UNDERSTANDING THE IMPACT OF CULTURE ON BUSINESS IT ALIGNMENT WITHIN A SOUTH AFRICAN PARASTATAL

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Date: *19 February 2018*

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Abstract

Business IT Alignment (BITA) remains a challenge for many organisations and is repeatedly ranked highly by Business and IT executives in an annual survey by the Society for Information Management (SIM). BITA has been defined as applying information technology (IT) in an appropriate and timely way, in harmony with business strategies, goals and needs. BITA maturity provides organisations with a way to determine the level of maturity of the BITA activities that is the management activities performed to attain a better alignment between IT function and the organisational goals. Mature alignment develops into a relationship where IT and other business functions adapt their strategies together. Previous research on BITA has focused more on formal structures such as reporting structures, decision-making rights and centralisation vs decentralisation, rather than informal structures such as relationship-based structures, including organisational culture, that go beyond the formal division of labour. The impact of culture on BITA has often been de-emphasised in earlier studies, leaving a gap in alignment research.

Culture has been defined as a set of shared, taken-for-granted implicit assumptions that a group holds and determines how it perceives, thinks about and reacts to its various environments. Culture at an organisational however, has been defined as the culture within an organisation that includes the common expectations, goals, beliefs, ideas, common understanding and norms of the people in the organisation which varies between organisations. Culture at a group and organisational level have the same content and meaning and are theoretically isomorphic, meaning they both influence behaviour through shared, social normative cues. This study, conducted within a parastatal organisation, focused on culture at an organisational level.

The purpose of this research was to explore and describe the organisational culture and BITA as indicated by the BITA maturity level within a South African parastatal, to compare perceptions of IT vs business groups with regards to BITA maturity, to explore and describe the relationships between cultural dimensions and BITA maturity criteria, and to determine whether the existing culture within a South African parastatal supports BITA.

The research study adopted an interpretive philosophy in order to develop an understanding of the impact of culture on BITA within a South African parastatal. The research strategy was by means of a single case study. The study was qualitative in nature, data being collected by means of semi-structured interviews and company documents. The Competing Values Framework (CVF) formed the theoretical basis through which cultural types were identified deductively for each of the six cultural dimensions of the organisation. The Strategic Alignment Maturity Model was used to describe the BITA maturity criteria. The impact of culture on BITA maturity criteria was determined inductively.

The study contributes theoretically through an explanation theory of how culture impacts BITA maturity positively and negatively through propositions of theory. In addition, it contributes practically suggesting that organisations wanting to improve their BITA must change their culture first. Practically, it serves as a guideline to managers and leaders within government organisations as to the cultural dimensions that are more likely to improve BITA such as ‘success criteria and value’ and ‘strategic emphasis’.

Findings reveal incongruence in perceptions of the overall organisational culture within a South African parastatal for both Business and IT groups, with an overall dominant culture of Hierarchy. BITA maturity was negatively impacted by the cultural dimensions, Organisational leadership (Hierarchy) and Human Resource management (Clan/Hierarchy). In contrast, BITA was positively impacted by success criteria and value (Market) and strategic emphasis (Adhocracy). Overall, an incongruent culture seemed to negatively impact BITA maturity with a low overall BITA maturity level.

Keywords: BITA, culture, parastatal

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List of acronyms

BITA	Business IT Alignment
CEO	Chief Executive Officer
CIO	Chief Information Officer
COBIT	Controlled Objectives for Information Technology
CVF	Competing Values Framework
HR	Human Resources
ICT	Information and Communications Technology
IS	Information Systems
IT	Information Technology
KPA	Key Performance Area
NCPC	National Council of Provinces Committee
OCAI	Organisational Culture Assessment Instrument
OLA	Operational Level Agreement
PICT	Public Information and Communication Technology
REXCo	Regional Executive Committee
SAMM	Strategic Alignment Maturity
SAM	Strategic Alignment Model
SIM	Society for Information Management
SLA	Service Level Agreement

CHAPTER 1: INTRODUCTION

The study explored and described:

1. the organisational culture and the BITA of a South African parastatal (a state owned agency);

2. comparisons between the perceptions of business and IT groups with regard to business and IT alignment maturity, using the Strategic Alignment Maturity model (SAMM) (Luftman, 2000), to see if there were any significant differences between the two groups;

3. whether relationships existed between cultural dimensions and Business IT Alignment criteria;

4. the existing culture within business and the existing culture within IT, and whether they support BITA or not.

This research aimed to understand how the informal structure within an organisation, namely the organisational culture, impacted the BITA within a South African parastatal. The terms culture and organisational culture, have the same content and meaning (Ostroff, Kinicki, & Tamkins, 2003) and are theoretically isomorphic (O'Reilly & Chatman, 1996) and are used interchangeably. The study focused on the culture within a parastatal organisation, namely the organisational culture, and the impact on BITA as indicated by the BITA maturity level of the organisation.

[1]BITA continues to be a problem in organisations, as it has consistently been ranked as a top challenge for IT executives in an annual survey by the Society for Information Management (SIM) over the past ten years (Luftman, Ben-Zvi, Dwivedi, & Rigoni, 2010). Some firms have struggled to align their business and IT functions and acquire the benefits associated with alignment (Schlosser, Wagner, & Coltman, 2012). Given the complexity of alignment, there are a number of reasons for difficulties attaining alignment; however, one of the often overlooked factors affecting alignment is the human factor that presents some of the main

[1] The term Business IT Alignment has been abbreviated to BITA to facilitate flow.

challenges facing the IT-Business managerial role (Navedo-Samper, Ferrer, & Rivera-Ruiz, 2013). Several years after BITA was established as a prominent area of research, it remains a problem for many organisations, with early approaches being too mechanistic, adopting a segmented view of organisations and technology, and neglecting to consider organisations as a dynamic whole containing relationships (Hiekkanen, Helenius, Korhonen, & Patricio, 2013). Chan (2002) proposed that the informal structures such as organisational culture could have a greater impact on BITA than the formal structures of an organisation. Chan (2002) highlighted two different perspectives of the way organisations reached their objectives. On one side of the spectrum is the perspective that organisations are rigid corporate entities without personality, while on the other side of the spectrum are organisations that are primarily social systems made up of interrelated elements, where a change in one element impacts all other elements (Chan, 2002, p. 109). Human factors are the social determinants that can have an enabling or inhibiting effect on a business's technological objectives (Navedo-Samper et al., 2013). Human factors include social influences of an environment which include relationships, cognitive linkages and mutual understanding, as well as cultural influences that are the informal structures such as norms, values, attitudes and beliefs of an organisation (Schlosser et al., 2012; Navedo-Samper et al., 2013). Organisational culture plays a pivotal role in an organisation's success in a highly competitive, IT-driven global environment (El-Mekawy, Rusu, & Perjons, 2014). Core values and assumptions are at the root of organisational systems and structures and, as such, in order to understand an organisation or create change, a researcher needs to understand the underlying values, organisational structures and individual meanings (Denison & Spreitzer, 1991). IT operating within an organisational context needs to take into account the organisation's culture of which it forms part (Silvius, De Haes, & Van Grembergen, 2009a). The cultural impact on business outcomes and performance should not be underestimated, as it can be the determining factor in a successful or unsuccessful organisation (Silvius et al., 2009a). Given the strong influence of culture within an organisation, it is important to determine how this could impact BITA maturity.

Few studies have been done that focused on the relationship between organisational culture and BITA (Silvius, Smit, & Driessen, 2010). The majority of these studies have used a quantitative research approach to identify the impact of organisation culture on BITA. The

shortcoming of this approach is that it does not provide an in-depth, rich insight into how organisational culture impacts alignment. In addition, the majority of studies have been done internationally such as the United States and Canada, making the generalisability of existing IT-business-alignment theory questionable and the validity and applicability of findings limited, due to significant variations in terms of IT strategies and organisational outcomes across countries because of structural and cultural differences (Yayla & Hu, 2009).

This leaves a gap in the existing body of research, whereby previous research has not provided a detailed explanation of which cultural dimensions impact which BITA criteria and how they impact. In Table 1 are key studies done on the relationship between organisational culture and BITA that were identified based on the inclusion of both culture or organisational culture and BITA in the study. All these studies were done internationally and no local studies incorporating both these research areas were found in the literature search.

Table 1. Key studies of the impact of culture on BITA

Year	Source	Author	Title	Research methodology	No. of citations	Location	Private/Public sector
2000	MISQuarterly	Reich and Benbasat	Factors that influence the social dimension of alignment between business and Information Technology objectives	Case study using semi-structured interviews and reviewing company strategic documents	1557	Canada	Canadian life insurance companies
2006	MISQuarterly	Leidner and Kayworth	Review: A review of culture in Information Systems research: Toward a theory of Information Technology culture conflict	Review	1397	United States of America	N/ A
2008	ACIS Proceedings	Kashanchi	Investigating the social dimension of alignment: Focusing on communication and knowledge sharing	Case study, qualitative, interpretive, interviews	16	New Zealand	IT Companies in New Zealand
2009	HICS (Hawaii International Conference)	Silvius	Exploration of cultural influences on BITA	Quantitative	29	Netherlands	12 Dutch firms
2010	AMCIS	Silvius et al.	The relationship between organisational culture and alignment of business and IT	Quantitative	11	Netherlands	A middle-sized logistics service provider
2010	Journal of Information Technology Management	David W. Nickels; Brian D. Janz	Organisational culture: Another piece of the IT-Business alignment puzzle	Survey	19	United States, Memphis	3 fortune 500 companies, 6 multinational corporation including representatives from education & health services, financial activities, leisure and hospitality, manufacturing, transportation & utilities, and wholesale & retail trade.
2012	Doctoral dissertaion	El-Mekawy	From societal to organisational culture: the impact on BITA	Case study	3	Egypt, Sweden	Egyptian and Swedish companies of the same federated American organisation

Based on the literature search in Table 1 noticeably few studies of how culture impacts BITA have been conducted in developing countries such as South Africa. However, there are studies on BITA in South African SME's (small to medium enterprises) which shed light on some of the alignment challenges facing these types of organisations such as a lack of proper alignment of IT strategy with business strategy (Levy, Powell, & Yetton, 2001). Opportunities to use IT in these types of organisations were not identified, prioritised, nor formally authorised, nor implemented on the status of its importance to business goals (Kyobe, 2008). IT planning does not occur on a continual basis (Ciborra et al., 2000) while IT decisions are not updated and revised as the business needs changes (Kyobe, 2008). In addition, hardware and software are out of date and IT resources not fully utilised limiting the support to the business and it's attainment of business goals (Kyobe, 2008). Similar challenges may be experienced in government organisations and developing countries. Hence it leaves the following gaps: previous approaches in alignment studies were too mechanistic and neglected the human aspects of alignment; geographically, most studies have been done in developed countries and fewer studies have been done in developing countries; while most studies have been done in private sector organisations rather than public sector organisations.

The following section examines IT in a developing country context.

1.1 IT in developing countries

Developing countries were identified as areas of research that have been neglected, particularly within government (Palvia, Palvia, & Whitworth, 2002). Studies that support the reasoning behind IT-enabled organisational effectiveness are more extensive in developed countries compared to developing countries (Kanungo, Sadavarti, & Srinivas, 2001). Palvia et al. (2002, p. 407) hypothesized that "there may be a relationship between the ranking of IT management issues and the level of economic development of a region/country". This suggested that IT management issues in developed countries were more of a strategic nature while issues in developing countries were more basic in nature (Palvia et al., 2002). One of the reasons for this difference between developed and developing countries was the utilisation of IT at a strategic level which may be limited in developing countries due to a lack of funding, inadequate technology infrastructure and a shortage of an educated IT workforce (Yahya, 1993). Positive economic growth and development have been dependent

on new technology investments, high technology industries and highly skilled labour, which have been found to be necessary inputs for a knowledge-based economy (Booyens & Blankley, 2010). However, in most African countries, the ability to innovate remains low. Globalisation of technology has created new opportunities for developing countries to grow and develop; however, investment is needed to develop the necessary skills and infrastructure required for high-technology industries (Booyens & Blankley, 2010). South Africa's socio-economic status is classified as a developing country, although it contains both developed areas with advanced systems such as banking, as well as developing areas with insufficient skills and communication problems, whilst also containing under-developed areas with no access to electricity or telephone infrastructure (Johnston, Muganda, & Theys, 2007).

The following section reviews IT in the public sector to provide some background with regard to conditions within public sector environments.

1.2 IT in the public sector

Some studies have suggested that a large percentage of public information and communication technology (PICT) projects are not successful due to institutional norms, beliefs and perceptions that may negatively impact project outcomes (Sandeep & Ravishankar, 2014). These projects were found to be unique in their results which were closely related to characteristics ingrained in ICT and how human actors assign different meanings to and socially influence technology (Sandeep & Ravishankar, 2014). ICT innovations led by government initiatives have increased in emerging economies to enhance governance and to diversify services offered to the public (Ravishankar, 2013). Empirical studies, however, have conflicting outcomes in this regard, with some studies indicating that such innovations have fallen short of their planned objectives because of "highly centralised decision-making bodies, lack of political will, apathy of senior officials, corruption and asymmetries of power", while others have argued that public ICT innovations in emerging economies have improved the inequalities in access to information and technology (Ravishankar, 2013, p. 316). Public sector Chief Information Officers (CIOs) have similar pressures to their private sector counterparts to innovate, modernise and streamline IT operations; however, they have to deal with more constraints and operational challenges such as operating in a risk-averse culture and restrictive resource allocations (Mphelo, 2017).

There are a number of challenges faced by government when trying to modernise IT infrastructure. Some of these challenges include organisational inertia and resistance to change, the time taken for IT professionals to learn new skills and keep abreast with changes in technology, while legacy systems have long recovery times (Doyle, 2017). Despite efforts to modernise and improve technology, some government departments have been plagued by out-of-date technology, a shortage of skills, as well as corruption and fraud (Mzekandaba, 2017). In addition, government has been constrained by budgets and red tape (Oxford, 2017a). Government processes for securing investments can negatively impact productivity and create significant delays (Oxford, 2017b). In addition, public sector CIOs have had to operate in the public eye (Mphelo, 2017) and are under pressure to improve service delivery (Oxford, 2017a).

1.3 Problem statement

Understanding the impact of culture on BITA has been identified as the core problem. Therefore this research will explore and describe the relationship between BITA and organisational culture in a parastatal, using case study methodology.

1.4 Delimitations of the study

The scope of the study incorporated a single organisation in the South African public sector since it was a single case study. Participants in the study included IT managers and senior business managers within the Western Cape provincial office of a South African parastatal.

1.5 Assumptions

The reliability of the research depended on truthful and honest answers from respondents. It was also assumed that respondents were knowledgeable in the research area, given their positions in the organisation, and were able to provide clear answers to the research questions.

1.6 Structure of this dissertation

This dissertation contains six chapters and is set out as follows:

Chapter 1 provides an introduction to the purpose and context of the study. It introduces the problem and significance of the study as well as definitions of key concepts.

Chapter 2 reviews the literature to provide context to the study, to review relevant literature to the phenomena in the study. It also identifies the gaps in previous research which contribute to the research questions.

Chapter 3 describes the research methodology including the philosophical assumptions, research approach, research strategy, choice of case including the main problem and sub-problems, methods of data collection and analysis.

Chapter 4 presents the research analysis and findings for the organisational culture of the organisation in the study.

Chapter 5 presents the analysis and findings for the impact of culture on BITA in a South African parastatal.

Chapter 6 concludes the dissertation by presenting a summary of the findings, stating the theoretical and practical contributions, as well as the conclusion in terms of findings for each research question. It also details the limitations of the study and recommendations for future research.

Appendix I includes the analysis and findings for BITA within a South African parastatal.

In Chapter 1, the researcher clearly stated the purpose of the research study, provided some background to the current study, in order to understand the research problem, which was introduced. The delimitations and assumptions are also set out, and an overview of the layout of the dissertation provided.

CHAPTER 2: LITERATURE REVIEW

In this chapter, key concepts of BITA and culture are introduced. Important BITA concepts include key themes in alignment research, BITA dimensions, alignment models and BITA maturity criteria. Key cultural concepts and themes in this chapter include organisational culture, culture in the public sector, cultural types, cultural dimensions and cultural theories. Previous studies situate the current study and provide context into the current research. Gaps in previous studies are identified and research questions derived.

The purposes of the literature review were: to contextualise this study in terms of previous research; to introduce the main concepts of the study, the theoretical background for the frameworks used as well as key definitions and concepts; to identify gaps; and to derive the research questions (Hart, 1998). The chapter is organised as follows: Section 2.1 provides an introduction to the main area of focus. Section 2.2. introduces the concept of BITA and key themes are discussed in the sub-sections: 2.2.1 the alignment paradox; 2.2.2 state *vs* process view of alignment; Section 2.2.3 discusses the dynamic nature of alignment; Section 2.4 discusses the concept of BITA maturity, 2.5 discusses Alignment models including 2.5.1 the Strategic Alignment Model, 2.5.2 A generic framework for Information Management and 2.5.3 the Strategic Alignment Maturity Model including 2.5.3.1 the Strategic Alignment Maturity Assessment, 2.5.3.2 the BITA maturity criteria of SAMM 2.6 discusses alignment theories, 2.7 which introduces the concept of culture: 2.7.1 introduces the concepts and definitions of culture; 2.8 reviews cultural theories considered for the study including the various cultural theories in sub-sections and 2.9 includes a discussion of Cultural theories 2.10 introduces the concept of organisational culture followed by 2.11 which discusses culture within the public sector. This is followed by Section 2.12 which is a discussion of studies on organisational culture and BITA. A summary of the literature review appears in sub-section 2.13, followed by the research questions in sub-section 2.14.

2.1 Introduction

Information, information systems and information technology are regarded as important parts of innovation, helping the business to function and advance (Hiekkanen et al., 2013). Information technology has the capability to “increase productivity, customer satisfaction, quality and

convenience in many industries" (Luftman, Papp, & Brier, 1999, p. 367), including enabling businesses by developing internal business processes, while improving communication and service delivery to customers (Silvius, 2009). Together with the growth of information systems in organisations grew the need to better align the use of IT with business processes and strategy (Silvius, 2007). The role of IT has changed from back office support towards a more strategic role with the ability of facilitating and forming new business strategies (Henderson & Venkatraman, 1993). Considering the rate of change within the business, having an efficient and effective IT supporting the business strategy is important to an organisation's success (Silvius et al., 2010). The value and benefits of BITA to the business are well documented in previous literature (Coltman, Tallon, Sharma, & Queiroz, 2015; Schlosser, 2012).

2.2 BITA

An ongoing debate exists of what alignment is and how to achieve it (Schlosser, 2012). Many definitions of alignment exist and "several different terms have been used in the literature to describe BITA including 'fit', 'harmony', 'integration', 'linkage', 'bridge' and 'fusion'" (Silvius, 2008, p. 15). It is broadly acknowledged by academics and government strategists that there are several formal ways to activate alignment including strategic planning, enterprise modelling and administrative governance arrangements and processes (Gregor, Hart, & Martin, 2004). Two different outcomes of BITA are indicated in the literature. Some definitions are focused on the end result such as benefits attained, while others are focused on enhancing the business IT relationship including its goals, strategies and processes used to make decisions (El-Mekawy et al., 2014). The latter is the focus of this study.

2.2.1 The alignment paradox

Conflicting findings of the effects of alignment on firm performance have resulted in an 'alignment paradox' with some findings showing a positive relationship between alignment and firm performance, while others have indicated a negative relationship (Gerow, Grover, Thatcher & Roth, 2014; Luftman et al., 1999). Research has provided evidence that organisations that successfully align their business strategy with their IT strategy out-perform their non-aligned competitors; this has been confirmed by several authors (Chan, Huff, Barclay, & Copeland, 1997; El-Mekawy et al., 2014; Kearns & Lederer, 2004; Silvius, 2013). This has resulted in BITA becoming a sought-after position to be attained, in which the relations between IT and

business are modified with the intention of receiving the maximum business value of IT (El-Mekawy et al., 2014) such as "increasing IS usage, IT effectiveness and efficiency, increasing flexibility and improving business performance while maximizing return on investment and creating a competitive advantage" (Schlosser, 2012, p. 5053). In contrast, some organisations have not experienced similar positive effects of alignment on overall firm performance nor gained value or competitive advantage (Coltman et al., 2015; El-Mekawy, 2012) with many companies having difficulty attaining and sustaining alignment and not benefiting in the long term from IT implementations and investments (Schlosser et al., 2012; Wong, Ngan, Chan, & Chong, 2012).

