIO must be able to translate IT technical language into business language to increase collaboration. The results further suggested that the CIO should have both IT and business knowledge and experience as s/he would then be able to leverage the combination of power that would enable him/her to align business and IT. Gerow et al. (2016) found that IT and business knowledge provides the CIO with higher power and influences over other executives as they lack both skills. Luftman (2015) found that future CIO requirements will be the ability to apply IT to business, leadership and interpersonal communication. He further found that the desired skills for the CIO in the future will be more business than technical knowledge, which supports the research findings.

7.2.4 CIO leadership qualities

A transformational and charismatic leader was found to be required for the organisation to meet the strategic objectives that are aligned between the business and IT. In order for an organisation to change and align at an efficient and effective transition, it requires a CIO who is able to become a change agent and a visionary while at the same time having the charisma to lead the transformation.

Rowold and Heinritz (2007) explained that transformational and charismatic leaders are agents of change, and visionaries, who enable the strong emotional ties necessary to change followers' belief systems and attitudes within the organisation.

McLean and Smits (2014) explained that when business transforms to collaborate, and CIOs transform IT in organisations, in turn, they also change and transform themselves as leaders in their roles and experience.

The organisation is highly dependent towards a CIO, requiring leadership qualities that are diverse according to their maturity. Kotter (1990) stated that "effective leadership produces useful change to the organisation" (p. 103), while "more change always demands more leadership" (p. 104). Most of the participants found that they require a transformation and charismatic leader, it was clear that each participant required CIO leadership qualities that would be able to lead the organisational change to meet the business strategic objectives. The finding confirmed Eom et al.'s (2015) research which concluded that IT leadership enables the alignment from structural and social dimensions within the organisation.

An interesting finding was that most of the participants described a CIO who is also a transactional leader, while at the same time able to be transformational to deliver the business objectives. The finding concludes that the required leadership needs to be aligned to different situations within the organisation and the CIO should lead from strategic, to transactional to transformation, while at the same time have the charisma required to pull up followers at all levels within the organisation. Different leadership styles are required for the CIO depending on the maturity of the organisation, situation at hand and the audience that he is engaging with (strategical, tactical or operational).

7.3 Implications and recommendations

Overall, these results suggested that it is critical for management to assess the level of alignment between business and IT using the SAM model and to implement processes to

ensure that the organisation improves its level of alignment from level 3 to level 4 or level 5. However, implementing processes to align business and IT using the SAM model will not guarantee the effectiveness of alignment between business and IT, organisational leaders need to consider other relational dynamics, collaboration, and leadership required to change the behaviour of both IT and business to integrate as one. Business-IT alignment requires the organisation to implement structures and processes that ensure collaboration between business and IT (IT steering committee, project governance, IT and business strategy sessions); however, the CIO needs to understand strategies to enable him/her to deliver the strategy and relationship dynamics between business and IT cascading down to operational level. Almeida et al. (2013) recommended that alignment between business and IT should have structures, processes, and relational mechanisms in place.

The SAM model includes six dimensions to measure alignment but excludes practical mitigation strategies necessary from the CIO's point of view that can be implemented to ensure the necessary leadership relational and different organisational dynamics and leadership aspects required to ensure collaboration that affects both business and IT. It is critical for the when the CIO to understand environmental dynamics affecting the environment and strive to enhance productivity at basic services and manage the expectation gaps while at the same time introduce realities to the organisation with regard to IT services and strategies. However, the SAM model is an important tool for an organisation to evaluate their alignment processes, while as it provides a baseline of the current state verses the desired state of alignment between business and IT.