2.2.2 State versus process view of alignment

Two different ways of viewing alignment in previous research were the *State vs Process* views of alignment, with the state view expressed as a measure of alignment while the process view was a group of activities undertaken to attain a certain measure of alignment (Silvius, 2009). Researchers who adopted a measured approach to alignment included Luftman (2000) and Reich and Benbasat (2000) who developed assessments to determine the measure of alignment achieved; those who focused on the activities to attain a measure of alignment were reminiscent of IT planning methodologies used in the 1970s and 1980s (Silvius, 2008; 2009). Chan (2002) considered alignment, not as a state, but rather a journey. Researchers who adopted a 'process' view of alignment considered alignment to be dynamic and in a continual state of change, with continual adjustment needed rather than an end state to be achieved (Benbya & Mckelvey, 2006). This study makes use of Luftman's (2000) maturity assessment to derive the maturity levels qualitatively through deductive thematic analysis and therefore applies a 'state' view in the sense that alignment maturity levels are determined at a point in time however since alignment is dynamic and in a continual state of change the maturity level could change.

2.2.3 Dynamic nature of alignment

Coltman et al. (2015) compared alignment to a moving target because of the continual changes within IT, with the latest innovations coming in and old, outdated systems becoming obsolete. Similarly, business strategies have changed as a result of businesses going global, increasing the demand for companies to go digital and having the ability to move quickly and easily (Coltman et al., 2015). The changing nature of business strategies of an organisation, together with the fast

pace of technology change, have made it exceedingly difficult and challenging to achieve and maintain alignment in practice, demanding constant change and adjustments to plans and projects (Gutierrez & Lycett, 2011; Wong et al., 2012). Developments such as "new technologies, mergers and acquisitions, regulatory changes, new business initiatives and strategic alliances" have formed dynamic business environments which have affected most industries (Silvius, 2007, p. 21). The complicatedness, unpredictability and constant state of change of environments, along with the intricacies and range of strategy, make achieving alignment more challenging (Hiekkanen et al., 2013). The mutual dependence between IT and business operations have also been impacted by updates to technology, requiring adaptation in business operations and adjustments in IT operations when changes occur in business (Wong et al., 2012).

2.3 Dimensions of alignment

Several different dimensions of BITA have developed as studies have evolved, such as strategic, intellectual, structural, social and cultural dimensions (Schlosser et al., 2012). However, it is beyond the scope of this study to discuss each one in detail here, therefore a brief description of each has been provided to give context of how the social and cultural aspects fit into alignment.

2.3.1 Structural alignment

Structural alignment is related to the "degree of structural fit between IT and business such as the decision-making rights, reporting relationships, centralisation vs. decentralisation of IT services and infrastructure and deployment of IS personnel" (Chan, 2002, p. 98). In addition to the formal structure, Chan (2002) identified an informal structure that ran parallel to the formal structure which incorporated and provided strong evidence of formal and informal team work, positive interactions amongst teams with good working relationships and a lively culture. Chan (2002) suggested that the informal structure and its characteristics were more suited under "social composition, virtual structure or informal organisation" and that the different informal structures included relationship-based structures that go beyond formal divisions of resources and allocation of tasks (Chan & Reich, 2007, p. 301).

2.3.2 Strategic alignment

Strategic alignment focuses on the 'fit' between the priorities and activities of the IS function and those of the business unit (Chan, 2002). Strategic alignment involves the management activities performed to attain common goals that incorporate both IT (Information Technology) and other business functions such as finance, marketing, H/R, manufacturing (Luftman, 2000). When IT strategy aligns to support business strategy, enabling an organisation to gain competitive advantage, it is known as Strategic alignment (Kashanchi & Toland, 2008). Strategic alignment has been broadly considered to consist of two dimensions, namely, the intellectual dimension and the social dimension (Gregor et al., 2004; Reich & Benbasat, 2000).

2.3.2.1 Social and intellectual dimensions of alignment

The social and the intellectual dimensions of alignment were first incorporated in a study by Horovitz (1984), who identified a two-dimensional approach to strategy formulation which included: the intellectual dimension of alignment that incorporated a high class of standards, affiliated IT and business strategies; while the social dimension incorporated the degree of common understanding of and dedication to business and IT undertakings, goals and strategies, in particular the extent of business executives' understanding and dedication to IT undertakings, goals and strategies and IT executives understanding and dedication to business undertakings, goals and strategies (Reich & Benbasat, 1996).

Further research by Reich and Benbasat (1996) into several factors of social dimension of connections between business and information technology objectives found that the factors "IT implementation success, communication between business and IT executives and connections between business and IT planning" influenced short-term alignment, while shared domain knowledge influenced long-term alignment (Reich & Benbasat, 2000, p. 87).

Schlosser et al. (2012) expanded the social dimension of alignment to include relationships, shared understanding, cultural matters and informal structure that all form part of the collectively -formed environment within the business and IT domains. The social dimension included interchange between people and similar thinking patterns, including collectively organised human actions that extend beyond an individual to include interrelations, shared understanding as well as cultural matters and informal structure (Schlosser et al., 2012). Collectively organised environments of business and IT functional areas play a role in work interconnectedness and incorporate soft factors such as common trust and respect, informal communication and culture,

which make up the key characteristics of the social dimension (Schlosser et al., 2012). Schlosser et al.'s (2012) definition of alignment also included a human dimension in addition to the intellectual and social dimensions. Human factors were described as being a decisive factor that has the potential to either support or hinder the technological aims of an organisation, which could potentially cause problems for IT and Business managers occurring at every level of an organisation and therefore to be considered as an important part of an efficient management strategy (Navedo-Samper et al., 2013). Social determinants are incorporated as part of the alignment definition under organisational processes that support the business's mission, objectives and plans. The "human factors include communication, planning, symbiotic relation and cohesion" (Navedo-Samper et al., 2013, p. 16).

The social dimension was found to be significant for alignment in a qualitative study of the social processes of alignment within six government agencies. Results showed that management support such as managers who co-operated in business and information system decision-making and who understood technical issues were important for alignment (Martin, Gregor, & Hart, 2005). Business-planning styles and business-planning communication were also factors within the social dimension found to be less well understood than factors of the intellectual dimension such as "audits, managerial reviews and management accounting and reporting practices" (Martin et al., 2005, p. 28).

Several studies list culture as a social aspect of alignment (Silvius, de Waal, & Smit, 2009b). Pyburn, as referenced in Chan (2007, p. 301) stated "the importance of cultural fit between business and IT as a precondition for successful IT planning" and gave the example of a written formal or personal informal approach that needed to be aligned with the cultural elements of business planning style and top management communication style to be effective. Chan (2002) proposed that a strong company culture be a pre-requirement of the informal structure needed to support alignment. Culture may also influence technology in managerial processes that may directly, or indirectly, influence IT (Leidner & Kayworth, 2006).

Cultural influences on alignment including studies of organisational culture and BITA are discussed in more detail in sub-section 2.3.5.

2.3.2.1.1 Communication

In several studies it was found that ineffective communication contributed to a lack of understanding between business and IT groups (Jorfi & Jorfi, 2011; Luftman, 2000; Reich & Benbasat, 2000). Failure to adequately communicate and understand the necessary information required for aligning business and IT strategies and infrastructures has contributed to highly divisive relationships between business and IT departments (Coughlan, Lycett, & Macredie, 2005). Kashanchi and Toland (2008) found in their study of social dimension of alignment that consistency of communication and knowledge-sharing led to better alignment between IT and business objectives. A high level of communication effectiveness contributed to a higher level of similarity in understanding between the sender and receiver of a message (Jorfi & Jorfi, 2011). In a study of employee alignment effect on BITA, it was found that employee communication had the biggest impact on BITA (Wong et al., 2012).

2.3.2.1.2 Shared domain knowledge

Reich and Benbasat (2000) observed that without high levels of shared domain knowledge, levels of communication would be diminished and result in low levels of short-term alignment. In addition, the level of congruence between business and IT executives' visions impacted long-term alignment (Reich & Benbasat, 2000). "Long-term alignment is defined as the state in which business and IT executives share a common vision of the way(s) in which IT will contribute to the success of the business unit" (Reich & Benbasat, 2000, p. 87). The better business and IT executives understand each other's key processes, this understanding leads to better alignment (Kashanchi & Toland, 2008).

2.3.2.1.3 The business-IT relationship

A strong relationship and partnership between business and IT, particularly a good relationship between the CIO and CEO, was identified as an enabler to alignment, as it enhanced the necessary support needed by IT from executives (Luftman, 2000). This type of relationship has the ability to enhance the CEO's knowledge and belief of the importance of IT/IS, enabling better evaluation of benefits of IT investments with more realistic expectations (Bai & Lee, 2003). According to Silvius (2007), the logic of BITA requires both IT and business executives to share the concern of alignment between business needs and IT capabilities; however, this is not always the case, with some research indicating that business executives do not rank BITA very highly amongst their concerns (Silvius, 2007). Continual disappointment by senior

management with the perceived benefits and value from IT investments have often led to many organisations opting to outsource IT activities to a third party due to their frustration with the IT function (Peppard & Ward, 1999).

2.4 BITA Maturity

Alignment matures into a relationship when the business and IT functions collaborate and adjust their strategies together (Luftman, 2000). According to Silvius et al. (2009a), the BITA maturity level was indicative of the organisation's capability to align IT to the business needs. Low alignment maturity has been cited as one of the reasons why organisations fail to maximise the full extent of their IT investment. Companies with lower alignment maturity have been associated with lower overall company performance for example lower return on investment (ROI) and lower profits (Luftman et al., 2010).

Studies show that IT governance has an important role to play for organizations wanting to improve their alignment maturity (Luftman et al., 2010). IT governance has also been found to have a strong impact on organisational performance (Luftman et al., 2010). SAMM is applied as the foundation for relating IT Governance to company performance and to overall alignment maturity (Luftman et al., 2010).

Organisational structures have also been shown to influence alignment maturity with organisations with a federated structure having a higher alignment maturity than those with a centralised or decentralised structures (Luftman et al., 2010). In addition, reporting structure has also been found to influence alignment maturity with organisations with CIO's that report to CEO's having a higher alignment maturity (Luftman et al., 2010).

2.5 Alignment models

The following alignment models were considered for the study:

2.5.1 The Strategic Alignment Model (Henderson & Venkatraman, 1993)

The Strategic Alignment Model (SAM) developed by Henderson and Venkatraman (1993) was the first model to depart from a focus on IT in a back-office support role to a position as an enabler of business strategy. SAM defined BITA as "the degree to which the IT applications, infrastructure organisation, enable and support the business strategy and processes, as well as the

process to realise this" (Silvius, 2008, p. 15). SAM provided a more holistic framework than previous IT planning methodologies and highlighted the potential of IT to bring change to organisations and give organisations a competitive advantage in the market (Henderson & Venkatraman, 1993). SAM made provision for a cross-domain level to focus on the interaction between business and IT strategy and organisational structure and IT structure and, in such a way, recognised the potential of IT to provide more than a support function but rather a shaper of business policy (Schlosser et al., 2012).

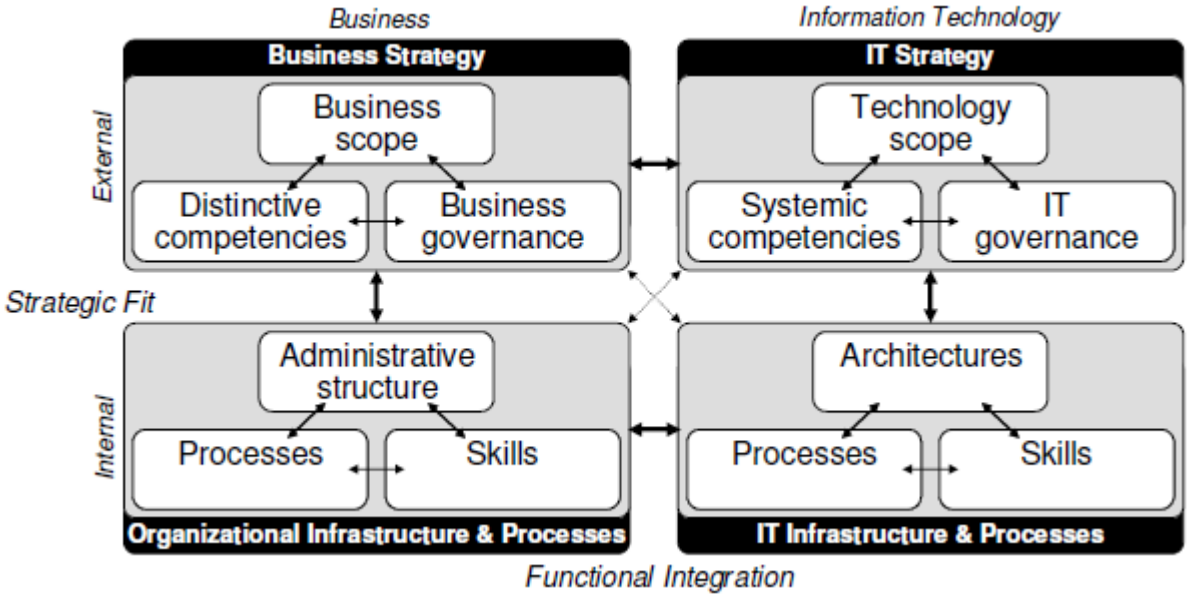

Figure 1. The Strategic Alignment Model (Henderson & Venkatraman, 1993, p. 476)

SAM, illustrated in Figure 1, defined two fundamental characteristics of strategic management: "'Strategic fit' which are the interrelationships between external and internal components of the business and 'Functional integration' which are the integration between business and functional domains" (Henderson & Venkatraman, 1993, p. 472). SAM defined four fundamental domains of strategic choice: "Business Strategy, Information Technology (IT) Strategy, Organisational Infrastructure and Processes, and Information Technology (IT) Infrastructure and Processes, each with its own underlying dimensions" (Henderson & Venkatraman, 1993, p. 472) that worked together to achieve alignment (Silvius et al., 2009a). 'Strategic fit' referred to "the ability to make decisions to position a company in the market based on the external and internal environment conditions and is the interplay between business strategy and organisational infrastructure and processes" (Henderson & Venkatraman, 1991, p. 74); Functional integration

separated business and IT and "enabled organisations to align their functional strategies, structure and processes, using not only internal conditions but also recognized the external environment variables such as the product market and IT marketplace" (Henderson & Venkatraman, 1991, p. 74; Silvius, 2008).

2.5.2 A generic framework of Information Management (Maes, Rijsenbrij, Truijens, & Goedvolk, 2000)

Maes et al. (2000) developed and re-interpreted the SAM model in a generic framework by looking at the interrelationships of business and information/communications and technology (ICT) at the operations, structural and strategic level. Figure 2 shows an illustration of Maes et al.'s (2000) unified framework for alignment.

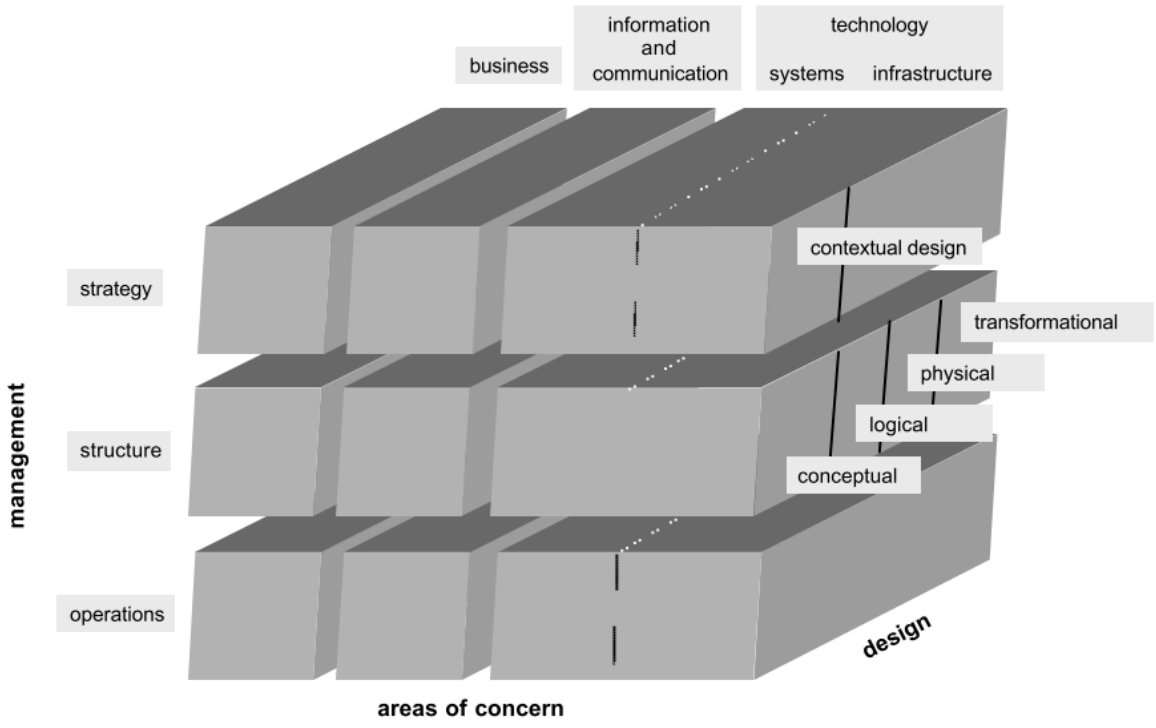

Figure 2. Outline of a unified framework for alignment (Maes et al., 2000, p. 19)

In the framework, IT was updated to reflect the need for ICT; a vertical and horizontal dimension were added to consider the separation of information/communication from technology, in this way highlighting the growing importance and delivery of information

(Avison, Jones, Powell, & Wilson, 2004). Despite this effort to transform the concept of alignment to a more practical method inclusive of both management and design concepts, there was little evidence of use of the model in practice (Avison et al., 2004).

2.5.3 The Strategic Alignment Maturity model (Luftman, 2000)

2.5.3.1 Strategic Alignment Maturity Assessment

SAMM was developed by Luftman (2000) as a tool to assist organisations to assess their BITA maturity by providing a roadmap which allowed an organisation to know its alignment maturity status and how to improve the business IT relationship (Luftman, 2000). The SAMM assessment (Luftman, 2000) was formed by combining the components of SAM (Henderson & Venkatraman, 1993) and the 'enablers and inhibitors of alignment' developed by Luftman (2000). These alignment maturity criteria focused on the functions that enabled the achievement of common goals across IT performed by management and other functional organisations, which addressed how to achieve a harmonious relationship between business and IT (Luftman, 2000). According to Silvius et al. (2009a), the BITA maturity level was indicative of the organisation's capability to align IT to the business needs. Luftman (2000) identified five levels of strategic alignment maturity:

> 1 - "Initial/ad hoc process -No formal alignment exists, any practices that do exist that contribute to alignment are of an ad hoc variety;
>
> 2 - Committed process -There exists a commitment by the organisation to foster alignment;
>
> 3 - Established focus process-There is an established process that exists that concentrates on business objectives;
>
> 4 - Improved/managed process-There is a sound alignment process that exists that stresses the importance of IT and its ability to add value to the organisation;
>
> 5 - Optimised process-There is a strategic alignment process that is completely consolidated and flexible between business and IT" (Sledgianowski & Luftman, 2005, p. 108)

Each of the five levels of maturity focused, in turn, on a set of six maturity criteria based on practice validated by an evaluation of twenty-five 'fortune five hundred' companies (Luftman, 2000). The six BITA maturity criteria illustrated in Figure 3 included: Communications, Competence/Value measurement, Governance, Partnership, Scope and architecture, and Skills (Luftman, 2000).