The CIO also needs to know how to manage the politics within the organisation, especially from his executive counterparts. It is recommended that the CIO should build trust amongst executives and, more importantly, engage in both formal and informal sessions where s/he can get buy-in and mobilise with business on delivering the IT strategy in line with the business strategy. The CIO needs to master different collaborative strategies to enable alignment within the organisation, including effective communication skills that are required to engage with non-technical executives. It is recommended that management should consider future skills required for the CIO, which includes individuals who can communicate effectively and those who have business knowledge, which will be able to translate IT strategy into business strategy objectives, and vice versa. Karahanna and Preston (2013) found that common language and shared cognitions created by the CIO will enable trust between business and IT. In additional, the CIO should play a leading role to collaborate and create harmony between business and IT, which will improve the "silo" traditional mentality previously perceived on IT. The CIO needs to have different leadership qualities and styles to align business, and IT, a

transformation and charismatic leader qualities are required to lead to business and IT alignment and to transform the business to the competitiveness that is technological advanced. The CIO also needs transactional leadership qualities as well when required.

7.4 Limitations of the research

For quantitative research only two (governance and partnership) alignment maturity were evaluated during the research, SAM model has six process. This could have limited the holistic understanding of alignment processes, as business and IT alignment are integration processes.

The research was conducted within South African medium and large organisations which had been in existence for five years and more as of 2018. The qualitative research interviews were conducted with only 11 C-suite executives and did not include tactical and operational population of the organisation staff members into consideration. These findings may lead to biases and limitation to the findings. The sample size used for the qualitative was small for the qualitative research, as only 11 participants were interviewed, which may lead to generalising. Purposive sampling was used which means that not all members of the population (limited organisations selected may lead to biases) are represented in the finding. Therefore, the small sample size limits the findings and they cannot be generalised to other contexts (Saunders & Lewis, 2012).

The study was exploratory, and consequently, the subjectivity of the interviewees was unavoidable (Saunders & Lewis, 2012). Only selected executives, CIOs/Heads of IT and IT users were interviewed for this research. The time limitation to conduct the research and submit the completed reported was also a factor.

7.5 Recommendations for future research

Based on the insights derived from the study, the following suggestions should be considered for future research:

- The SAM model should be extended to include relational dimensions of the organisation in order to be a true reflection of alignment and provide social strategies to be implemented when organisations are striving to improve alignment.

- Improving alignment between business and IT needs executives to collaborate and work together to close the expectation gaps and improve the performance of the organisation should be investigated. How can the new digital era integrate people, process and technology alignment ?
- Research to determine how to transform business leaders to digital executives which eliminate high reliance on the CIO in the new digital era

The first part of the research measured IT governance and partnership maturity alignment between business and IT in order to understand the current state of alignment within the South African context in medium and large organisations. The findings supported Luftman's (2015) research of alignment maturity, which stated that organisations are implementing processes to align business and IT effectively in order to enhance the competitive advantage of the organisation.

However, the study further explored how alignment affects the CIO in delivering the IT strategy; and what collaborative and partnership dimensions and leadership qualities are required by the CIO as a leader in delivering the IT strategy to business. It was necessary to measure medium and large organisations' maturity levels in terms of alignment between business and IT on governance and partnership. Interviews with business executive members assisted in exploring what strategies they deemed necessary for the CIO to implement in order to align business and IT.

This exploratory research has successfully answered the research problem set out in Chapter 1 and Chapter 3, namely, to understand and explore strategies necessary to align medium and large organisations that affect the CIO in order to ensure that the necessary mitigation strategies are implemented and leadership qualities necessary to collaboration business and IT.

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APPENDICES

Appendix A: IT Governance and partnership alignment questionnaires

SECTION 1 – Governance maturity dimensions

Maturity dimensions of questionnaires to assess the IT maturity using the SAM model

1.1 How would you rate the overall level of alignment between business and IT in your organisation, from the below maturity scales?