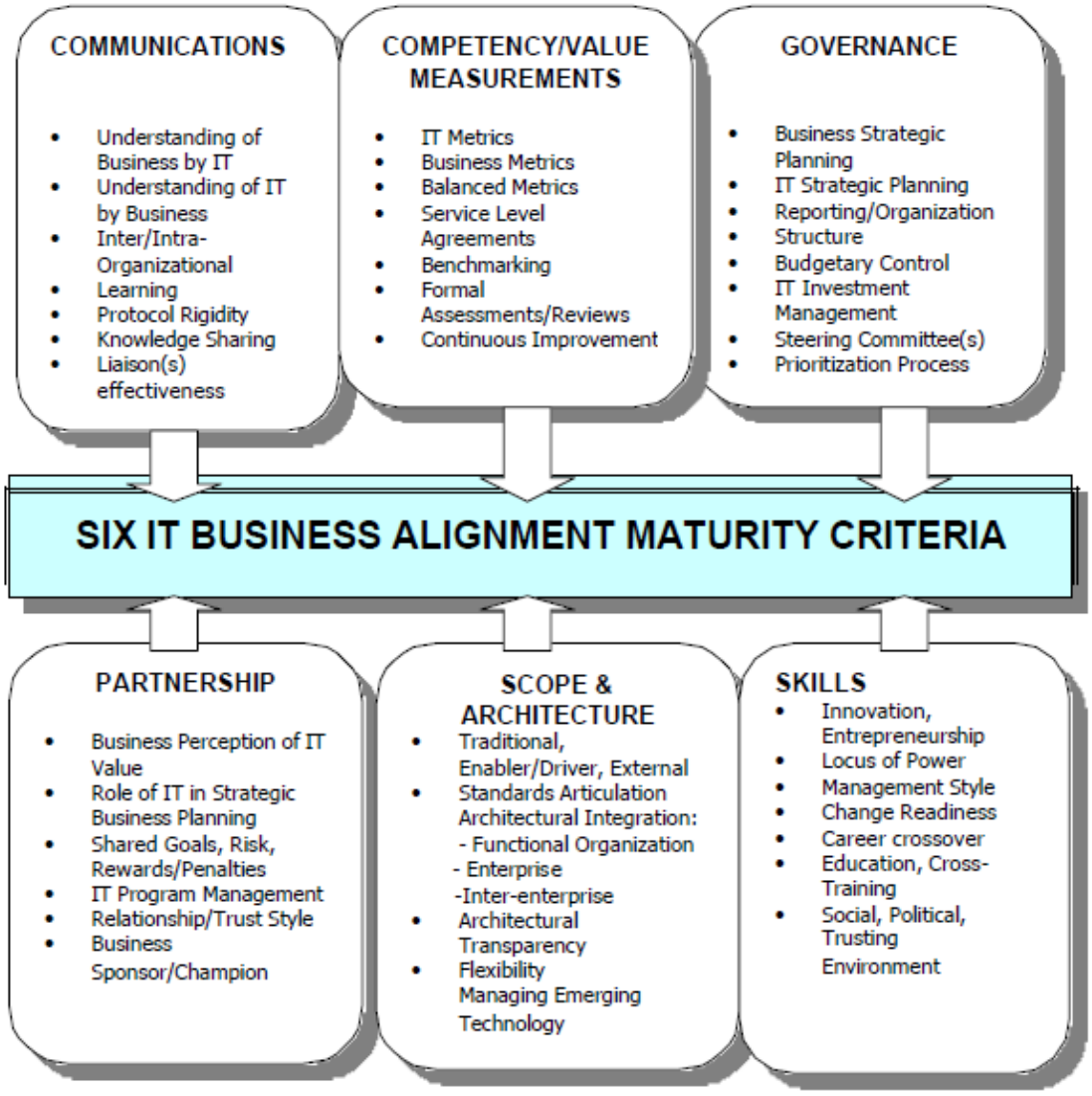

Figure 3. BITA Maturity Criteria (Luftman, 2000, p. 12)

2.5.3.2 The BITA maturity criteria of SAMM (Luftman, 2000)

2.5.3.2.1 Governance

Governance is the decisions involved in assigning rights for "IT activities such as choosing and prioritizing projects, accepting ownership of technology, managing budgets and IT investments" (Sledgianowski & Luftman, 2005, p. 112). "IT Governance processes include the formalisation and institutionalisation of strategic IT decision-making or IT monitoring procedures" (De Haes & Van Grembergen, 2008, p. 1). These include centralised, decentralised and federated structures which determine where ownership and allocation of funds in the IT department are located, for example at Head Office, at a regional level or both (Sledgianowski & Luftman, 2005). Centralisation occurs when decision-making power is located at the highest levels of the organisation; it has been shown in a few studies to positively impact organisational effectiveness, while the majority of studies agreed that decentralised structures are more favourable as it is conducive to communication, while increasing employee satisfaction and motivation (Zheng, Yang, & Mclean, 2009). Having a steering committee to oversee all significant decisions of a centralised IT structure has been found to strengthen the alignment of IT and business strategies (Sledgianowski & Luftman, 2005). A federated structure combines the strengths of both of these structures and has been recommended by IT researchers for organisations with several business units, where the loci of power sit at corporate IT for enterprise architecture, general systems and common decisions, while single business units manage their own resources and applications. Advantages of this type of structure include benefiting from economies of scale and having one IT standard, while still having the freedom to service the business unit's needs and priorities (Sledgianowski & Luftman, 2005).

Communication in the form of relational mechanisms plays an important role in governance and provides a means of communicating between corporate headquarters, IT management and business management through participation and collaboration (Schlosser et al., 2012). Relational mechanisms form a critical part of the IT governance framework and are essential for achieving and maintaining business/IT alignment, even with the necessary structures and processes in place (De Haes & Van Grembergen, 2008).

The purpose of IT governance is to attain a better alignment between business and IT. Empirical evidence has shown that organisations with more mature IT governance practices are associated with a higher degree of business IT/alignment maturity (De Haes & Van Grembergen, 2008).

2.5.3.2.2 Communications

Communication has long been established as important to alignment and ensures that BITA is incorporated into the business effectively (Sledgianowski & Luftman, 2005). Communication within the BITA environment involves "the process of exchanging information, knowledge and ideas among IT and business professionals ensuring a mutual understanding of the business and IT environment as well as organisational strategies" (Wong et al., 2012, p. 491). When the receiver fully understands the message received from the sender, communication has successfully occurred (Wong et al., 2012). IT understanding the business and vice versa have been acknowledged by senior executives as an important enabler to alignment (Sledgianowski & Luftman, 2005). The findings of a study investigating the connectivity strength of employee perception on successful implementation of BITA indicated that, of the variables that constituted employee perception including communication, knowledge and trust, communication had the strongest association with BITA, followed by knowledge and trust. This led to the premise that communication and knowledge are necessary to facilitate BITA (Wong et al., 2012).

2.5.3.2.3 IT competency/ value measurement

According to SAMM assessment, Competency/Value Measurement are described as "the management practices and strategic IT choices an organisation makes when determining the importance and contribution of IT to the organisation" (Sledgianowski & Luftman, 2005, p. 110). Service Level Agreements (SLAs) between the business and IT are examples of a component of IT competency value measurement that can occur at a global or regional level. SLAs are supported by "Operational Level Agreements (OLAs) which are technical performance measures" (Sledgianowski & Luftman, 2005, p. 111). SLAs have been found to be influenced by human factors because of client focus, flexibility of policies and regulations to accommodate required changes, collaborative work and effective communication channels (El-Mekawy et al., 2014).

Benchmarking is a measure of best practices in the industry normally built into an organisation's own operations and goals for assessing performance (Sledgianowski & Luftman, 2005). Continuous improvement and benchmarking have been associated with well organised organisations that are able to continually align their performance with delivery of service outputs (El-Mekawy et al., 2014).

2.5.3.2.4 Partnership

'Partnership' is how IT and the business perceive the contribution of each other, including the trust that develops amongst participants and sharing of risks and rewards (Sledgianowski & Luftman, 2005). Trust in organisations grows through social relationships engaged in, by the duration and frequency of communication which helps to build good standing and credence in the trusting partners (Ruppel & Harrington, 2000). Trusting behaviour between partners necessitates mutual openness, collaboration and working together over time to achieve common goals, with frequent communication to enable partners to exchange information regarding each other's values, preferences and approaches to problems, thereby building knowledge-based trust (Ruppel & Harrington, 2000). IT implementation success and past implementation failures (Reich & Benbasat, 2000) impact the level of trust in IT/IS departments which promote partnership relationships between business and IT/IS managers (Gutierrez, Orozco, & Serrano, 2009).

Partnership relates to IT having an equal part in business strategic planning (El-Mekawy et al., 2014). Differences in perception between business and IT executives have been found to impact the strategic planning; this has led to the premise that a shared understanding between the CEO and CIO is a necessary pre-requisite for IT strategic alignment (Johnson & Lederer, 2010). Previous research has shown that the IT function, being given an equal chance at planning business strategy, is more likely to occur in a matured partnership (El-Mekawy et al., 2014).

2.5.3.2.5 Scope and architecture

Enterprise architecture provides a practical approach for integrating business and IT (Gregor, Hart, & Martin, 2007). SAMM defined scope and architecture as management decisions and the determination of plans an organisation makes of how resources will be allocated for information technology infrastructure including the capacity and range of it (Sledgianowski & Luftman, 2005). It includes the extent to which IT is positioned to provide support for a flexible infrastructure which is straightforward to business partners and customers, and implementation of new technologies effectively, to sanction and direct business processes and strategies as a true standard and provide solutions that meet customers' needs (Sledgianowski & Luftman, 2005). IT standards have simplified connection among technology components, making it easier to integrate and provide access to information across the organisation and to share information with business partners (Sledgianowski & Luftman, 2005). An organisation where IT is fully

integrated into the organisation and provides more than just technical IT is characteristic of a matured IT architecture (El-Mekawy et al., 2014).

2.5.3.2.6 Skills

According to SAMM, "Skills pertain to the management practices and strategic choices an organisation makes concerning IT human resource considerations such as the cultural and social environment it cultivates" (Sledgianowski & Luftman, 2005, p. 116). Skills are a necessary part of BITA as employees without the right skills and competencies to carry out the vision, strategies, structures and processes will not be able to achieve successful alignment if the capability to deliver is not matured (Silvius et al., 2009a). Matured skills have been associated with an innovative and entrepreneurship working environment, whereby the leadership and relationship style distinguishes the locus of power and management style, thereby influencing innovation and risk-taking (El-Mekawy et al., 2014).

When pertaining to competencies, not only technical skills are required of individual IT professionals, but social and business skills as well, in order to add value to the business (Silvius et al., 2009b). Support from non-executives is listed as one of the top enablers of alignment (Luftman, 2000). Skills also necessitate the need for business professionals to have an understanding of the benefits that IT can offer the business; they require proficiency in understanding IT (Silvius et al., 2009b).

2.6 Discussion of alignment theories

Many models of strategic alignment have been proposed with SAM (Henderson & Venkatraman, 1992) being one of the key models. SAM formed the foundation for a great deal of strategic IT research (Avison et al., 2004). Henderson and Venkatraman (1989) recognised the potential of IT to be more than support but to influence business policy as well (Avison et al., 2004). SAM highlighted the capacity of IT to create change in organisations and equip organisations with a competitive advantage in the market (Henderson & Venkatraman, 1993). SAM was conceptualised with two important characteristics of strategic management: strategic fit which is the interrelationships between internal and external domains; and functional integration which is the integration between business and IT domains (Avison et al., 2004). SAM made provision for a cross-domain level to focus on the interaction between business and

IT strategy and organisational structure and IT structure (Schlosser et al., 2012). Henderson and Venkatraman (1989) argued that neither strategic nor functional integration were adequate to efficiently align an organisation and addressed this by providing a multi-variate co-alignment model that incorporated both functional and strategic integration with the linkage between strategy, infrastructure and processes looked at in terms of people, process and structure (Avison et al., 2004). Despite the improvements made by SAM to previous traditional IT planning methodologies, the model was criticised for being based on the same set of assumptions that were derived from mechanistic principles used by management to form structured planning approaches and a sequential model of business strategy development to reach company objectives (Smaczny, 2001).

Two models developed from SAM were Luftman's (2000) Strategic Alignment Maturity model (SAMM) and Maes et al. (2000) unified framework. Luftman's (2000) strategic alignment maturity model focused on the tasks management performed to attain shared goals between IT and other business functions. Luftman (2000) further developed SAM to identify enablers and inhibitors of alignment within organisations which focused on communication and support between business and IT management and also established the importance of the involvement of IT management in the strategic planning process (Avison et al., 2004). The strategic alignment maturity assessment provided a way for organisations to determine and gauge the maturity of an organisation's BITA and used the most significant enablers and inhibitors of alignment as the foundation of SAMM (Luftman, 2000). SAMM defined five levels of strategic alignment maturity which was applied to six alignment maturity criteria (Luftman, 2000). The five levels of strategic alignment maturity included: Level 1 - Initial /Ad hoc process, Level 2 - Committed process, Level 3 – Established focused process, Level 4 – Improved /Managed process and Level 5 – Optimized process. A description of these maturity levels were given under Alignment models, 2.5.3.1 Alignment Maturity. The six maturity criteria including Communications maturity, Competency /Value measurement maturity, Governance maturity, Partnership maturity, Scope & architecture maturity and Skills maturity are discussed in detail under 2.5.3.2 The BITA maturity criteria of SAMM (Luftman, 2000).

Maes et al. (2000) redefined the concept of alignment and SAM by placing it within a unified framework that added extra functional and strategic layers to update the model to include the need for information and communication (Avison et al., 2004). The unified framework was

defined as "a generic framework for investigating and interrelating the different components that make up information management and incorporates business, information, communication and technology at strategic, structural and operational levels" (Avison et al., 2004, p. 232). Adding an additional vertical and horizontal domain to SAM to update the model to include information and communication from technology, at three different levels namely strategic, structural and operational was based on the premise that the use and sharing of information was the real reason for competitive advantage and not provision of information (Avison et al., 2004).

Considering all three models each one had a different focus and underlying premise. SAM had a strong influence and contribution to the other two models considered for this study. SAM provided a more holistic and integrated framework which argued that neither strategic nor functional integration were enough to achieve alignment and introduced cross domain alignment as the degree of fit amongst business and IT strategy, and business infrastructure and IT infrastructure (Gerow et al., 2014). Luftman's (2000) SAMM was more focused around the management activities to achieve cohesion between business and IT, the factors that enable and inhibit alignment and achieving a better alignment through making certain that organisational strategies were formed in an agreeable, co-operative way. This occurs when mature alignment develops into a relationship that makes it possible for strategies to be adapted harmoniously (Luftman, 2000). Maes et al. (2000) unified framework updated SAM to include the information and communication through technology and the importance of the use and sharing of information.

This study focuses on the impact of culture on BITA which forms part of the social aspects of alignment (Reich & Benbasat, 2000) which has been classified as a factor that may impact alignment. Factors such as communication and support between business and IT management and the importance of the involvement of IT management in the strategic planning process (Avison et al., 2004) which form part of SAMM (Luftman, 2000) was considered to be the best fit in accommodating organisational culture as a factor that contributes to a better alignment maturity and better relationship between business and IT.

The following section introduces the concept of culture, different levels of culture, the importance of culture and cultural theories.

2.7 Culture

Organisational culture is considered in the literature to be an important social characteristic that influences organisational, group and individual behaviour (Hartnell, Ou, & Kinicki, 2011). In addition to behaviour, culture can also strongly influence an individual's beliefs and attitudes (Schein, 1990), including people's decision-making (El-Mekawy, 2012). Culture's influence on employee attitudes can impact organisational effectiveness (Gregory, Harris, Armenakis, & Shook, 2009). Culture at a visible level has been distinguished from culture at a hidden level (Silvius et al., 2010). Visible levels of culture include behaviour patterns, physical and social environment, and the written and spoken language of a group, while hidden levels of culture include group values and basic assumptions (Silvius et al., 2010). Understanding the impact of culture on BITA requires an understanding of the concept of culture and how it is defined.

2.7.1 The concept and definitions of culture

Culture is a concept derived from sociology, anthropology and psychology (Silvius et al., 2010). A key element of culture is that it is a shared phenomenon (Silvius et al., 2010). Many sub-cultures can be present within one nation or within an organisation such as professional associations, political parties and ethnic groups. The norms and values of such sub-cultures can influence an individual's work behaviour (Karahanna, Evaristo, & Srite, 2005).

Hofstede defined culture "as the collective programming of the mind, which characterises members of one organisation from others. By this, Hofstede referred to the symbols, heroes, rituals and values that collectively define a culture" (Silvius et al., 2009a, p. 2). Culture at an organisational level has been defined as "the culture within an organisation that includes the common expectations, goals, beliefs, ideas, common understanding and norms of the people in the organisation which varies between organisations" (El-Mekawy, 2012, p. 31). Schein (1996, p. 236) defined organisational culture as "a set of shared, taken-for-granted implicit assumptions that a group holds and that determines how it perceives, thinks about and reacts to its various environments". This values-based definition of organisational culture proposes that the underlying values influence the behaviour of organisational members and guide their decisions (Schein, 1984).

Culture as a group (i.e. subculture) and organisational level, have the same content and meaning (Ostroff et al., 2003) and are theoretically isomorphic, meaning they both influence behaviour through shared, social normative cues and therefore will both be referred to as organisational culture (O'Reilly & Chatman, 1996). This research study focuses on the organisational level of culture including group level of culture, as the study is conducted within an organisation.

2.8 Cultural theories

Culture has been defined in many different ways. Three different theories are compared to the Competing Values Framework (CVF) (see section 2.3.4.3) to highlight why the CVF was most suitable as a guideline for this study. The current study takes a value-based and shared norms approach to culture, based on the CVF (Cameron & Quinn, 2005).

2.8.1 The Hofstede Model (Hofstede, 2011)

Hofstede (1990) conducted a quantitative and qualitative study across twenty cases in ten different organisations in Denmark and the Netherlands, with data collected from in-depth interviews and questionnaire surveys. Hofstede proposed that "culture could be classified along six dimensions:

- 'power distance' which relates to problems of human inequality and different solutions addressing this,
- 'individualism vs collectivism' which relates to the integration of individuals into primary groups,
- 'masculinity vs femininity' relates to the division of emotional roles between men and women while
- 'uncertainty avoidance' relates to the level of stress in a society when faced with an uncertain future, while
- 'long term orientation vs short term orientation' relates to how people choose to focus their efforts in the future, past or present, and, lastly,

- indulgence vs restraint that relates to the gratification vs control of basic human desires pertaining to the enjoyment of life" (Hofstede, 2011, p. 8).

2.8.2 Schein's (1990) three-layer model of culture: basic assumptions, values and artifacts

Schein described a three-layer model of culture which included basic assumptions, values and artifacts, as it appears in Figure 4.

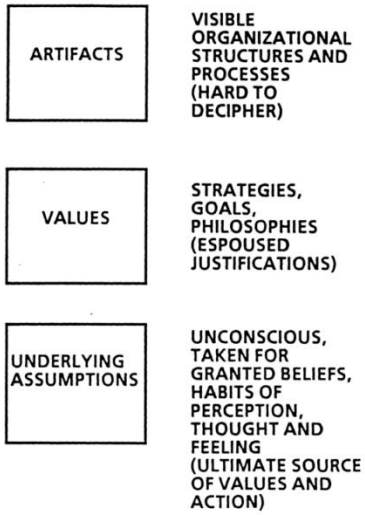

Figure 4. The layers of culture (Schein, 1990, p. 9a)

Schein claimed that "Basic assumptions were at the core of culture and representative of an individual's belief systems of human behaviour, relationships, reality and truth" (Leidner & Kayworth, 2006, p. 359). Assumptions, which were once values that gradually developed into taken for granted assumptions, lie beneath the surface of values; they can be elicited through carefully observing behaviour, noting anomalies and inconsistencies that remain unexplained (Schein, 1990). People perceive situations using their basic assumptions as a lens through which they process on-going events, activities and human relationships, thereby forming the basis of collective action (Leidner & Kayworth, 2006). Values are manifestations of culture that are upheld beliefs that are important to a particular cultural group and the reason for their behaviour (Leidner & Kayworth, 2006). According to Schein's framework, the underlying values have an influence on the behaviour of organisational members, as people rely on their values to guide their decisions and behaviours (Gregory et al., 2009). In an organisational environment, corporate values form the foundation of corporate culture and behaviour (Leidner & Kayworth,

2006). Artifacts and creations are the most visible forms of culture and may include "visible and audible behaviour patterns, heroes, rituals and language" (Leidner & Kayworth, 2006, p. 359).