1. Level 1 - the lowest level of Strategic Alignment Maturity
2. Level 2 committed to begin the process for Strategic Alignment Maturity
3. Level 3 established a focused Strategic Alignment Maturity
4. Level 4 managed Strategic Alignment Maturity
5. Level 5 optimally aligned Strategic Alignment Maturity

1.2 How is business strategic planning formulated in your organisation?

1. Level 1 No formal process, adhoc
2. Level 2 Basic planning at functional or department level
3. Level 3 Focused planning, some inter-organisational
4. Level 4 Managed across the organisation
5. Level 5 Integrated across & outside the organisation

1.3 Where does the CIO report?

1. Level 1 Central/Decentral; CIO reports to CFO
2. Level 2 Decentralised reporting to the CEO Central/Decentral, some co-location;
3. Level 3 Central/ Decentral, some federation; CIO reports to COO
4. Level 4 Federated; CIO reports to COO or CEO
5. Level 5 Federated; CIO reports to CEO

1.4 How effective is the IT budget control?

1. Level 1 Not effective -no formal process
2. Level 2 Less effective - cost center by functional organisation
3. Level 3 Effective – managed at Cost Center and some tracked investments at organisational level
4. Level 4 Investment Center, Profit center
5. Level 5 IT budget is Integrated within across the organisation & other business partners

1.5 How effective are IT investment managed?

- 1 Level 1 Not effective - No formal process, Cost based; Erratic spending
- 2 Level 2 Operations & maintenance focus
- 3 Level 3 Traditional; Process enabler
- 4 Level 4 Cost effectiveness; Process driver
6. Level 5 Business value; Extended to business partners

1.6 How would you evaluate the Steering Committee in managing the value and performance of IT?

1. Level 1 No formal steering committee, IT is self-managing its performance
2. Level 2 Periodic organised communication Informal steering committee with periodic organised communication
3. Level 3 A formal steering committee with regular clear communication
4. Level 4 Effective steering committees (Formal steering committee meeting quarterly with a clear mandate, chaired by business representative)
5. Level 5 Partnership - Formal steering committee meeting quarterly with a clear mandate, chaired by a business representative and effectively managing IT performance in line with business strategy and objectives

1.7 How is the prioritisation process of IT initiatives done?

1. Level 1 Reactive process
2. Level 2 Occasional responsive
3. Level 3 Mostly responsive
4. Level 4 Always responsive to process improvement
5. Level 5 Very proactively by providing extra benefit value to the business

SECTION 2 – Partnership alignment maturity dimensions

Partnership questionnaires for IT service users to determine how the perception of trust and value would affect the business in IT alignment.

2.1 How would you rate the level partnership (perception of trust and value) between business and IT in your organisation, from the below maturity scales?

1. Level 1 – No partnership between business and IT
2. Level 2 – Sometimes there is partnership
3. Level 3 Most of the time

4. Very likely we have partnership
5. Level 5 - Always - Valued Partnership

2.2 How do you perceive IT value

1. Level 1 IT Perceived as a cost of business
2. Level 2 IT is emerging as an asset
3. Level 3 Business process enabler
4. Level 4 Business strategy enabler/driver
5. Level 5 IT co-adapts with the business

2.3 Do you trust IT to provide you with a required service to meet your business objectives as an IT service user?

1. Level 1 No very unlikely
2. Level 2 Sometimes - Quite unlikely
3. Level 3 Most of the time - Quite likely
4. Level 4 Yes – Very likely
5. Level 4 Valued Partnership

2.4 What is the role of IT in strategic business planning?

1. Level 1 Business planning is done without IT
2. Level 2 Business process enabler
3. Business process enabler
4. Level 3 Business strategy enabler and driver
5. Level 5 Co-adaptive with the business

2.5 Does the organisational shared goals, risk, Rewards/penalties with the IT department?

1. Level 1 IT takes the risk with little reward
2. Level 2 IT takes most of the risk with little reward
3. Level 3 Risk tolerant; IT some reward
4. Level 4 Risk acceptance & rewards shared
5. Level 5 Risk & rewards shared