2.8.3 The Competing Values Framework (CVF)

The CVF is a framework based on research on organisational effectiveness (Cameron & Quinn, 2011). The CVF is a popular and widely-used approach for assessing organisational culture; it relates to how culture influences organisational performance (Gregory et al., 2009). The CVF focuses on competing tensions and conflicts in any human system, emphasising conflict between stability and change and conflict between the internal organisation and external environment (Denison & Spreitzer, 1991), as well as helping to identify the relevant dimensions of organisational culture such as cultural strength and cultural congruence (Cameron & Freeman, 1991). The CVF was used as a guideline in this study to determine the dominant cultural type for each cultural dimension within the business and IT groups.

The CVF envisaged differences in organisational culture with two dimensions: structure and focus (Gregory et al., 2009). The structure dimension had 'flexibility and discretion' on one extreme of the continuum with 'stability and control' on the other end (Cameron & Quinn, 2011). The structure dimension focused on differences in organisations that strived for consistent behaviour through applying controls and those that allowed flexibility in employee behaviour (Gregory et al., 2009). The focus dimension had two opposites, with internal focus and integration on the one end and external focus and differentiation on the other end of the spectrum (Cameron & Quinn, 2011). Internal focus related to factors internal to the organisation such as employee satisfaction, while external focus related to how well the organisation functioned in its external market environment (Gregory et al., 2009). A third dimension, organisational effectiveness, was integrated into the two dimensions of structure and focus to form the CVF (Quinn & Rohrbaugh, 1983).

Figure 5. Competing Values Framework organisational profiles (Cameron & Quinn, 2005, p. 50).

Cameron and Quinn (2011) identified four dominant cultural types in the CVF framework, illustrated in Figure 5 and described in the following section. These cultural types formed the basis for the Organisational Culture Assessment Instrument (OCAI) (Cameron & Quinn, 2011). The OCAI is normally used quantitatively, but has been used qualitatively in this study to develop interview questions.

2.8.3.1 Cultural types

The type of culture an organisation holds, namely Clan, Adhocracy, Hierarchy or Market, has been found to have an important affiliation with effectiveness, together with other organisational attributes (Cameron & Freeman, 1991).

2.8.3.1.1 Hierarchy culture

Characteristics of Hierarchy culture include a focus on order, structure, ranking, answerability, objectivity, authority and expertise (Cameron & Quinn, 2005). Key assumptions of the Hierarchy culture include regulation, steadiness and standardisation which result in a well organised, systematic and orderly environment (Hartnell et al., 2011). Hierarchy culture has been described as having tight controls with stringent rules and regulations to manage employee behaviour, with a rigid environment where job security is valued (Gregory et al., 2009). Hierarchy culture has been found to be typical of bureaucracy and government organisations (Cameron & Quinn, 2011).

2.8.3.1.2 Market culture

Market culture types have been characterised by an external orientation towards customers and the market, with processes that facilitate goal attainment (El-Mekawy et al., 2014). Underlying assumptions are that attainment of goals and success in the marketplace will lead to organisational effectiveness (El-Mekawy et al., 2014). Goals and rewards are used to regulate employee behaviour and encourage employees to be productive and fulfil stakeholders' anticipation (Hartnell et al., 2011). Communication, competence and achievement are valued in this type of organisation (Hartnell et al., 2011). Norms and behaviours focus on achieving success, meeting or exceeding targets and yielding profits and can include preparation and setup, a focus on goals, streamlining decisions and set objectives (El-Mekawy et al., 2014; Hartnell et al., 2011).

2.8.3.1.3 Clan culture

Clan culture types have an internal orientation towards its people, resulting in a friendly, empowering environment (El-Mekawy et al., 2014) with an accommodating organisational structure (Cameron & Quinn, 2011; Hartnell et al., 2011). Characteristics of a family-like culture include common values and objectives, unity, a bond and involvement (Cameron & Quinn, 2005). Key assumptions associated with this type of culture are that positive employee attitudes such as committed and satisfied employees arise from the human bond towards the organisation, which lead to organisational effectiveness (El-Mekawy et al., 2014; Hartnell et al., 2011). Norms include transparent communication, co-operation and involvement which lead to associated behaviours such as team work, participation and employee involvement (El-Mekawy et al., 2014; Hartnell et al., 2011).

2.8.3.1.4 Adhocracy culture

Adhocracy culture is externally orientated and is supported by a flexible organisational structure (Hartnell et al., 2011). Change and adaptation are characteristics associated with this type of culture, with the intention that it leads to organisational growth (Gregory et al., 2009). An underlying assumption is that change will bring new ideas and innovation and lead to organisational effectiveness through market growth, acquiring new customers and opportunities (El-Mekawy et al., 2014). Norms and behaviours include perilousness, originality, flexibility, enterprising and pioneering behaviour (El-Mekawy et al., 2014; Hartnell et al., 2011).

Innovation and leading-edge outputs are nurtured by this type of culture (Hartnell et al., 2011). Figure 6 provides a summary of the attributes of each culture type.

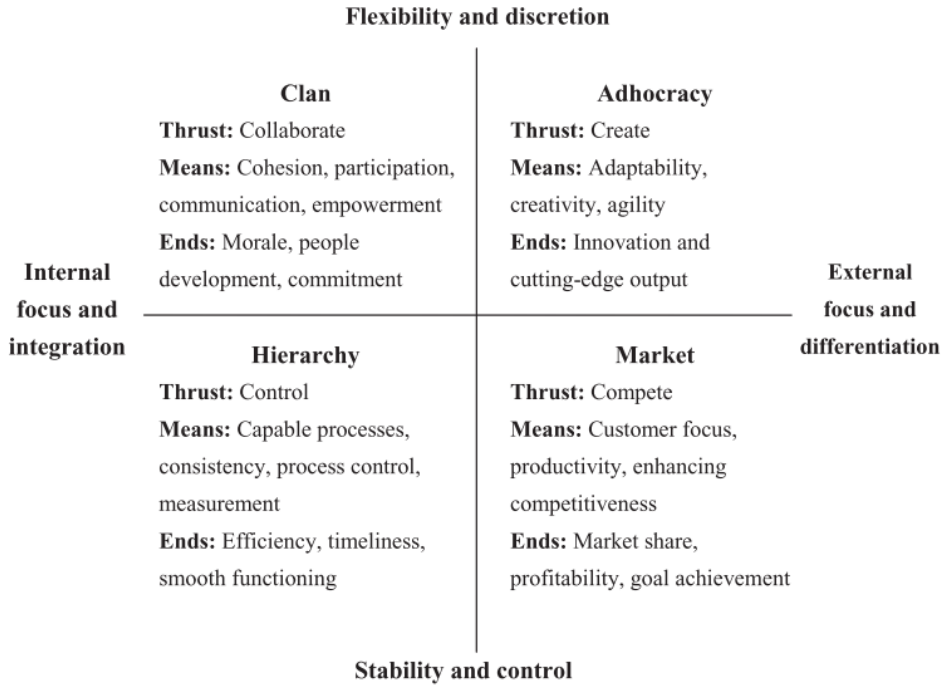

Figure 6. Adapted from Cameron and Quinn's (2005) Competing Values Framework (Hartnell et al., 2011, p. 679)**.**

2.8.3.2 Cultural congruence

Cultural 'fit' or congruence has been defined as "consistency among organisational systems and components" (Cameron & Freeman, 1991, p. 28). Cultural congruence occurs when various aspects of an organisational culture are aligned, meaning the same culture types are emphasised in various parts of the organisation (Cameron & Quinn, 2005). Several authors suggested that a number of key attributes need to be aligned to produce effectiveness and that the greater the degree of congruence amongst various components, the more effective the organisation will be at multiple levels (Cameron & Freeman, 1991). Key attributes of the CVF that represent congruence in a culture include: the dominant characteristics or values within an organisation; the dominant style of leadership for each cultural type which is characterised by a certain leadership style that reinforces and shares its values; the basis for bonding or coupling that refers to a group of common, underlying values and perceptions that characterise the organisation and

represent the 'glue' for the members; and the strategic emphasis present within the organisation (Cameron & Freeman, 1991).

An organisation with an incongruent culture would have different shapes when the cultural profile is mapped out in a radial graph, while having no particular pattern of similarity. Cameron and Quinn (2005) found in their research that congruent cultures, even though not a pre-requisite, were more likely characteristic of high-performing organisations. When all aspects of an organisation have the same or similar values, there are less complications, disconnects and obstacles that could affect organisational performance. According to Cameron and Quinn (2005), the presence of cultural incongruence in an organisation often highlights the need for change.

2.8.3.3 Cultural strength

Cultural strength is determined by the dominance of certain cultural attributes within each quadrant and applies to the dominance of a given type within congruent cultures (Cameron & Freeman, 1991). The strength of an organisation's culture is determined by the number of points accumulated in total for a particular culture type, using the organisational culture assessment instrument (OCAI) (Cameron & Quinn, 2005). Several authors asserted that a strong culture is associated with organisational excellence (Cameron & Freeman, 1991). Strong cultures have been associated with consistency of effort, direct focus and better performance where unity and a collective vision are required (Cameron & Quinn, 2005). A culture that supports organisational strategies leads to high performance (Cameron & Freeman, 1991), whereas cultures that are focused on co-ordination and control are far less effective in determining successful performance (Cameron & Quinn, 2005). Organisations that have been able to uphold a strong and preferred culture have been found to realise many gains such as an improved performance, person organisation-fit, allegiance, fulfilment and gain a competitive edge (Demir, Unnu, & Erturk, 2011).

2.8.3.4 Organisational effectiveness

"Strategic emphases are the general approaches or orientations used to achieve organisational effectiveness" (Miles & Cameron, 1982). A lack of clear strategic direction can often lead to conflicting agendas and cause a problem in trying to achieve one goal with regard to new initiatives (Hoffman & Klepper, 2000). This limits new technologies' chances of success

because of disagreements and conflicts that lead to poorly defined requirements, insufficient allocation of resources, and a failure to assign accountability and hold persons responsible (Hoffman & Klepper, 2000). Some authors have proposed that a strong culture and cultural fit will lead to less conflict and easier functioning which will result in greater effectiveness and superior performance (Cameron & Freeman, 1991).

2.8.3.5 Cultural dimensions of the CVF

The following sub-section provides a description of the six key dimensions as they are referred to in this study. Each of the six dimensions has four alternatives of the dominant culture, based on the strongest characteristics for each dimension (Cameron & Quinn, 2005).

2.8.3.5.1 Dominant characteristics

Dominant characteristics refer to the dominant cultural style of an organisation. Most organisations have a dominant culture (Cameron & Quinn, 2005) which influences the norms and behaviour of employees within an organisation, including communication (El-Mekawy et al., 2014). According to the CVF, the dominant culture can be one of four cultural types Clan, Hierarchy, Adhocracy or Market (Cameron & Quinn, 2005).

2.8.3.5.2 Leadership style

Each cultural type has a characteristic type of leadership that reinforces and shares its values. For example, where the leadership style is characterised by a coordinator, organiser and administrator role, it is in line with a hierarchy culture; where the leadership style is characterised by the entrepreneur, innovator or risk-taker role, it is consistent with an adhocracy type culture due to an emphasis on change and growth; in a market-type culture, the leadership style is characterised by decisiveness, production and achievement; while, in a clan-type culture, the leadership role is that of a participative mentor, facilitator and parent-figure style (Cameron & Freeman, 1991). The most effective leadership style within an organisation tends to match the dominant culture. For example, where clan is the dominant culture, the most effective leaders are parental figures, mentors, facilitators and supporters (Cameron & Quinn, 2005).

2.8.3.5.3 Organisational glue

The organisational 'glue', the mechanism that keeps an organisation together, refers to the set of common, underlying values and perceptions (Cameron & Freeman, 1991). In a hierarchy culture, formal rules and policies hold the organisation together while, in an adhocracy type culture, shared commitment to experimentation and innovation is the 'glue'; in a market-type culture, an emphasis on winning forms the 'glue', while in clan-type culture, the organisation is held together by loyalty and tradition (Cameron & Quinn, 2005).

2.8.3.5.4 Strategic emphasis

Strategic emphases are "the general approaches or orientations used to achieve organisational effectiveness" (Cameron & Freeman, 1991, p. 30). Strategic emphasis in a hierarchy-type culture is characterised by a formalised and structured workplace where procedures govern what people do, while in an adhocracy type culture, it is achieved through creating a vision for the future, organised chaos and innovation. Strategic emphasis in a market-type culture is through gaining competitive advantage, profitability and bottom-line results, while clan emphasises long-term benefit of individual development with high cohesion and morale (Cameron & Quinn, 2005).

2.8.3.5.5 Success criteria

Success criteria relates to how success is defined and who is the recipient of profits, market growth, attending to customers' needs and welfare of the people, modernisation, development of new products and services, and reliability and most advantageous costs (Demir et al., 2011). The most highly valued success criteria for each organisational culture type is organisational effectiveness (Cameron & Quinn, 2005). Success criteria for hierarchy culture is based on the assumption that control results in efficiency, which leads to effectiveness including punctuality, seamless operations and reliability; while in a market culture competition and market leadership is valued and therefore success is defined in terms of market growth and gaining a leading edge in the market; whereas in a clan-type culture, people development is valued and therefore success is defined in terms of co-operation, involvement and agreement (Cameron & Quinn, 2005). In an adhocracy culture, innovation and change is valued and therefore producing new and innovative products and services defines success (Cameron & Quinn, 2005).

2.8.3.5.6 Human Resource (HR) skills

HR skills relate to the management of different roles, skills and activities within an organisation (Cameron & Quinn, 2005) and include welfare of employees, the extent of discussion, involvement and agreement within the work context (Demir et al., 2011). The HR manager is expected to reinforce the dominant culture. In a hierarchy culture, the HR manager is required to be an administrative expert who is concerned with remodelling processes and creating an efficient infrastructure, while a market culture requires a strategic business partner in the organisation aligning HR with business strategy and assisting with the financial impact of HR activities. In a clan-type culture, the role of HR manager is to concentrate on employee requirements and employee growth, while in an adhocracy culture, the HR manager would be required to attend to facilitating organisational change and growth (Cameron & Quinn, 2005).

2.9 Discussion of Cultural Theories

Understanding culture and its importance to IT studies was highlighted by Leider and Kayworth (2006) as culture at the various levels including national, organisational and group level could impact the successful implementation and use of information technology. Culture could also have a bearing on managerial processes that may directly, or indirectly, influence IT (Leidner & Kayworth, 2006). The composition of ‘culture’ and its suitability for information technology studies have been defined by international researchers as national culture and organisational or corporate culture by organisational researchers (Gallivan & Srite, 2005). Previous research relating to IT and culture has been separated into two distinct streams, those examining issues relating to IT and national culture fit, and those relating to IT and organisational culture fit. These two streams of research have developed in parallel but as separate, independent streams (Gallivan & Srite, 2005). The criteria for selecting the cultural theories considered for this study are compared in Table 2.

Table 2. Criteria for selecting the cultural theories in this study

Year of study	Author	Title	Journal	Cultural level	No. of Citations	Classification of culture	Research instrument	Extent of use
1990	Hofstede	Measuring organisational cultures: A qualitative and quantitative study across twenty cases	Administrative Science Quarterly	National culture studies mostly	4406	Six dimensions: Power / distance index Individualism vs Collectivism Masculinity / Femininity Uncertainty / Avoidance Long term / Short Term orientation Indulgence / Restraint	Hofstede's Culture Measure of Organizational Culture*	Widely used.
1990	Schein	Coming to a new awareness of organisational culture	Sloan Management Review	Organisational culture	3567	Artefacts, values and underlying assumptions	No, suggests to uncover an organisation's organisational culture need to use complex interview, observation and joint enquiry approach in which selected members of a group work with outsiders to uncover unconscious assumptions which are hypothesized to be the essence of culture (Schein, 1984)	Widely used
2011	Cameron & Quinn	Diagnosing and changing organisational culture based on the Competing Values Framework	Book, John Wiley & Sons	Organisational culture	6122	Cultural types, effectiveness criteria including focus, structure and means-ends, cultural congruence and strength; Cultural dimensions: Dominant characteristics, Leadership style, Organisational glue, Success Criteria, Human Resource skills, Strategic emphasis (Cameron & Quinn, 2005)	OCAI – Organisational Culture Assessment Instrument	Widely used

Schein (1990) described a three-layer model of culture which included basic assumptions, values and artifacts. Artifacts formed the outermost layer considered the most visible of organisational structures and processes; adopted values formed the middle layer and encompassed strategies, goals, and philosophies as evidenced by espoused justifications; the innermost, invisible layer included the basic, underlying assumptions made up of the taken for granted beliefs and unconscious thoughts and feelings (Schein, 1984). Schein (1984) argued that values were more easily studied than basic assumptions because based on the three layer model, the middle layer formed the underlying values which govern behaviour, while assumptions formed the innermost, invisible layer. According to Jackson (1995) as cited by Leidner and Kayworth (2006) a large part of theories conceptualise culture according to the value position of the group for example the value dimensions of national culture (Hofstede, 2011) or at an organizational level, the competing values framework (Quinn & Rohrbaugh, 1983). Values are manifestations of culture that are upheld beliefs that are important to a particular cultural group and the reason for their behaviour (Leidner & Kayworth, 2006). Similar to Schein's (1996) three layer model of culture, the CVF (Cameron & Quinn, 2005) is a value based framework based on research that focused on organisational effectiveness. The three underlying dimensions of the CVF which were referred to as focus, structure, and means–ends, were proposed to represent competing tensions within any human system that indicate the core values people have regarding organisational performance (Cameron & Quinn, 2005). The CVF dimensions of organisational culture also help in identifying cultural strength and cultural congruence (Cameron & Freeman, 1991). The CVF is a popular and widely-used approach for assessing organisational culture (Gregory et al., 2009). Hofstede's cultural framework conceptualizes culture at a national level and classified culture along six dimensions including "'power distance', 'individualism vs collectivism', 'masculinity vs femininity' 'uncertainty avoidance', while 'long term orientation vs short term orientation', and, lastly, 'indulgence vs restraint'" (Hofstede, 2011, p. 8). This study considers culture at an organisational level hence the level of culture that the selected theories addressed and its applicability to organisational culture was important. Hofstede's framework considered culture at a national level hence was not considered suitable for addressing culture at an organisational level. Hofstede's framework has been criticized for being oversimplified for example one of his dimensions was individualism vs collectivism however several studies have distinguished between different types of individualism (Gales, 2008).

National culture and organisational culture have evolved into two separate streams of research. Both of these are focused on common set of values that differentiate groups (Leidner & Kayworth, 2006). Hofstede's (2011) model although a popular conception of national culture has been criticised for having a narrow range of values while organisational culture being much broader (Leidner & Kayworth, 2006). Schein's (2006) three level model of culture has been used to describe visible and hidden aspects of culture. Schein (2006) argued that values were easier to study than basic assumptions, the intangible aspects of culture. Values were closely linked with behaviours and collective actions that followed (Leidner & Kayworth, 2006).

The CVF (Cameron & Quinn, 2005) was regarded as suitable for this study due to its wide use in studies of organisational effectiveness and cultural change and used as a guideline in this study to determine the dominant cultural type for each cultural dimension within the business and IT groups. Compared with other cultural frameworks the advantages of using the CVF and the OCAI include it's practicality as the OCAI questionnaire only comprised of 24 items, the CVF only included 3 dimensions, it has been empirically validated in cross-cultural research, it also could be used qualitatively to explore the reason and process for cultural change (Yu & Wu, 2009).

2.10 Organisational culture

The importance of organisational culture for organisational performance was first noticed as an area of interest by organisational scholars at the beginning of the 1900s (Cameron & Quinn, 2011). Organisational culture, similar to many social issues, was amorphous, making it difficult to measure and quantify (Hoffman & Klepper, 2000). Due to the intangible nature of culture, it was neglected as an area of interest in early research (Schein, 2006). Culture was difficult to assess because "it is found in the taken for granted, shared assumptions of individuals within an organisation which exist below the conscious level and can therefore only be identified through stories, special language, artifacts and norms that emerge from individual and organisational behaviour" (Cameron & Freeman, 1991, p. 25). Despite the intangible nature of culture, the forces it created in social and organisational situations were powerful (Schein, 2006) and could strongly influence behaviour within the organisational and cultural context, making it necessary to be managed within an organisation to attain its goals (Ward & Peppard, 1996).

The organisation within the study falls within the public sector which has its own set of organisational characteristics specific to that type of organisation.

2.11 Culture within public sector organisations

Traditionally culture in the public sector or state-owned organisations (Armstrong & Segal, 2005) has been very bureaucratic, with values characteristic of a hierarchy organisational culture (Parker & Bradley, 2000). Monopoly and scarce resource strategies are linked with supportive and bureaucratic cultures (Kanungo et al., 2001).

It has been suggested in academic literature that traditional organisational cultures in the public sector are likely to hinder public service modernisation except if change occurred to modernise the role of government as a driver of economic growth (Boyle, 2008). Efficient government and public services rely on effective innovation to improve service delivery, resolve issues and better utilise resources and technologies, meet public demand and expectations (Mulgan & Albury, 2003).

The public sector is regarded as an important contributor to the South African economy and accounts for a quarter of the country's capital stock and produces roughly a third of all savings which indicates that the public sector has an important role to play in the allocation of capital in the South African economy (Armstrong & Segal, 2005) In a South African report on corporate governance it was noted that "overall economic enterprise, whether in the private or public sectors, featured a lack of accountability for performance and was severely limited by inadequate governance structures which impeded efficient functioning of market mechanisms" (Armstrong & Segal, 2005, p. 11).

2.12 Discussion of organisational culture and BITA studies

Several authors have made reference to the importance of culture and its potential impact on alignment (Chan & Reich, 2007; El-Mekawy, 2012; Silvius et al., 2010; Ward & Peppard, 1996). Chan (2002) suggested that a strong company culture is the preceding state of the informal structure that leads to successful alignment. According to Nickels and Janz (2010), organisational culture can be seen as the most appropriate indicator of an organisation's informal organisational structure. Both BITA and organisational culture literature have emphasised the importance of people to an organisation's success (El-Mekawy et al., 2014). Companies that

have unsupportive cultures and poor strategic alignment significantly underperform compared to their competitors (Jaruzelski, Loehr, & Holman, 2011).

Leidner and Kayworth (2006) proposed that culture can have an influence on managerial processes that may directly or indirectly impact IT. An earlier study by Pyburn claimed the importance of 'cultural fit' between business and IT for successful IS planning, arguing that IS planning style needed to be aligned with cultural characteristics such as business planning style and top management communication style in order to be effective (Chan & Reich, 2007). A study of the impact of culture on BITA found that organisational culture changed how business and IT were perceived and managed, leading to the conclusion that taking organisational culture into consideration while conducting IT alignment assessments contributed to better accuracy (El-Mekawy, 2012).

Peppard and Ward (1999) also made reference to cultural differences being the cause of a divisive relationship between business and IT. Culture has frequently been used to explain the gap between IT and the rest of the business, with cultural legacies affecting current relationships and the consequences of past relationships left behind to be dealt with and managed (Ward & Peppard, 1996). In a study evaluating the relationship between the degree of congruence of the perspectives of the prevailing organisational culture and the level of strategic alignment maturity perceived in organisations, the results revealed a significant association between executives' level of agreement on the prevailing organisational culture and the level of strategic alignment maturity of the organisation. It was found in the study that firms with more congruent cultures experienced a higher level of strategic alignment maturity (Nickels & Janz, 2010). A five-year longitudinal study of BITA within a life insurance company found that to move towards a more collaborative relationship and transform the relationship between business and IT, a cultural shift was needed (Luftman, Wander, Nathan & Sutaria, 2013).

Silvius et al. (2009a) first conceptually explored the potential impact of national culture using Hofstede's cultural dimensions and Luftman's (2000) BITA maturity criteria; they then tested this with a small scale empirical exploration comparing Belgium and Dutch financial institutions. Findings supported a potential effect of national culture on BITA maturity, particularly for the variables of 'governance' and 'skills' (Silvius et al., 2009a). In a quantitative study of the impact of organisational culture on BITA in a middle-sized logistics service

provider, using the X-model as a framework for organisational culture and SAMM (Luftman, 2000), the results supported a relationship between organisational culture and the BITA maturity criteria, 'governance', 'partnership' and 'skills'. The study did not, however, determine causality (Silvius et al., 2010). In a later study exploring the reverse relationship of the impact of BITA on organisational culture, it was found that theories of BITA and organisational culture were connected (El-Mekawy et al., 2014).

2.13 Summary of Literature Review

The objective of the literature review was to introduce the main concepts in the research problem, to contextualise the study in terms of previous research relating to the main research area, to review the theoretical frameworks used, as well as to identify the gaps from which the main research problem and questions were derived. The literature review first introduced the concept of BITA as the research area in the study and established what the main debates were, contextualised culture in alignment studies, reviewed frameworks considered for the study and selected a framework. Key concepts in this study included organisational culture and BITA.

Many different terms have been used in the literature to describe alignment with little agreement on how to achieve alignment. The purpose of alignment was to make certain that organisational strategies were formed in an agreeable, co-operative way. This only occurred when mature alignment developed into a relationship that made it possible for strategies to be adapted harmoniously (Luftman, 2000). Two outcomes of BITA were described in the literature, namely those that focused on improving the business IT relationship and those that focused on the benefits to be gained as an end result. In addition, contradictions in findings from the literature have led to an alignment paradox with some organisations benefitting from alignment while others have not. Alignment was also viewed as either a 'state' being an end result or a 'process' being the activities involved in achieving alignment. The changing nature of technology and business made it difficult to achieve alignment. Furthermore, different dimensions of alignment have evolved since its inception including structural and strategic alignment. Structural alignment also included the informal structures such as the relationship-based structures that extended beyond the formal division of tasks and resources. Strategic alignment was further sub-divided into social and intellectual dimensions of alignment with the intellectual incorporating a high set of standards, affiliated IT and business strategies while the social dimension included

the extent of a common understanding of and dedication to business and IT joint ventures, goals and strategies as well as business executives understanding of IT and IT executives understanding of business. The social dimension was further expanded to include relationships, shared understanding, culture and informal structure. The social dimension was further sub-divided to include communication, shared domain knowledge and the business IT relationship. Alignment models reviewed included the strategic alignment model (Henderson & Venkatraman, 1992) that provided a more realistic framework than earlier IT planning methodologies, Maes et al. (2000) unified framework for information and communications technology and lastly Luftman's (2000) alignment maturity model. Luftman's (2000) maturity model provided a means for organisations to determine the BITA maturity and in turn improve the business IT relationship. SAMM provided five maturity levels that could be applied to each of the six maturity criteria including Communications, Competency /Value measurement, Governance, Partnership, Scope & Architecture and Skills.

The importance of organisational culture for organisational performance was noted by scholars in the early 1900s however the intangible nature of culture made it difficult to quantify and therefore neglected as an area of interest in early research. Despite the intangible nature, the powerful force it created in social and organisational situations, and strong influence on behaviour, made it necessary for it to be managed within organisations in order to reach organisational goals. Organisational culture in the literature was regarded as a social characteristic derived from sociology, anthropology and psychology (Silvius et al., 2010). Culture at a visible level was distinguished from culture at a hidden level. Visible levels of culture included behaviour patterns, physical and social environment as well as the written and spoken language of a group, in contrast the hidden level of culture included group values and basic assumptions (Silvius et al., 2010). Most cultural theories were conceptualised according to the value position of the group (Leidner & Kayworth, 2006). Different levels of culture were identified in the literature all characterised as having a shared phenomenon (Silvius et al., 2010). Culture was defined at a national, organisational and group level. Organisational culture, which included the norms, values, attitudes and beliefs of an organisation (Navedo-Samper et al., 2013; Schlosser et al., 2012), had a pivotal role in an organisation's success as core values and assumptions were at the core of organisational systems and structures (Denison & Spreitzer, 1991). The values-based definition of culture proposed that the underlying values were found to

influence behaviour of a group as well as guide their decisions (Schein, 1984). Cultural theories included the Hofstede model (Hofstede, 2011), Schein's (1990) three-layer model of culture including basic assumptions, values and artifacts, and the Competing Values Framework (Cameron & Quinn, 2005). The CVF was selected for use based on the values-based approach to organisational culture, the practicality of the OCAI which could be used qualitatively, as well as its widely used approach for assessing organisational culture. The CVF identified four dominant cultural types including Clan, Market, Hierarchy and Adhocracy culture, each with a specific set of characteristics and effectiveness attributes. Six dimensions of the CVF including 'dominant characteristics', 'leadership style', 'organisational glue', 'strategic emphasis', 'success criteria and value' and 'human resource skills' were defined for determining the dominant organisational culture for each dimension.

Traditionally organisational culture within the public sector is very bureaucratic with values characteristic of a hierarchy type culture (Palvia et al., 2002; Yayla & Hu, 2009). Monopoly and scarce resource strategies were associated with this type of culture (Kanungo et al., 2001). In addition, it was suggested that traditional organisational cultures were likely to hinder public service modernisation unless the role of government changed to a driver of economic growth (Mulgan & Albury, 2003).

Several authors have proposed the importance of culture and its potential impact on alignment (Chan & Reich, 2007; El-Mekawy, 2012; Silvius et al., 2010; Ward & Peppard, 1996). Companies with unsupportive cultures and poor strategic alignment significantly underperform compared to their competitors (Jaruzelski et al., 2011). Culture could also influence managerial processes that may directly or indirectly impact IT (Leidner, Alavi, & Kayworth, 2006). Earlier studies emphasized the importance of 'cultural fit' between business and IT for successful IT planning (Chan & Reich, 2007).

The following gaps were identified based on the literature review: most alignment studies were done in developed countries (Palvia et al., 2002; Yayla & Hu, 2009). Previous studies of BITA were too mechanistic and focused on the formal structures of alignment, rather than the informal structures such as organisational culture which Chan (2002) proposed could have a greater impact on an organisation. In addition, studies in public sector organisations were identified as an under-developed area of research. Most alignment studies were quantitative in nature, hence

case study methodology was recommended to develop a deeper understanding of the impact of culture on BITA within a developing country context namely South Africa, within a parastatal, a public sector organisation.

The following are the main research questions developed.

2.14 Research Questions

- What are the cultural dimensions of the Business and IT groups within a South African parastatal?
- What are the perceptions of the Business and IT groups with regard to BITA maturity?
- How are BITA maturity criteria impacted by cultural dimensions?

In Chapter 2, the researcher introduced important concepts in the research problem and key themes in previous research, the theoretical frameworks were also selected based on suitability for the study and research questions derived.

CHAPTER 3: RESEARCH METHODOLOGY

In this chapter, the underlying research philosophy is discussed and based on this research choices were made including the research methods for data collection and analysis, and the research strategy for conducting the research.

Research methodology is concerned with the plan as to the philosophical stance adopted which determines the research method used, and how data will be collected in order to answer the main research problem and questions (Saunders, Lewis, & Thornhill, 2012).

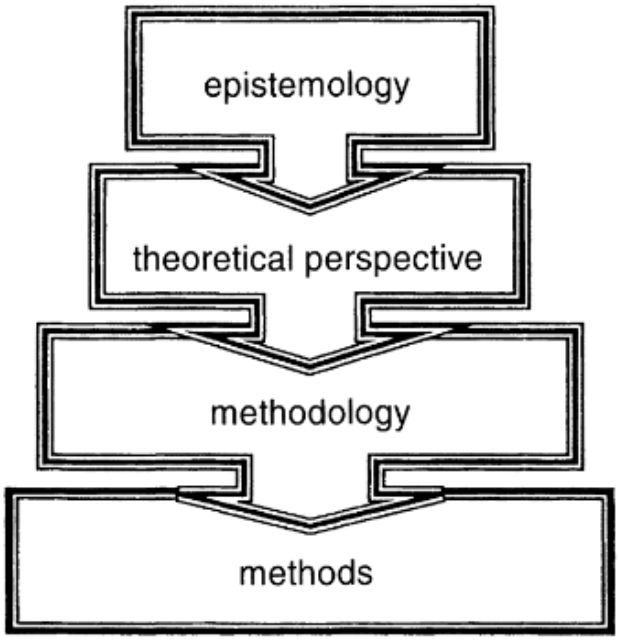

Figure 7. Framework for designing a research proposal: Epistemologies, theoretical perspectives, methodologies and methods (Crotty, 1998, p. 4)

Crotty (1998) established the groundwork of a framework for designing a research proposal which can be seen in Figure 7. He proposed four questions as the basic research constituents of any research process:

- What methods do you propose to use?
- What methodology governs your choice and use of methods?
- What theoretical perspective lies behind the methodology in question?
- What epistemology informs this theoretical perspective?

By methods, he makes reference to:

> ". . . the techniques or procedures used to gather and analyse data related to some research question or hypothesis, by methodology he is referring to the strategy or plan of action that lies behind the choice and use of particular methods and also linking the choice and use of methods to the desired outcomes. The theoretical perspective is referring to the philosophical stance that informs the methodology and as such providing a context for the process and grounding its logic and criteria while epistemology relates to the theory of knowledge embedded in the theoretical perspective and thereby in the methodology" (Crotty, 1998, p. 3).

The following section will describe and explain the way in which the research question has been addressed by the research methodology in this study.

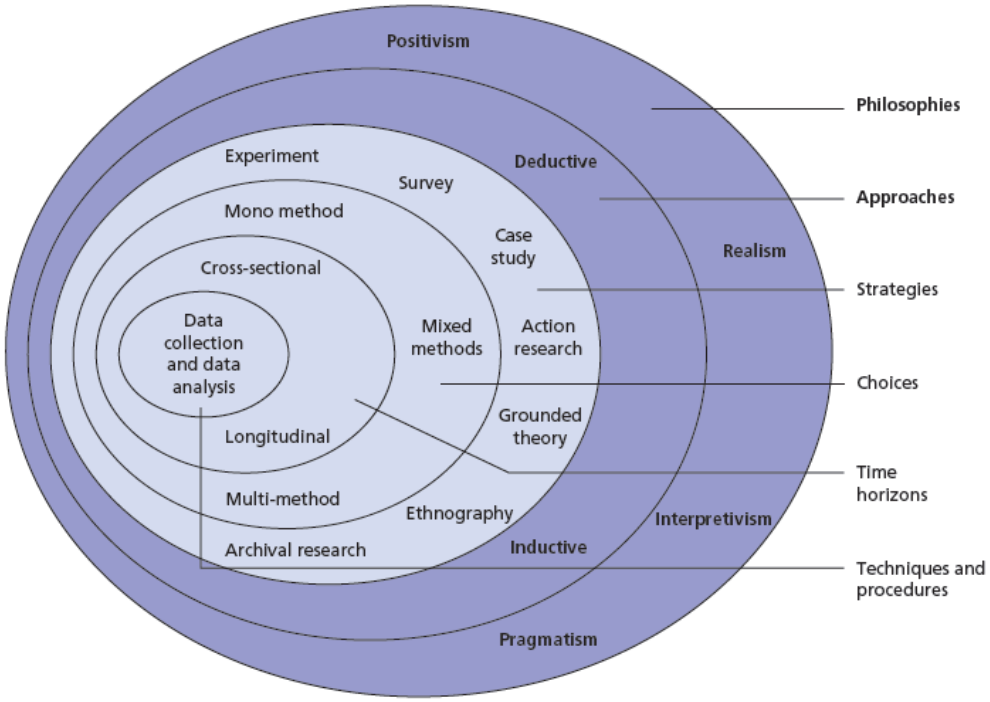

Figure 8. Research onion (Saunders et al., 2012, p. 160)

The Research onion in Figure 8 depicts an overview of the decisions in the research design. The research choices are indicated along the right-hand side of the research onion in Figure 8. The research philosophy selected for this study is interpretive. The chosen research approach is a

hybrid approach, using both deductive and inductive approaches. The research strategy employed is by means of a case study. The methodological choice makes use of the mono method while the time horizon is cross-sectional. The innermost layer depicts the data collection method, data analysis and interpretation (Saunders et al., 2012). These research choices are now explained in further detail.

3.1 Research philosophy

Research philosophy relates to the development of knowledge and the nature of knowledge; in other words, what is acceptable knowledge to the researcher and the process by which that knowledge is developed (Saunders et al., 2012). Two approaches to research philosophy are ontology and epistemology (Saunders et al., 2012).

3.1.1 Ontology – the nature of reality

"Ontology refers to the nature of reality and a view of how the world operates" (Saunders et al., 2012, p. 130). According to Saunders et al. (2012), there are two main views of how the world operates, namely, "subjectivism that believes social phenomena are created through the perceptions and actions of affected social actors while objectivism assumes things such as social entities exist as a meaningful reality external to those social actors concerned with their existence" (Saunders et al., 2012, p. 131). The researcher in this study is trying to gain an understanding of the phenomenon under study, therefore does not believe that things such as social phenomena exist as a meaningful reality external to social actors, but rather that a phenomenon is created through the perceptions and actions of affected social actors and therefore adopts a subjectivist approach (Saunders et al., 2012).

3.1.2 Epistemology – the nature of knowledge

"Epistemology is concerned with what is regarded as acceptable knowledge in a particular field of study" (Saunders et al., 2012, p. 132). There are three different philosophies recognised in information systems: positivist, critical and interpretive (Klein & Myers, 1999). Following is a brief description of each philosophy in order to distinguish between the three.

IS research can be classified as positivist when evidence exists of formal propositions, quantifiable measures of variables, hypothesis testing and drawing inferences of a phenomenon

based on a representative sample of a stipulated population (Klein & Myers, 1999). Positivism has been associated with the philosophical views of the natural scientist (Saunders et al., 2012). Although conventions for evaluating information systems case studies according to the natural science model of social science are widely accepted, this is not true for interpretive field studies (Klein & Myers, 1999). Researchers critical of positivism argued that "rich insights into this complex world are lost if such complexity is reduced entirely to a series of law-like generalisations" (Saunders et al., 2012, p. 137), in other words the richness of data and details are removed when trying to generalise from the data and that a researcher that adopts this stance is more inclined to an interpretivist research philosophy.

When the main task of IS research is social critique and to bring to light the restrictive and alienating conditions of the status quo, it can be classified as critical research (Klein & Myers, 1999). The researcher is not aiming to socially critique the phenomenon and critical research is therefore not a suitable option.

Klein and Meyers (1999) proposed a set of principles for conducting and evaluating interpretive field research in information systems. IS research is regarded as interpretive when there is the assumption that knowledge of reality is gained through social constructions such as language, consciousness, shared meanings, documents, tools and other artifacts, and attempts to understand the particular phenomena through the assigned meanings attributed by people (Klein & Myers, 1999). Objects studied by the 'feelings' of a researcher who is focused on the feelings and attitudes of individuals and social phenomena are seen as intangible and therefore cannot be measured (Saunders et al., 2012). "Interpretive research has become an important aspect of information systems research as it can assist IS researchers to understand human thought and action in social and organisational contexts" (Klein & Myers, 1999, p. 67). In this case study, the researcher is aiming to understand the phenomena of culture and BITA and its impact thereof in an organisational context through the perceptions of participants and the meanings assigned by them: she has therefore adopted an interpretivist philosophy.

3.2 Research approach

According to Eisenhardt (1989), there are three uses of theory: as an initial guide to design and data collection; as part of an iterative process of data and data collection; and as a final product of the research. The CVF (Cameron & Quinn, 2005) was used as an initial guide to determine cultural dimensions and Luftman's (2000) alignment maturity model to determine BITA maturity criteria, therefore a deductive approach was initially used. One of the criticisms of a deductive approach is that it enables cause-effect links to be made between variables without an understanding of the way humans interpret their social world. However, it was necessary in order to determine the existing culture and BITA of the organisation before the relationship could be determined. An inductive approach was used to determine the relationship between cultural dimensions and BITA maturity criteria. An inductive approach occurs when research starts with data collection to explore a phenomenon and build a theory or conceptual framework (Saunders et al., 2012). Developing such an understanding is a strength of an inductive approach (Saunders et al., 2012).