2.6 Does business sponsor or champion IT on project initiatives?

1. Level 1 No business sponsor
2. Level 2 Limited at the functional organisation

3. Level 3 At the functional organisation
4. Level 4 At the headquarter or head office level
5. Level 5 At the CEO level

Appendix B: Executives participates positions held

Name of participant	Position	Organisation age
Cedric Ndlovu	Board Member, and Managing Director	S-Light insurance
Sipho Molaolwa	Board Member Chief Information Officer	HighTech Logistics Mennice
Salie Brown	Head of IT Security	TRQ
Mosafa Mokwena	Chief Information Officer	Wety Ltd Pty
Morena Sekolo	Chief Technology Officer	Paint Lot
Lebo Mokwena	Board Member Financial Director	POT HR
Marina Smit	Head of Marketing	Insurance 1
Unathi Skhosana	Executive Manager - New Business	Nelson TY
Ivan Very	Board Member Chief Executive Officer	Y Department
Stephen Brian	Managing Director	Kewpy
Dimpho Buyi	Chief Information Officer	Brey

Appendix C: Consent Letter for Semi-structured interviews



Masters Research Survey: Celia Mantshiyane

Semi-Structured Interview

My name is Celia Mantshiyane, an MBA student at GIBS.

I am conducting research on business and IT alignment. My research focuses on how IT governance and partnership maturity dimensions (maturity levels) affect the Chief Information Officer (CIO) or Head of IT, in delivering business strategy and objectives. Our interview is expected to last about an hour and will help understand how CIOs/Heads of IT in organisations can implement collaborative and mitigation strategies to ensure business and IT alignment.

Please note that all the data is confidential and will be reported anonymously. Your participation is voluntary, and you can withdraw at any time without penalty. All data will be reported without identifiers. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher Name

Supervisor Name

Celia Mantshiyane

Ngwako Sefoko

04898118@mygibs.co.za

nsefoko@gmail.com

060 564 5677

072 368 4415

Appendix D: Consent Letter questionnaire



Masters Research Survey: Celia Mantshiyane

My name is Celia Mantshiyane, I am conducting research on business and IT alignment. My research focuses on how IT governance maturity dimensions (maturity levels) between business and IT. To that end, you are kindly requested to complete the questionnaire sent to you look via Survey Monkey. This will help us better understand organisational maturity levels between business and IT, and should take no more than 15 minutes of your time. **Your participation is voluntary, and you can withdraw at any time without penalty.** Your participation is anonymous and only aggregated data will be reported. By completing the survey, you indicate that you voluntarily participate in this research. If you have any concerns, please contact my supervisor or me. Our details are provided below.

Researcher

Supervisor

Celia Mantshiyane

Ngwako Sefoko

04898118@mygibs.co.za

nsefoko@gmail.com

060 564 5677

072 368 4415

Appendix E: Ethical clearance

**Gordon
Institute
of Business
Science**
University
of Pretoria

28 June 2018

Mantshiyane Celia

Dear Celia

Please be advised that your application for Ethical Clearance has been approved.

You are therefore allowed to continue collecting your data.

Please note that approval is granted based on the methodology and research instruments provided in the application. If there is any deviation change or addition to the research method or tools, a supplementary application for approval must be obtained

We wish you everything of the best for the rest of the project.

Kind Regards

GIBS MBA Research Ethical Clearance Committee

Annexure F: Code Report

Code	Code Groups
IT to attend forums with business	Alignment enablers collaborative strategies Delivering the IT strategy to business Partnership enablers
Business and IT forum	Business engagements Alignment enablers Business responsibilities governance alignment influence Partnership enablers Business and IT strategy Strategic engagement
CIO engage with people	Business engagements CIO - transformation Charismatic leadership CIO Servant leadership collaborative strategies
CIO needs to understand business	Business engagements CIO - transformation CIO qualification and knowledge Misalignment from IT Partnership enablers Strategic engagement Business engagements
IT brings basic services to business	Common language between business and IT Alignment enablers Delivering the IT strategy to business Misalignment from IT Business engagements

	IT Services and products
Automation to get rid of inefficiencies	Alignment enablers Delivering the IT strategy to business Misalignment from IT
CIO collaborate at EXCO level	IT Services and products CIO - transformation CIO in EXCO Charismatic leadership collaborative strategies
CIO understand business	Partnership enablers CIO - transformation
IT needs to be part of business strategy formulation	Partnership enablers CIO in EXCO Alignment enablers governance alignment influence collaborative strategies Delivering the IT strategy to business Partnership enablers Business and IT strategy Business engagements
CIO to have business language	Common language between business and IT CIO - transformation Charismatic leadership Misalignment from IT Partnership enablers Strategic engagement Business engagements Common language between business and IT

IT provides basic services	Delivering the IT strategy to business
	Misalignment from IT
Gap expectation between business and IT	IT Services and products Delivering the IT strategy to business
	Misalignment from IT
CIO to manage the expectation of business	Misalignment from business CIO - transformation
	Charismatic leadership
CIO doesn't needs to be technical	Strategic engagement CIO qualification and knowledge
	Delivering the IT strategy to business
	Misalignment from IT
CIO must not be technical	Common language between business and IT CIO qualification and knowledge
	Delivering the IT strategy to business
	Misalignment from IT
Engagement at all levels of the organisation	Common language between business and IT Business responsibilities
Business and IT - one strategy	collaborative strategies Alignment enablers
	Business responsibilities
	governance alignment influence
	Partnership enablers
	Business and IT strategy
Business to see IT as part of business	Strategic engagement Alignment enablers
	collaborative strategies
	Misalignment from business
	Partnership enablers
	Strategic engagement
	Business engagements

Basic service availability is key

Alignment enablers

Delivering the IT strategy to business

Misalignment from IT

Clear expectation between business and IT

IT Services and products

Charismatic leadership

governance alignment influence

collaborative strategies

Misalignment from IT

Partnership enablers

Strategic engagement

Bring IT into business strategic planning

Business engagements

Alignment enablers

Business responsibilities

governance alignment influence

collaborative strategies

Business and IT strategy

IT as an enabler

Strategic engagement

Alignment enablers

Delivering the IT strategy to business

Business needs to prioritise

IT Services and products

Alignment enablers

governance alignment influence

collaborative strategies

Delivering the IT strategy to business

Misalignment from business

Partnership enablers

Business politics

Business and IT strategy

IT for business (one thing)	Alignment enablers collaborative strategies Delivering the IT strategy to business Partnership enablers IT Services and products
CIO business background	Common language between business and IT CIO - transformation CIO qualification and knowledge
Level 4 business strategic planning	Common language between business and IT Alignment enablers Level 4 Alignment managed across organisation
CIO advisor for business	CIO - transformation CIO qualification and knowledge CIO in EXCO Charismatic leadership collaborative strategies Partnership enablers
IT to reduce human error with automation	Strategic engagement Alignment enablers
CIO must be a visionary	Delivering the IT strategy to business CIO - transformation
CIO roles has changed	Charismatic leadership CIO - transformation
Executives must understand their roles	Misalignment from IT CIO in EXCO Business responsibilities Business and IT strategy Strategic engagement

CIO needs to pain points of business	<p>CIO qualification and knowledge</p> <p>collaborative strategies</p> <p>Delivering the IT strategy to business</p> <p>Misalignment from IT</p> <p>Partnership enablers</p> <p>Business engagements</p>
Level 4 - IT strategic planning across the organisation	<p>Common language between business and IT</p> <p>Alignment enablers</p> <p>Level 4Alignment managed across organisation</p>
Ego play between business and IT	<p>Delivering the IT strategy to business</p> <p>Misalignment from IT</p>
IT must integrated in the business	<p>Misalignment from business</p> <p>Alignment enablers</p> <p>Delivering the IT strategy to business</p> <p>Misalignment from IT</p> <p>Business and IT strategy</p> <p>Business engagements</p>
CIO must be change agent	<p>Common language between business and IT</p> <p>CIO - transformation</p> <p>Charismatic leadership</p> <p>governance alignment influence</p> <p>collaborative strategies</p>
People (business)resistance to change Business must own their IT strategy	<p>Business engagements</p> <p>Misalignment from business</p> <p>Alignment enablers</p> <p>Business responsibilities</p> <p>governance alignment influence</p> <p>Delivering the IT strategy to business</p> <p>Misalignment from business</p> <p>Partnership enablers</p>