3.3 Research strategy

"A strategy is a plan of action to achieve a goal" (Saunders et al., 2012, p. 173). It is a plan of how the researcher intends answering the research question and the method that brings everything together, including the researcher's philosophical approach, and choice of method to collect and analyse the data (Saunders et al., 2012). Research strategies identified by Saunders et al. (2012, p. 173) include "experiment, survey, archival research, case study, ethnography, action research, grounded theory and narrative enquiry". To discuss each strategy identified is beyond the scope of this study, therefore only the selected research strategy and the reasons for selection are discussed.

A case study strategy is "a detailed examination of a single example of a class of phenomenon" (Abercrombie, Hill, & Turner, 1984). Case studies can be used in qualitative or quantitative analysis or a mixed method approach to collect and analyse data (Yin, 2009). According to Yin (2009), a case study design should be followed when the focus of the study is to answer 'how', 'what' and 'why' questions, when there is no control over participants' behaviour, when conditions in the real-life context are considered relevant to the phenomena being studied and when there are no clear boundaries between the phenomenon and context. Case study is deemed

an appropriate research strategy when an in-depth understanding of the context and details of the processes are required (Saunders et al., 2012). In this research study, it was used to answer 'what' and 'how' questions as it was used primarily to describe the culture and BITA maturity of a South African parastatal organisation and to explore the relationship of culture and BITA maturity (Luftman, 2000). It also formed the main research strategy to collect and analyse data qualitatively. Case study is a suitable research strategy for this study because the researcher sought to gain an in-depth understanding of the phenomena investigated within a real-world context of a government parastatal (Saunders et al., 2012).

Yin (2009) distinguished between four types of case study strategies based on two dimensions: "single case versus multiple cases; holistic case versus embedded case" (Saunders et al., 2012, p. 179). This study made use of a single, holistic case study to explore the phenomena in a particular type of organisation. Earlier researchers claimed that one cannot generalise from a single case study; however, subsequent research has argued that it is possible under certain cases to do so (Flyvbjerg, 2006). Flyvbjerg (2006) argued that to be able to progress from a rule-based beginner to a virtuoso expert, the kind of context-dependent knowledge produced from case study research was necessary. Further to that, he noted "when studying human affairs there only seems to be context-dependent knowledge which rules out the possibility of epistemic theoretical construction which means there cannot exist predictive theory in social science" (Flyvbjerg, 2006, p. 222). Social science has not been able to produce general theory that is independent of context and therefore has only produced concrete, context-dependent knowledge. Case studies are particularly suited to producing this type of knowledge (Flyvbjerg, 2006). This study has been conducted in a particular type of organisation within a specific kind of context. This study has made use of case study in order to produce the type of context dependent knowledge referred to here.

3.4 Choice of case

Traditionally, government is an underdeveloped area of research. Government organisations within South Africa have a unique cultural environment embedded in a developing country that is culturally diverse. The organisation selected for the study is a parastatal organisation within South Africa that has undergone some changes to the internal structure within the organisation that may have affected the internal alignment within the organisation. The new structure and

operational model has merged entities, that previously operated as stand-alone entities, into one organisation managed by the group, each bringing its own culture and issues from the separate entities into one organisation. Restructuring and reorganisation of the business and IT have impacted the alignment between Business and IT, hence the organisation was selected for the study.

3.5 Time horizon

Research is considered to be cross-sectional if "the study of a particular phenomenon occurs at a particular time or 'snapshot', while a longitudinal study, usually referred to as the 'diary' perspective, is carried out over an extended period of time" (Saunders et al., 2012, p. 190). Due to time and resource constraints, the case study was based primarily on interviews conducted over a short period of time of approximately a month for a Master's study and therefore a cross-sectional approach was an appropriate timeframe to use (Saunders et al., 2012).

3.6 Procedure for data collection

Primary data is when new data is collected (Saunders et al., 2012). Yin as cited in Walsham argued that "evidence for case studies can be derived from six sources: documents, archival records, interviews, direct observation, participant observation and physical artefacts" (Walsham, 1995, p. 78). Walsham (1995, p. 78) argues that "In the case of interpretive case studies as an outside observer, interviews form the primary source of data, since it is through this method that the researcher is able to access interpretations of participants' experiences with regard to actions and events that have occurred, and their perspectives and aspirations about themselves and other participants" (Walsham, 1995). In addition to this, qualitative interviews as part of qualitative research form an important data-gathering tool as "it enables the researcher to uncover that which is not easily seen or ordinarily on view" (Myers & Newman, 2007, p. 3). There are three types of qualitative interviews: structured, semi-structured or unstructured interviews, and then group interviews (Myers & Newman, 2007).

Primary data was collected by means of semi-structured interviews, and was intended to be supplemented by participant observation and organisational documents. Semi-structured interviews are used most often in qualitative research in information systems; they involve the use of an incomplete script whereby the researcher prepares a few questions prior to the

interview but also requires some improvisation (Myers & Newman, 2007). Semi-structured interviews are more in-depth than structured interviews and explored the topic in more detail (Creswell, 2014), allowing the researcher to have a greater degree of control over the interview and bring to focus items that answered the research question (Rubin & Rubin, 2011).

The interview questions were compiled based on two frameworks, namely, 1) the CVF (Cameron & Quinn, 2005), to understand the concept of culture and cultural context of the organisation, and 2) SAMM (Luftman, 2000), to understand BITA maturity and also additional questions added to explore the relationship of the impact of cultural dimensions on BITA maturity criteria. Refer appendix D for interview questions. Interviews were recorded on a digital voice recorder and notes taken by the researcher as a backup to recordings. Although recognised as an excellent means of gathering data, there are, however, some difficulties associated with this method (Myers & Newman, 2007).

Some of the potential problems known with qualitative interviews include "a lack of trust between the interviewer and interviewee; an artificial situation where the interviewer poses questions to a stranger and also expects them to form an opinion under pressure; limited time in which to do the interview; the level at which the researcher enters the organisation; elite bias created through limiting interviews to people of high status only" and other problems (Myers & Newman, 2007, p. 4). The potential problems were overcome by an interview protocol explaining the process to the interviewee before the interview commenced. Refer to Appendix B for the interview protocol. The researcher made it known before interviews commenced that interviews were anonymous and that personal information would not be recorded. Time was not a factor while conducting the interviews as respondents were given sufficient time to formulate an answer and duration of interviews was not limited. The level at which the researcher entered the organisation did not pose a problem and was well received. Elite bias did not pose an issue either as the sample was diverse and well represented.

Participant observation is a qualitative method and has been used "to get at the root of what is going on" in various social settings; it involves "the systematic observation, recording, description, analysis and interpretation of people's behaviour" (Saunders et al., 2012, p. 340). Participant observation was to be used to observe how people interact, their behaviour and the culture of the organisation; however, due to a lack of permission received to sit in on regional

executive meetings and observe interactions between senior business and IT managers despite several requests by email, this form of data collection could not be included in the study.

Walsham and Sahay (2006) recommended that interviews be supplemented with other forms of field data such as direct observation or participant observation, and internal company documents, for example, strategies, plans and evaluations as additional data sources. The organisational documents used in this study included the most recent corporate strategic plan, the IT strategy plan and a few relevant articles sourced from the internet. Analysis of organisational documents was treated similar to transcripts from in-depth interviews by uploading the electronic documents into Nvivo and applying the steps in the thematic analysis to each document. Secondary documents were used to triangulate data, adding rigour to the research (Rubin & Rubin, 2011). Refer to Appendix H for list of secondary documents.

3.7 Interview protocol

An in-depth interviewing style was adopted in the study, specifically by responsive interviewing. In-depth interviewing occurs when the researcher is interested in uncovering the rich, detailed information, such as examples, experiences and narratives, hence leaving questions open-ended (Rubin & Rubin, 2011). Responsive interviewing involves selecting knowledgeable people to interview, listening to their responses and asking follow-up questions in response to their answers (Rubin & Rubin, 2011). The interview was therefore allowed to evolve with each interview, with the researcher asking follow-up questions in response to the interviewee's answers. Refer to Appendix B for Interview protocol.

3.8 Population

"A population is a full set of cases from which a sample can be taken" (Saunders et al., 2012, p. 260). In this study, cases from which the sample was taken consisted of employees of the parastatal organisation. The research population included people who specifically had knowledge in the area of business and IT planning and strategy, and included senior business managers and IT managers within Organisation X.

3.9 Sample and sampling method

Purposive sampling was used to select respondents who were best able to answer the research questions and meet the research objectives (Saunders et al., 2012). Purposive sampling, a form of non-probability sampling, meant that each case did not have an equal chance of being included in the sample, affecting the generalisability of the results (Saunders et al., 2012). Some studies, however, do require an in-depth study that concentrates on a smaller number of cases in order to answer the research question. This was the case in this study.

The sample for the study was taken from the specified group of employees within organisation X, selected for their specialised knowledge of the research area that formed the population. An invite to participate was sent via e-mail to the employees, identified within the Business and IT groups of Organisation X, who met the criteria and a schedule was drawn up for interviews to take place. The sample size comprised of ten participants in total, five senior business managers and five IT managers, indicated in Table 3. The participants in the sample were represented across all race groups, gender and age. All the participants had been working for the company for more than five years. This relatively small sample size was due to the limited response received, but also as a result of the small population of cases.

Table 3. Profile of Respondents

Description of respondent type, e.g., manager, union representative, student	Number in sample	Actual number interviewed
Senior business managers representing strategic business level	10	5
IT Managers and Acting IT Managers	5	5

3.10 Data analysis and interpretation

Primary data collected through semi-structured interviews and secondary data from organisational documents collected were analysed by means of thematic analysis. Thematic analysis is a "method of qualitative analysis for identifying, analysing and reporting patterns or themes within data" (Braun & Clarke, 2006, p. 79) and involved visually scanning for themes throughout the data set that were significant to the phenomena under study (Fereday & Muir-Cochrane, 2006). Themes emerged by reading through the data several times and were used as

categories for analysing the data (Fereday & Muir-Cochrane, 2006). Since frameworks were used, initial categories were predetermined based on the CVF (Cameron & Quinn, 2005) and Luftman's (2000) maturity model. Nvivo, a qualitative analysis software tool, was used to facilitate the data analysis process once the interview transcripts were captured and imported. Two different approaches, deductive and inductive approaches were used when deciding to engage with the literature (Saunders et al., 2012). A deductive approach to thematic analysis made use of existing theory to formulate questions and objectives; it was used for the initial analysis of interview data to determine the dominant culture and the BITA maturity of the business and IT group. This enabled the researcher to compare the findings for culture and BITA between groups and with previous research findings. Inductive thematic analysis was used to determine the relationships between cultural dimensions and BITA maturity criteria. A hybrid process of inductive and deductive thematic analysis was therefore followed, as it provided a step-by-step analysis and a more rigorous approach to thematic analysis (Fereday & Muir-Cochrane, 2006).

Fereday and Muir-Cochrane's (2006) six-step hybrid method of thematic analysis was used to analyse primary data collected from interviews and secondary data in the form of company documents. The following six detailed steps were included in the analysis.

1. "Developing the code manual
2. Testing the reliability of codes
3. Summarising data and identifying the initial themes
4. Applying template of codes and additional coding
5. Connecting the codes and identifying themes
6. Corroborating and legitimising coded themes" (Fereday & Muir-Cochrane, 2006, p. 84)

3.10.1 Developing the code manual

An initial step of developing a code manual based on the CVF (Cameron & Quinn, 2005) and SAMM (Luftman, 2000) frameworks were included, as it assisted in organising segments of data and interpreting them (Fereday & Muir-Cochrane, 2006). Making use of a template provided a

clear trail of evidence and added to the credibility of the study (Fereday & Muir-Cochrane, 2006). Fereday and Muir-Cochrane's (2006) approach to coding was adopted, with codes being written and identified by:

1. The code label or name,

2. The definition of what the theme concerned,

3. A description of how to know when the theme occurred.

Refer to Appendix E for the Codebook based on the theoretical frameworks mentioned earlier.

The initial code manual was comprised of two sections, namely, high-level categories for cultural dimensions and BITA maturity criteria. Code names for cultural dimensions, for example, were indicated by using the letter 'C' as a prefix to denote culture, while a short code as a suffix assigned, for example, 'DC' to denote the high-level category dominant characteristics, to comprise the full code 'CDC'. Similarly, code names for BITA maturity criteria were denoted by a 'B' as a prefix indicating BITA criterion, while the BITA maturity high-level criterion denoted by a short code as a suffix, for example, governance, was indicated by 'GOV', with the full code 'BGOV'. All the codes for culture and BITA maturity criteria were derived in this way. The definition and description for each theme or high-level category were derived from the literature.

Codes for the respondents, although not included in the code manual, were developed by using 'IT' or 'BUS' as a prefix to denote which group the respondents fell into followed by the suffix 'MAN' to indicate management. This was followed by the number of the candidate according to the order in which they were interviewed. The full code per respondent for a respondent from the IT management group appeared as 'ITMAN1', for example, indicated the first IT manager interviewed and 'BUSMAN3' denoted the third business manager interviewed.

Secondary documents were also given a short code to denote the name of the document, for example, 'CorpPlan' indicated the Organisation X's corporate strategic plan, 'ITStratPlan' indicated the IT strategic plan, 'NCPC' denoted a report from the internet pertaining to Organisation X and 'Smith2015' denoted an online article specifically pertaining to organisation X.

3.10.2 Testing the reliability of the codes

The developed code manual was created in Nvivo, before the reliability of the codes could be tested. Reliability of codes was tested by applying the codes to the first interview transcripts that were uploaded into Nvivo (Fereday & Muir-Cochrane, 2006). Testing codes was an important step in assessing the applicability of codes to raw data to ensure reliability (Fereday & Muir-Cochrane, 2006). An example of applying the template of codes while examining an interview transcript is provided in Table 4.

Table 4. An example of codes based on Luftman's (2000) maturity framework and CVF (Cameron & Quinn, 2005) from the template of codes

Theory-driven code (High level categories)	Data extract	Source
BCOM – Effectiveness of IT and business communication	"the effectiveness of IT business communications in that IT expects certain directions from the business and sometimes a lot of times that's not forthcoming"	ITMAN2

3.10.3 Summarising data and identifying the initial themes

The purpose of summarising the data was to commit the information into memory and consciously process it. This step involved reading, listening to transcripts and summarising the data and identifying initial themes (Fereday & Muir-Cochrane, 2006). Voice recordings of the semi-structured interviews were transcribed into MS Word format before being imported into Nvivo for thematic analysis to begin (Braun & Clarke, 2006). This required "a thorough 'orthographic' transcript which was a word for word account of all verbal and non-verbal utterances such as sighs, etc." (Braun & Clarke, 2006, p. 88). This was necessary to maintain the integrity of the data (Braun & Clarke, 2006). Transcripts were compared to the original audio recordings for accuracy (Braun & Clarke, 2006) Notes were made on the transcripts in Nvivo in the form of memos and ideas marked during this phase for coding and for referring back to during later phases (Braun & Clarke, 2006). Key points made by participants were noted on each transcript in Nvivo (Fereday & Muir-Cochrane, 2006).

3.10.4 Applying template of codes and additional coding

In the following step, the template code was applied to the transcribed interviews and company documents as the first level of coding. The template analytic technique (Crabtree & Miller, 1999) of identifying meaningful units of text was applied to the data, using the codes from the codebook (Fereday & Muir-Cochrane, 2006). Codes were added to Nvivo as 'nodes' which were pre-determined categories derived from the frameworks in the study; these were applied to the text by matching 'nodes' with segments of data that were representative of the code, as shown in Table 5. Refer to Appendix G for a full list of codes in the 'Extended codebook'.

Table 5. Coding of data sources by applying codes from the codebook (Fereday & Muir-Cochrane, 2006)

Theory-driven-code name	Definition	Description	Text
Organisational leadership (COL)	"the dominant culture that influences the leadership style" (Cameron & Quinn, 2005),	"the most effective leadership style of a particular culture, for example, hierarchy culture leaders are good organisers, controlling, monitoring, administering, co-ordinating and maintaining efficiency" (Cameron & Quinn, 2005).	"There is policy being developed at a transversal level, in other words policy that guides all the divisions and subsidiaries, and so it's very structured" (Busman5).

In essence, coding formed part of the data analysis process by arranging segments of code into meaningful groups for every project document, across all data sets or specific features of the data (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). Coding formed part of a broader 'theme' or unit of analysis (Braun & Clarke, 2006). Analysis of text was guided by frameworks, but were not exclusive to preliminary codes; they also included inductive analysis once the initial coding was completed, thus combining the two approaches of 'theory-driven' code derived from the frameworks and 'data-driven' codes derived from the data from interviews (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). During coding of transcripts, there were some instances where codes could not be classified according to any of the template codes;

in these instances new themes were identified and assigned inductively (Fereday & Muir-Cochrane, 2006). These new codes were either separate or expanded from a code in the codebook (Fereday & Muir-Cochrane, 2006). An example is given in Table 6.

Table 6. An example of new codes expanded from the codebook

Code name	Data	Data source
Organisational leadership – weak leadership	"The leadership tries to be um work according to a hierarchy, but I think at the moment I don't think the leadership is providing direction for the organisation".	ITMAN2

3.10.5 Connecting the codes and identifying themes

This step involved connecting codes in order to identify themes and patterns in the data (Fereday & Muir-Cochrane, 2006). However, since high-level themes and sub-themes were derived deductively and were pre-determined based on frameworks, only new and additional themes were derived inductively, including relationships between cultural dimensions and BITA maturity criteria. A code that did not fit under any pre-determined theme was placed in its own category; by the end of this phase a collection of themes were formed with all the extracts of data coded relative to each theme that was available (Braun & Clarke, 2006). At this stage, the researcher began to get a sense of the importance of individual themes, which themes were relevant and which themes were to be discarded, to be refined or combined (Braun & Clarke, 2006). Some themes were merged into one theme, while other themes needed to be split into two themes. Themes that had insufficient support to be retained were discarded. This ensured that data within each theme fitted together meaningfully and that themes were clearly distinguishable (Braun & Clarke, 2006). An example of a merged theme appears in Table 7.

Table 7. Example of merged codes into a broader theme

Code name (Nodes)	Merged codes
Nodes\\Culture\Dominant Characteristics\Clan (CDC_Clan)	Non adherence, fire-fighting mode. Merged Socially driven node with Disorderly, chaotic, reactive. Disorderly, chaotic, reactive, laissez faire attitude.

3.10.6 Corroborating and legitimising coded themes

"Corroborating is a term used to describe the process of confirming the findings" (Fereday & Muir-Cochrane, 2006, p. 90). This phase required re-reading of the complete data set to ensure that themes fitted in relation to the entire data set, as well as to detect any extra data within the themes that was missed in the earlier coding stages (Braun & Clarke, 2006). Some recoding was expected as coding is an on-going process. During this phase, reviewing of coded data extracts occurred, whereby all collated extracts needed to be reviewed and checked for coherency (Braun & Clarke, 2006). Once themes decided upon formed a coherent pattern, the second level of reviewing could begin (Braun & Clarke, 2006). Level two of the analysis repeated the same process, but instead was applied to the entire data set. The validity of each theme was considered in the context of the entire data set and whether the candidate thematic map presented a true reflection of the meanings of the data set as a whole (Braun & Clarke, 2006). In this case study, the initial themes were based on theory and were predetermined. However, relationships between cultural dimensions and BITA maturity criteria had to be determined inductively. A matrix coding query was run in Nvivo to determine the co-occurrences of code in the text. The results of the matrix coding query appear in Table 8.

Table 8. Co-occurrences of code between cultural dimensions and BITA maturity criteria

	A : Effectiveness of IT a...	B : Governance	C : Human Resource Sk...	D : Measurement of the ...	E : Partnership between ...	F : Scope and Architectu...
1 : Dominant Characteri...	5	9	4	4	0	3
2 : Human Resource Ma...	7	10	6	3	6	4
3 : Organisational Glue	5	7	3	1	7	7
4 : Organisational Leade...	6	10	0	2	3	4
5 : Strategic Emphasis	4	8	5	4	7	7
6 : Success Criteria and ...	7	6	4	11	11	5

Clicking on the values in the matrix revealed details of text where cultural dimensions and BITA maturity criteria co-occurred. For example, if you refer to Table 8 for the BITA criterion,

'Governance' and the cultural dimension 'Human Resource management', there were ten occurrences of code. An example of one of these co-occurrences is shown in Table 9.