Communication builds trust	Charismatic leadership Alignment enablers collaborative strategies Partnership enablers Strategic engagement
CIO must understand business needs	Common language between business and IT CIO - transformation Charismatic leadership collaborative strategies Delivering the IT strategy to business Misalignment from IT
CIO must have stakeholder management	Partnership enablers CIO - transformation collaborative strategies
Level 4 - IT perceived as business strategic enabler and driver	Partnership enablers Alignment enablers Level 4 Alignment managed across organisation
IT to move to value partnership	Partnership enablers
CIO needs to know business	Business engagements CIO qualification and knowledge Charismatic leadership Delivering the IT strategy to business
EXCO responsibilities	Common language between business and IT CIO in EXCO
Business doesn't see IT as part of business	Strategic engagement Misalignment from business Business politics
Lack of communication between business and IT	Common language between business and IT Delivering the IT strategy to business
CIO experience of business function	Misalignment from business CIO qualification and knowledge

Alignment affect value	governance alignment influence
Level 4 - IT initiatives prioritised responsive to process improvement	Delivering the IT strategy to business Alignment enablers
CIO as a mobiliser of people	Level 4Alignment managed across organisation Charismatic leadership CIO Servant leadership
Level 4 - Steering Committee is effective	collaborative strategies Alignment enablers Level 4Alignment managed across organisation
Level 3 Established alignment between business and IT	Alignment enablers
CIO solving for business	Level 3 - Focused or some alignment CIO - transformation Charismatic leadership Misalignment from IT
Level 4 - IT investments managed as process driver	Common language between business and IT Alignment enablers Level 4Alignment managed across organisation
Misalignment IT at a corner office	Misalignment from IT Misalignment from business Business politics IT Services and products
CIO must understand external partners	Common language between business and IT CIO - transformation Charismatic leadership Delivering the IT strategy to business Misalignment from IT
CIO must be a peoples person	Partnership enablers CIO - transformation CIO personality Charismatic leadership CIO Servant leadership

	Business engagements
CIO and CEO must be aligned	CIO - transformation CIO in EXCO collaborative strategies
IT to manage risk	Strategic engagement Alignment enablers
Level 4 - Trust IT to provide services	Delivering the IT strategy to business Alignment enablers Level 4 Alignment managed across organisation
Business - to deal with change management issues	Alignment enablers Business responsibilities collaborative strategies Misalignment from business Partnership enablers
CIO must transform the as a leader IT make business more efficient ad effective	Business and IT strategy CIO - transformation Alignment enablers Delivering the IT strategy to business Misalignment from IT
CIO part of EXCO	Partnership enablers CIO - transformation CIO in EXCO Alignment enablers
Level 3 - IT project initiatives are at functional level	Level 3 - Focused or some alignment CIO - transformation
CIO must "walk the talk"	CIO Servant leadership
Level 5 CEO sponsors IT project initiatives	governance alignment influence Alignment enablers Level 5 - Integrated across & outside the organisation
Traditional CIO has changed	CIO qualification and knowledge

Level 5 - CIO reports to CEO	CIO in EXCO
	Alignment enablers
Business must demand their service to CIO	Level 5 - Integrated across & outside the organisation
	Alignment enablers
	Business responsibilities
	governance alignment influence
	collaborative strategies
	Delivering the IT strategy to business
	Partnership enablers
Business stakeholder relationship	Business engagements
	Alignment enablers
	collaborative strategies
	Partnership enablers
	Strategic engagement
CIO needs to strengthen partnership	Business engagements
	CIO - transformation
	CIO in EXCO
	Charismatic leadership
	collaborative strategies
	Partnership enablers
Business and IT shared responsibilities	Business engagements
	Alignment enablers
	Business responsibilities
	governance alignment influence
	Partnership enablers
	Business and IT strategy
	Strategic engagement
Governance alignment - Level 4	Business engagements
	Level 4Alignment managed across organisation