Table 9. An example of a co-occurrence of code and possible relationship between culture and BITA

BITA criterion	Cultural dimension	Text
Governance	Human Resource management	*"it does impact your governance structures and you always find on a wanting side all because we are not disciplined we don't do things as we had agreed or people don't follow the rules" Busman4.*

The next phase continued once all the text was coded and classified into a thematic map. If the thematic map could not accommodate the data set, further reviewing and refining of code was necessary until it reached a satisfactory state. Once refinements no longer added any value and the thematic map fitted the data set well, no additional coding was needed (Braun & Clarke, 2006).

3.10.7 Producing the report

Once the completed set of established themes existed, the final analysis and write-up of the report could begin (Braun & Clarke, 2006). Writing up the thematic analysis involved telling the story of how the data evolved, so as to convince the reader of the merit and validity of the analysis by providing sufficient evidence of the themes within the data and presenting an argument in relation to the research questions (Braun & Clarke, 2006).

3.11 Limitations of the study

The research was limited to senior business and IT managers of the Western Cape provincial office. The response of the managers or lack thereof to participate was a constraint. The limited response from the business managers resulted in a limited sample size, while all IT management

staff participated. The research was also limited to a single case study which was acceptable; however, it did not allow for comparison with other government entities. Due to limited time and resources available to the researcher, it was not possible to have a multiple case study.

3.11.1 Credibility, dependability and transferability

Criteria normally used to assess validity in quantitative studies including "internal validity, external validity, reliability and objectivity" were not suitable for addressing qualitative studies (Anfara, Brown, & Mangione, 2002, p. 29). Alternative techniques have been developed and include "'dependability' which replaces 'reliability', 'credibility' for 'internal validity' and 'transferability' for 'external validity'" (Saunders et al., 2012, p. 194).

In qualitative studies, validity meant the researcher checked for accuracy of findings by employing certain procedures such as triangulation (Anfara et al., 2002). Triangulation involves using more than one data source to provide a coherent justification of themes and was used for validation purposes in this study (Creswell, 2014). Cresswell (1998) recommended that qualitative researchers have at least two of the eight verification procedures in any given study. The eight verification procedures include "prolonged engagement and persistent observation, triangulation, peer reviewing or debriefing, negative case analysis, clarifying research bias, member checks, thick description and external audits" (Anfara et al., 2002, p. 30). Three qualitative methods were intended to be used in this study; however, due to lack of authorisation received to proceed with participant observation from senior management, it was not possible to observe interaction in meetings, but, rather, interviews formed the primary data source and company documents the secondary data source (Creswell, 2014).

Reliability used in conjunction with validity ensures good quality research (Saunders et al., 2012). "Qualitative validity means that the researcher checks for the accuracy of the findings by employing certain procedures while qualitative reliability indicates the researcher's approach is consistent across different researchers and different projects" (Creswell, 2014, p. 201).

3.11.2 Credibility

Credibility is the qualitative research equivalent of internal validity (Anfara et al., 2002). Validity is concerned with whether what has been observed actually took place (Anfara et al., 2002). It can be demonstrated through the methods and processes by means of which raw data

was collected, including the processes used to rearrange the data (Anfara et al., 2002). It is concerned with the truthfulness of knowledge claims (Henning, Van Rensburg, & Smit, 2004). The researcher has demonstrated, through examples in the research methodology, each step that was taken during the data collection and data analysis. In addition, triangulation was used to address credibility through the use of more than one source of data. Two qualitative methods were employed and included semi-structured interviews as the primary data collection method and organisational documents as the secondary data source (Anfara et al., 2002). If themes were derived from converging sources of data, then this process has added to the validity of the study (Creswell, 2014). Both primary and secondary data were used to develop themes in this study.

3.11.3 Dependability

Dependability is the qualitative equivalent of reliability and is reliant on the accuracy of procedures and documentation. Research methods and procedures were clearly documented and declared, making it possible to replicate the research within a similar setting and similar participants in future, and to assess the replicability of the research (Henning et al., 2004). In addition to clear, well documented procedures, triangulation was also used to address dependability (Anfara et al., 2002).

3.11.4 Transferability

Transferability is the qualitative equivalent of external validity and refers to the generalisability of results across other groups and settings. Two methods used to address transferability in this study were the provision of thick description and purposive sampling (Anfara et al., 2002). The "use of thick description to convey findings provided a detailed description of the settings, or use of many perspectives about a theme enriches the research results and makes it more realistic, adding to the validity of the findings" (Creswell, 2014, p. 202).

3.12 Ethics

Ethics in research refers to "the standards of behaviour that guide the researcher's conduct in relation to the rights of those who become the subject of your work, or are affected by it" (Saunders et al., 2012, p. 226). Research ethics are also influenced by the wider social norms and what is considered to be acceptable behaviour in certain settings (Saunders et al., 2012).

Written permission to conduct the study was received from the parastatal organisation. Ethics approval from the UCT Ethics Committee was received prior to beginning the research process and data collection.

Once ethics approval was received, a letter of consent was distributed via e-mail to interview participants, along with the motivation for the study and requesting participation in the research, stating the conditions of participation. The letter stipulated the following:

- Participation in the research study is completely voluntary and the participant may choose to opt out at any stage.
- The respondents will remain anonymous and all information will be treated in a confidential manner and used exclusively for the purpose of the study.
- No individual names will be recorded or published.

3.13 Case description

The organisation selected for the study was a parastatal organisation within South Africa. The Western Cape Regional Office was selected for the study which is one of the four provincial offices of the South African parastatal organisation, with its head office located in Johannesburg.

The research focused on the internal Information and Communication Technology (ICT) department in the provincial office of the Western Cape and the business represented by senior management of the region.

The function of the ICT department is to provide information and technology support and services to all support departments including Human Resources (HR), Finance, Risk, Employee Relations (ER), Marketing and Communications (M&C), as well as core business service departments.

In 2009, the parastatal organisation in this study underwent restructuring, merging all entities under one managing organisation. Restructuring of business entities has resulted in several entities reporting to one managing organisation, all with their own sub-cultures, merged into one multicultural organisation. The aim of the rationalisation of operations was to consolidate, standardise and integrate the regional offices with centralised administration of operations

located at the Johannesburg Head Offices, streamlining services and becoming more efficient. As part of this organisation-wide consolidation, the ICT department had also undergone changes by moving from a decentralised operational structure to a centralised structure two years ago, with many services being managed from the Head Office in Johannesburg, South Africa. This created a dependency on the organisation's head office, affecting regional operations and impacting certain functions and services, in some cases causing delays and problems in service delivery. A number of projects have been implemented in the business as part of a modernisation programme to improve service delivery; however, IT's position in the business is uncertain. The research aims to establish how existing organisational culture has impacted BITA.

This government entity has had to face major challenges which have had a negative impact on the overall performance of the group (NCPC). Contributing factors were disagreements relating to operational matters, unresolved issues with external contractors and poor maintenance practices, rendering services as unreliable with daily interruptions to services (NCPC). The Chief Executive Officer (CEO) of almost ten years recently resigned from the position of Group CEO due to internal politics, putting the organisation at risk of management instability. This has filtered down to an employee level, affecting the workers and the work atmosphere (Smith, 2015). The workers' union called for an inquest into allegations of corruption and nepotism at the agency, as proper procedures and processes were not followed (Smith, 2015). This negatively impacted on quality of services provided, reliability of operations and financial performance (NCPC). Key interventions were undertaken to address these issues and strengthen the financial position of the organisation through restructuring and recapitalisation schemes, including a ninety-day action plan to address serious issues, including preventative maintenance and compliance with statutory requirements, while instilling a culture of good corporate practice (NCPC).

According to the organisation's Corporate plan (CorpPlan), the main reason for the formation of the consolidated management group was to overcome fragmented and dysfunctional institutional arrangements that existed within the provision of the public services stipulated in the legal Act pertaining to this industry. This dysfunctional and fragmented arrangement was the main cause of poor performance in the public entity and was not fully addressed within the organisation. This was true of the alignment of business and IT. Several entities which had previously operated as separate organisations were restructured under one management group, resulting in a

number of disparate entities joining to form one organisation with multiple organisational cultures.

The objective of this study was to understand how culture impacts the alignment of business and IT, since there is a strong culture and there are a number of issues affecting the overall performance of the organisation. The purpose of the study is to describe the existing culture, BITA, and the relationship of organisational culture and BITA maturity.

In this chapter, the researcher provided a detailed plan of how the research was conducted, the details of the overall research strategy, the underlying research philosophy and its influence on all the research choices made.

CHAPTER 4: ANALYSIS AND FINDINGS FOR THE ORGANISATIONAL CULTURE OF A SOUTH AFRICAN PARASTATAL

In this chapter, the research findings for the organisational culture of a South African parastatal are discussed in relation to the research questions relating to the perceptions of the cultural dimensions of the business and IT groups within a South African parastatal.

4.1 Introduction

The study aimed to explore and describe:

- the organisational culture and BITA of a South African parastatal;
- the perceptions of business and IT groups with regard to business and IT alignment maturity, using Luftman's SAMM (2000) and to see whether they differed;
- whether relationships existed between cultural dimensions and business and IT alignment maturity criteria ;
- whether the existing culture within business and IT supported BITA or not.

It addressed the research questions:

- What are the cultural dimensions of the Business and IT groups within a South African parastatal?
- What are the perceptions of the Business and IT groups with regard to BITA maturity?
- How do cultural dimensions impact BITA maturity criteria?

The number of coded references for each of the four cultural types and new categories identified within each cultural dimension for the Business and IT management groups of a South African parastatal are displayed in a summary of the findings presented in Table 10.

Table 10. Cultural dimensions comparing two group's perceptions by counting the total number of references for each cultural type: Business Managers and IT Managers

Cultural dimensions	Business Managers	IT Managers
Dominant Characteristics		
Hierarchy	77	39
Market	30	4
Public entity, Government, Parastatal, political	28	0
Clan	5	15
Human Resource Management		
Hierarchy	9	20
Clan	10	6
Weak management	8	0
Organisational Glue		
Market	37	24
Clan	15	23
Government mandate	13	3
Hierarchy	10	3
Organisational Leadership		
Hierarchy	12	9
Weak leadership	8	7
Clan	3	3
Strategic Emphasis		
Adhocracy	4	14
Success Criteria and Value		
Market	38	72
Hierarchy	3	3

The findings for each cultural dimension, illustrated in radial graphs and an interpretation of those findings, follows.

4.2 Dominant characteristics

The cultural dimension, ‘Dominant characteristics’ is displayed in Figure 9, based on the number of references identified per code, using an initial codebook derived from the CVF (Cameron & Quinn, 2005). Figure 9 shows a comparison of the ‘Dominant characteristics’ between the Business and IT management groups in a case study of a South African parastatal.

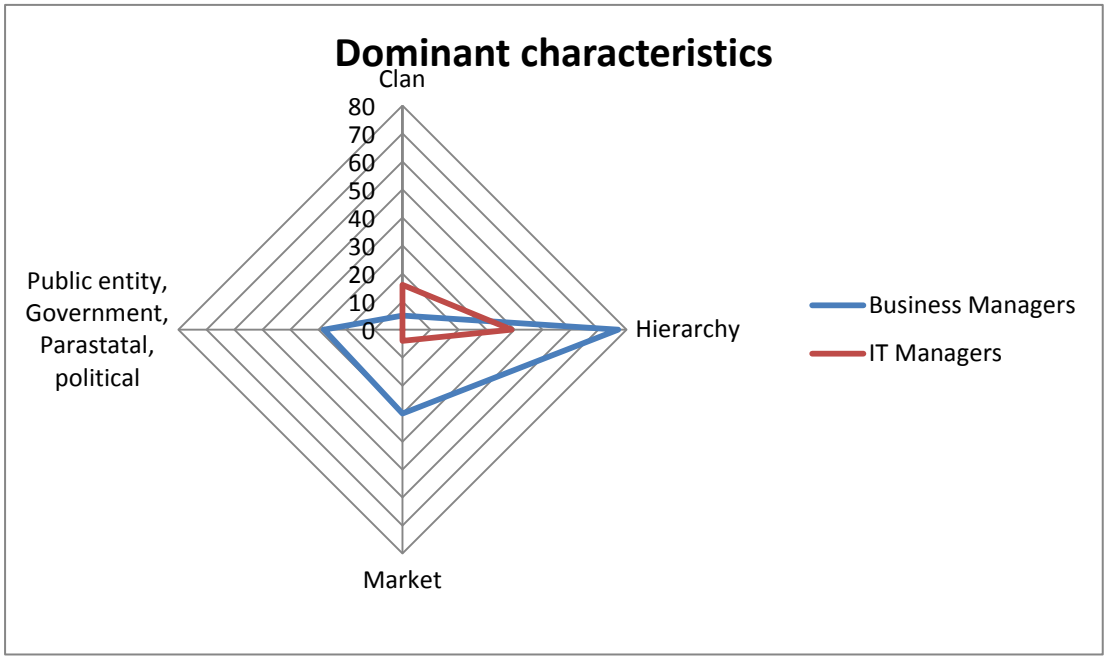

Figure 9. Dominant characteristics sub-codes comparing Business and IT Managers' groups of a South African parastatal

Business and IT managers were found to have similar perceptions regarding the dominant cultural characteristics of a South African parastatal. A strong 'hierarchy' profile was identified by both groups as shown in Figure 9, based on text data gathered from semi-structured interviews and is supported in a quote, *"policy that guides all the divisions and subsidiaries and so it's very structured" (Busman5).* Government agencies have been found to be a prototypical example of a 'Hierarchy' culture in previous studies of the CVF, as evidenced by large numbers of standardised procedures, multiple hierarchical levels (levels of management) and an emphasis on rule enforcement (Cameron & Quinn, 2005; Parker & Bradley, 2000).

Business managers also perceived the 'Dominant characteristics' of a South African parastatal to have characteristics of a 'Market' type culture, while IT managers' perceived characteristics of a 'Clan' type culture. 'Market' type cultures as perceived by Business managers refer to the type of organisation that operates as a market itself and are focused on transactions in the external environment such as with "suppliers, customers, contractors, licensees, unions and regulators" (Cameron & Quinn, 2005, p. 39; El-Mekawy et al., 2014). Organisations with a 'Clan' type culture as perceived by IT managers have shared values and goals, cohesion and a sense of family as their dominant characteristics. The South African parastatal in the case study has a set

of shared values characteristic of clan type cultures that are defined in their corporate plan and include ‘fairness and integrity, service excellence, performance driven, safety, communication and teamwork (CorpPlan – Organisation X’s corporate plan).

Business managers also perceived ‘Public entity, government, parastatal and political’ to be a dominant characteristic which could not be classified in terms of the CVF and was identified through inductive coding (Cameron & Quinn, 2005). This category was supported by Busman5 who stated that: *“I would describe the dominant characteristics of this organisation as a parastatal, it’s a state owned entity and very centralised”.*

The following sub-section details the findings of the cultural dimension, Human Resource (HR) management, which relates to how employees are managed within the organisation.

4.3 Human Resource (HR) management

HR management role may include characteristics of all four cultures; however, they must support the dominant culture of the organisation (Cameron & Quinn, 2005; Demir et al., 2011). The findings for the ‘Human resource management’ dimension comparing Business and IT Managers of a South African parastatal are presented in Figure 10.

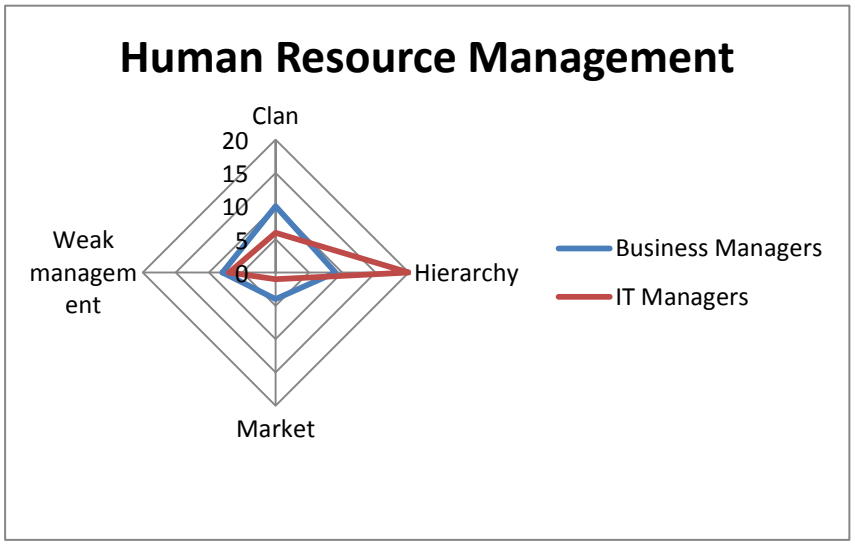

Figure 10. HR management sub-codes comparing Business and IT Managers’ groups within a South African parastatal

Business and IT managers differed in their perceptions of the ‘HR management’ cultural dimension, with IT managers perceiving the organisation as predominantly a ‘Hierarchy’

cultural profile, while Business Managers perceived it as predominantly a 'Clan' culture, as shown in Figure 10. While 'Hierarchy' type cultures are characterised by rules and regulations, policies and procedures, 'Clan' type cultures are described as "family-type organisations with a strong sense of togetherness, shared goals and values" (Cameron & Quinn, 2005, p. 41). IT managers supported the 'Hierarchy' category with the following quote, *"They will follow that procedure. They will stay on track. They won't move off that track" (ITMan5).* Business managers, by contrast, supported the 'Clan' category, stating *". . . the other one being a relationship-based management style where decisions are made either through process or through relationships, so it's personal contact" (Busman3).*

Cameron and Quinn (2005) noted that a 'Hierarchy cultural profile in the 'HR management' cultural dimension was characterised by management of employees which included the provision of secure employment and a predictable environment containing good processes and an efficient infrastructure, whereas, in a 'Clan' cultural profile, the emphasis was on team work, participation, consensus and focused on employee needs and staff morale" (Cameron & Quinn, 2005; El-Mekawy et al., 2014).

Both Business and IT managers perceived 'HR management' of a South African parastatal as 'Weak management' which was derived inductively as it could not be categorised into any of the four CVF cultural types. The category 'Weak management' was supported by Busman4 who noted that, "It's relaxed in the sense that there's emphasis on accountability and responsibility is still fairly weak".

Following is the cultural dimension 'Organisational glue' which holds an organisation together (Cameron & Quinn, 2005; Igo & Skitmore, 2006).

4.4 Organisational glue

The findings on Business and IT managers' perceptions of the 'Organisational glue' of a South African parastatal are displayed in Figure 11.

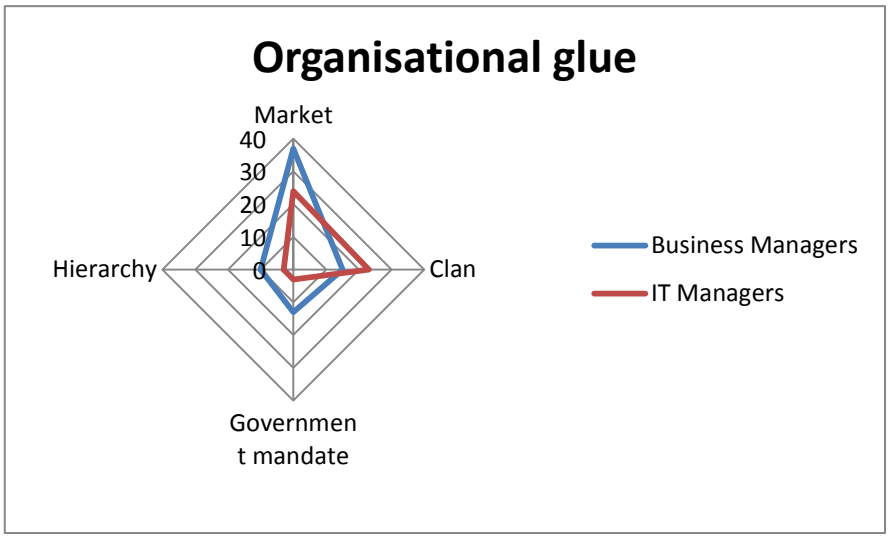

Figure 11. Organisational glue sub-codes comparing Business and IT Managers' groups for a South African parastatal

Both Business and IT managers perceived the 'Organisational glue' of a South African parastatal to be predominantly of a 'Market' type cultural profile, although IT Managers perceived 'Clan' culture to be almost equally strong. According to the CVF (Cameron & Quinn, 2005), the 'glue' that holds the organisation together in a 'Market' type culture has a focus on winning and is concerned with the organisation's external reputation and success. The 'Market' cultural profile is supported by Busman3 who noted,

> *". . . you need to see how you can assist with providing a better service. One of the biggest things that you can assist with is by protecting the revenue. Ticket verifiers in the short term should be the highest priority because your income and as I said to you, the money that holds this company together, if the money doesn't come, the company falls apart ".*

Busman3's perception highlighted the external focus of a 'Market' culture and it's transactions with external constituencies such as customers (Cameron & Quinn, 2005; Igo & Skitmore, 2006). IT Managers, on the other hand, perceived the 'Organisational glue' to be characteristic of a 'Clan' culture, supported by the following quote by ITMan1*: "people and the traditional railways . . . kind of person, you know that love the job and that is basically what keeps us going"*, which highlighted characteristics of loyalty and tradition (Cameron & Quinn, 2005; Igo & Skitmore, 2006). Business Managers also perceived the 'Organisational glue' to have

characteristics of a 'hierarchy' culture; this was supported by Busman5 who noted, *"Policy and procedure binds us all"*, highlighting an emphasis on formalised rules and procedures (Cameron & Quinn, 2005).

A new category, 'Government mandate' was also found to be a strong perception of Business managers and was derived inductively from the text, as it could not be classified according to the four CVF cultural types (Cameron & Quinn, 2005). The 'Government mandate' category was supported by Busman4 who stated that, *"I think all of us understand the need to provide the basic services to the public so it's the mandate we have from government . . . that's the only reason for our existence so that is I think the glue that holds us together".* In other words, the 'Government mandate' provides a common purpose, 'the glue'.

The following sub-section details the findings of the cultural dimension 'Organisational leadership'.

4.5 Organisational leadership

The most effective leaders tend to have a matching leadership style with the dominant culture within an organisation, for example, if the dominant culture is hierarchical, then the most effective leaders have a leadership style characteristic of a 'hierarchical' profile (Cameron & Quinn, 2005).

The findings on the perceptions of Business and IT Managers of a South African parastatal with regard to 'Organisational leadership' are presented in Figure 12.

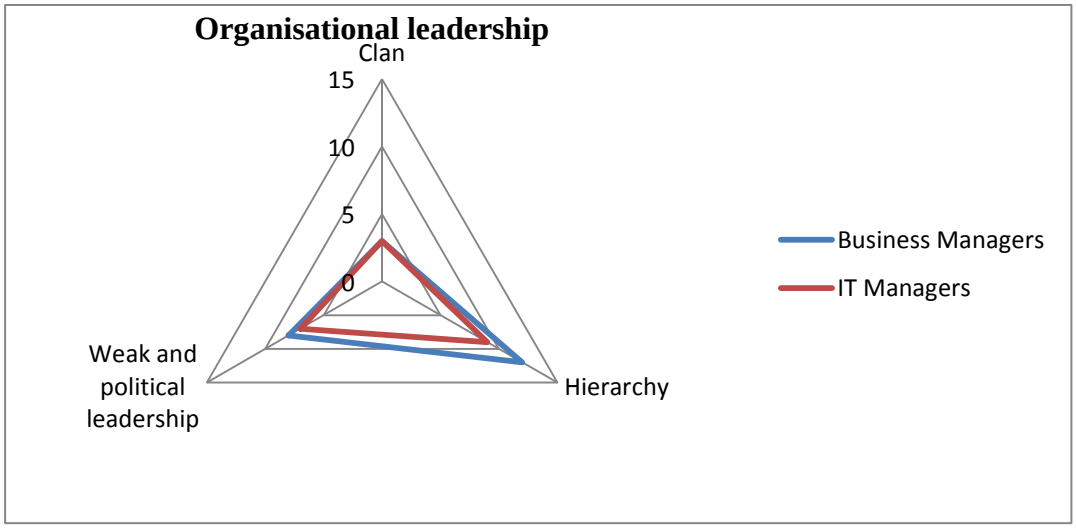

Figure 12. Groups of a South African parastatal Organisational leadership sub-codes comparing Business and IT Managers'

The strongest perception of 'Organisational leadership' by both Business and IT managers of a South African parastatal were found to be predominantly of a 'Hierarchy' type profile; these are usually good co-ordinators and organisers who are efficiency-orientated and strive for smoothly running operations (Cameron & Quinn, 2005; Igo & Skitmore, 2006). The 'Hierarchy' category was supported by Busman3 who stated*: "I think the style of leadership is, it borders around an autocratic style of business, where the board informs the business what to do".* The 'Hierarchy' category was also supported by ITman5 who noted: *". . . it's in an autocratic manner which is one-sided".* Both these quotes highlighted the "clear lines of decision-making and authority" that is characteristic of a 'Hierarchy' type culture (Cameron & Quinn, 2005, p. 37).

A new category, 'Weak and politically-orientated leadership' was derived inductively from the data and could not be classified into one of the four CVF cultural types '. Both business and IT managers perceived the leadership in the organisation to be 'weak and politically-orientated; this was supported by the following quotes: *"The leadership in the organisation for me it's all politicians, it's not business people, ok" (Busman2),* which highlighted the strong political aspects of leadership within the organisation. ITman2 highlighted the lack of strong leadership to provide direction within the organisation and noted, *"Look, in some departments you get leadership but I think overall there seems to be a lack of direction".*

Characteristics of a 'Clan' type culture were also evident in the perceptions by both Business and IT Managers and were supported in a statement by Busman3, *"If it's delegated to him it tends to be a bit participative in that he allows discussion with the regional manager"* which highlighted the participative and collaborative nature of decision-making amongst the regional manager and his team (Cameron & Quinn, 2005).

Closely linked with 'Organisational leadership' was the cultural dimension, 'Strategic emphasis', which was driven by the organisational leaders and is discussed in the following subsection.

4.6 Strategic emphasis

A prevailing perception by both Business and IT managers was that the 'Strategic emphasis' of a South African parastatal was characteristic of an 'Adhocracy' culture that focuses on long-term goals, growth and acquiring new resources, change readiness and being prepared for new challenges (Cameron & Quinn, 2005; Igo & Skitmore, 2006) . The 'adhocracy' category is supported by ITman1 who noted: *"To move to a more modern organisation, for example, the ticketing system, has been modern, the service will be modern, where the government is planning to spend nearly R200 billion over the next ten years or so".* In other words, Organisation X is going through a period of transformation and has received capital investment from the government which is the current strategic focus in the organisation. No other significant findings for the 'Strategic emphasis' cultural dimension were found.

The criteria of effectiveness used to determine an organisation's success differed between the different cultural types and the findings for the cultural dimension (Cameron, Dutton, Quinn, & Wrzesniewski, 2003). The following section discusses 'Success criteria and value'.

4.7 Success criteria and value

Business and IT managers of a South African parastatal perceived 'Success criteria and value' similarly, to be predominantly a 'Market' type culture. A 'Market' culture's success criteria and value is defined in terms of acquiring a bigger market share and deeper market penetration, providing competitive pricing and being a market leader (Cameron & Quinn, 2005; Demir et al., 2011; Igo & Skitmore, 2006). Busman4 supported this category in the following statement: *". . .*

increasing the market share, if more people use our service then that obviously looks as it has been successful".

There were also characteristics of a 'Hierarchy' culture perceived by both Business and IT managers. 'Hierarchy' type cultures value a smooth running organisation and success is defined in terms of efficiency, reliable delivery and low cost production (Cameron & Quinn, 2005; Igo & Skitmore, 2006). This category was supported by Busman3 who noted: *". . . organisation's success is also based on good governance and good governance comes in various formats, the format that we all know and we tend to respect very quickly is your audit . . . when you have a clean or a unqualified audit . . . the goal that everyone aspires to".* Busman3 highlighted that obtaining an audit free of findings within the organisation was an important indicator of success which was characteristic of 'Hierarchy' type organisations.

A summary of the findings for the organisational culture and the cultural dimensions of Organisation X are discussed in the following section.

4.8 Summary of findings

A summary of the findings comparing perceptions of Business and IT managers within a South African parastatal is presented in Table 11.

Table 11. An overview comparing Business and IT managers' perceptions of cultural dimensions within a South African parastatal

Cultural dimensions	Business Managers	IT Managers
Dominant characteristics	Hierarchy	Hierarchy
Human resource management	Clan/Hierarchy	Hierarchy
Organisational glue	Market	Market/Clan
Organisational leadership	Hierarchy	Hierarchy
Strategic emphasis	Adhocracy	Adhocracy
Success criteria and value	Market	Market

Surprisingly, the overall perceptions of Business and IT Managers as seen in Table 11 show similar perceptions on all six cultural dimensions. Although it appears that Business and IT

managers perceived 'Human Resource management' differently, a difference of one reference between 'Clan' and 'Hierarchy' for Business managers was not regarded as significant. Similarly 'Organisational glue' had a difference of one reference between 'Market' and 'Clan' cultures for IT managers which was not regarded as a significant difference between the two groups, hence 'organisational glue' was perceived similarly.

4.8.1 Congruence

The CVF is a useful framework for "organising and highlighting the congruence of aspects of managerial and organisational behaviour" (Cameron & Quinn, 2005, p. 59). "Cultural congruence is when various aspects of an organisation's culture are aligned" (Cameron & Quinn, 2005, p. 73). In other words, when the same culture types are emphasised for the various cultural dimensions, the plotted graphs for each individual dimension will look similar (Cameron & Quinn, 2005). A significant finding of this case study is that, overall, the six cultural dimensions when compared were not congruent; in other words, there was no consistent culture throughout the organisation based on perceptions of Business and IT managers of Organisation X. Cameron and Quinn (2005) have found that congruent cultures were more typical of high performing organisations than incongruent cultures, although congruency was not a pre-requisite for success. Having cultural incongruence in an organisation often highlights the need for change (Cameron & Quinn, 2005). In addition, previous research has also shown that organisational success depends on the extent to which the organisation's culture matches its environment. For example, an organisation with a strong hierarchy culture and a weak market culture may find it difficult to survive in a highly competitive environment (Cameron & Quinn, 2005). Similarly, the predominant culture in the case study was found to be 'hierarchy' while Organisation X is a public service organisation operating in a market environment. A 'hierarchy' culture would find it difficult to operate in a market environment.

A summary of the cultural profiles for Business and IT managers of a South African parastatal are compared in the following section.

4.8.2 Dominant cultural types

A summary of the cultural profiles presented in Figure 13 show similar profiles for Business and IT managers, demonstrating a shared or common set of values and perspectives amongst the two

groups. The radial graph illustrates the sum of the business managers' total number of references for each cultural type and, similarly, for the IT managers. Both groups perceived 'Hierarchy' culture as the dominant culture. However, there was a slight shift of focus overall between Business and IT managers. Business managers perceived the organisation as predominantly 'Market' culture while IT managers perceived it as predominantly 'Clan' culture. The implications of this are that Business managers are more customer-focused while IT managers are more team-orientated in their cultural approach within the organisation.

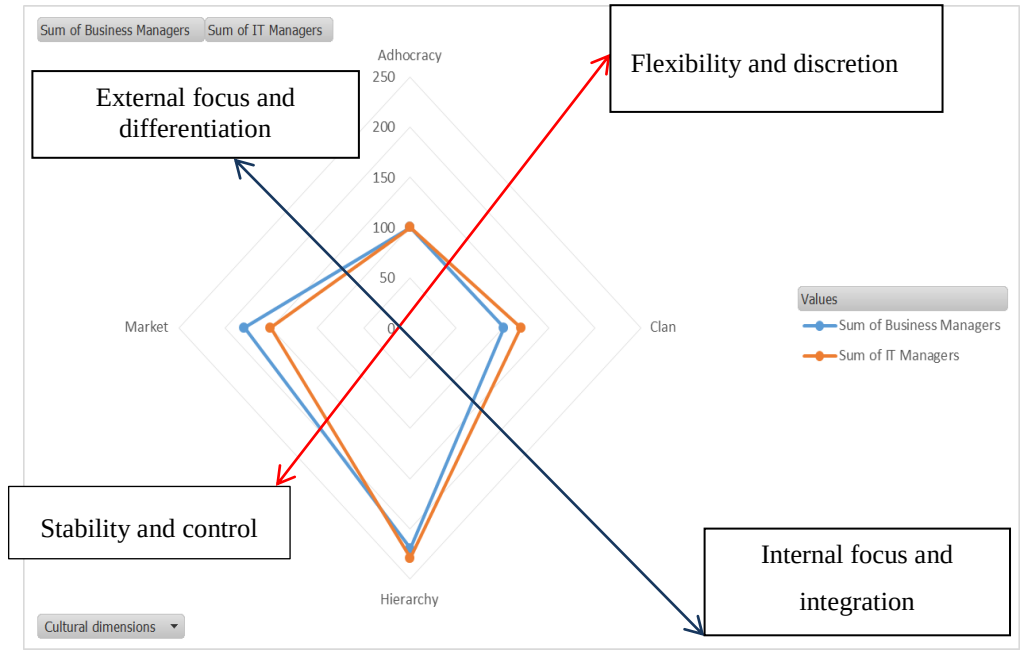

Figure 13. Sum total of the four cultural types of the CVF for Business and IT managers (Cameron & Quinn, 2005)

4.8.3 Strength of the culture

The quadrant with the highest score in the radial graph as shown in Figure 13 also indicates the strength of the culture. Organisation X was predominantly 'Hierarchical' with 229 references in total for IT managers and a total of 220 references for Business managers. 'Hierarchy' cultures have been found to be associated with government organisations which are internally focused and are leaning towards stability and control on the continuum, making this type of organisational culture stereotypically efficient, and stable with controlled systems (Cameron & Quinn, 2005; Demir et al., 2011).

The second strongest cultural type overall within Organisation X was a 'Market'-type culture with 179 references for Business managers and 151 references for IT managers. This could be explained in terms of Organisation X being a public service organisation which is externally focused on its customers. Similarly, 'Clan' cultures lean towards 'internal focus and integration'; however, in the second dimension they lean towards 'flexibility, discretion and dynamism' making them changeable and adaptable (Cameron & Quinn, 2005; Igo & Skitmore, 2006).

4.8.4 Summary

In this chapter, the researcher discussed the analysis and findings for the organisational culture of a South African parastatal, based on the perceptions of the business and IT groups, using the CVF (Cameron & Quinn, 2005) to determine the dominant culture and other cultural attributes of Organisation X.

This chapter addressed the research question: what are the perceptions of the cultural dimensions of the business and IT groups within a South African parastatal.

To answer this question the findings indicate a slight difference in perception of the cultural dimension 'HR management' as IT managers perceived the organisational culture as predominantly 'Hierarchy' while business managers perceived a predominantly 'Clan' profile.

Business and IT managers had similar perceptions with regard to the 'dominant characteristics' of the organisation perceiving a 'hierarchy' profile.

The 'organisational glue' was regarded similarly by both business and IT managers as 'market' profile while 'organisational leadership' also similarly perceived a 'hierarchy' profile by both groups.

'Success criteria and value' was similarly perceived as a 'market' profile by both business and IT managers while 'strategic emphasis' was similarly perceived as 'adhocracy' profile.

CHAPTER 5: ANALYSIS AND FINDINGS FOR THE IMPACT OF CULTURE ON BITA IN A SOUTH AFRICAN PARASTATAL

The purpose of the study was to explore and describe:

- the organisational culture and BITA of a South African parastatal;
- the perceptions of business and IT groups with regard to business and IT alignment maturity, using Luftman's SAMM (2000) and to see whether they differed;
- whether relationships existed between cultural dimensions and business and IT alignment maturity criteria;
- whether the existing culture within business and IT supported BITA or not.

The research study addressed the following questions:

- What are the cultural dimensions of the Business and IT groups within a South African parastatal?
- What are the perceptions of the Business and IT groups with regard to BITA maturity?
- How do cultural dimensions impact BITA maturity criteria?

This chapter first provides a brief summary of the analysis and findings regarding the BITA maturity of organisation X which appear in Appendix I of this document.

The main purpose of this chapter was to address the research question 'How do cultural dimensions impact BITA maturity criteria?, and to discuss the analysis and findings for the impact of culture on BITA maturity in relation to the research question of whether there is a relationship between cultural dimensions and BITA maturity criteria and whether the existing culture supports BITA within the organisation.

To answer the second research question, 'What are the perceptions of the Business and IT groups with regard to BITA maturity?', this study explored and described the perceptions of business and IT groups with regard to business and IT alignment maturity, using Luftman's

(2000) SAMM to see if there are any significant differences between the two groups. The full analysis is attached in Appendix I.

The overall alignment maturity for both Business and IT management groups were similar, with IT managers scoring 1.79 and Business managers scoring an average of 1.82. This, however, was slightly lower than the average score found in Luftman's (2000) study which found that most organisations had an initial alignment maturity level of 2. Reasons for this lower than average score could be that the organisation was undergoing a difficult period at the time the study was conducted, with union strikes happening and possibly affecting the perceptions of the respondents in the study. The average score for each management group per alignment maturity category is displayed and compared in Figure 14.

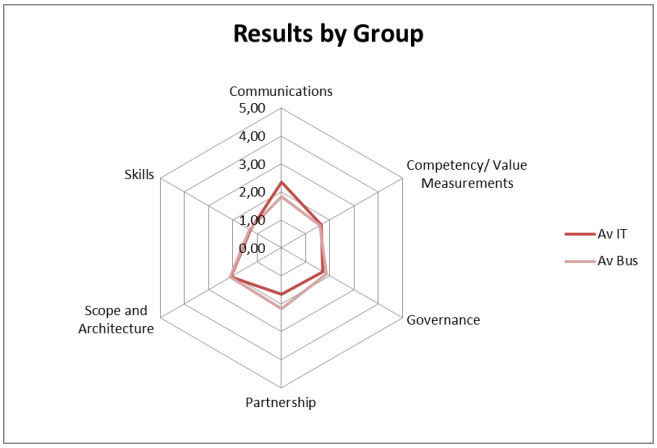

Figure 14. Overview of the alignment maturity criteria comparing IT versus Business management groups in the current study

IT and Business managers differed on three out of the six maturity criteria including:

- Communication – IT managers scored higher than Business managers
- Governance – Business managers scored higher than IT managers
- Partnership – Business managers scored higher than IT managers

To answer the third and final research question 'How do cultural dimensions impact BITA maturity criteria?' this study then:

- explored and described whether relationships existed between cultural dimensions and BITA maturity criteria;
- explored and described whether the existing culture within a South African parastatal supported BITA or not.

Table 12. Co-occurrence of cultural dimensions and BITA maturity criteria

BITA / Culture	Effectiveness of IT and Business Communication	Governance	Human Resource Skills	Measurement of the Competency and Value of IT	Partnership between IT and the Business functions	Scope and Architecture of the IT Infrastructure
Dominant Characteristics	5	9	4	4	0	3
Human Resource Management	7	10	6	3	6	4
Organisational Glue	5	7	3	1	7	7
Organisational Leadership	6	10	0	2	3	4
Strategic Emphasis	4	8	5	4	7	7
Success Criteria and Value	7	6	4	11	11	5

Table 12 illustrates the co-occurrences of codes that related to both cultural dimensions and BITA maturity criteria, indicating a relationship between the two. The highlighted squares indicated the highest number of co-occurrences of text and therefore the strongest impact on BITA. This study was looking at a one-way relationship of the impact of culture on BITA and the results are now discussed.

5.1 Effectiveness of IT and business communication (BCOM)

The cultural dimensions with the greatest impact on BITA maturity criterion ‘Effectiveness of IT and business communication’ included: ‘HR management’, ‘Organisational leadership’ and ‘Success criteria and value’.

5.1.1 Human Resource (HR) management

HR management impacted the 'effectiveness of IT and business communication' in the following way. A management style that did not compliment the level of structure in IT and business communications negatively impacted the effectiveness of IT and business communications. This was reflected here:

> *"I think management style [referring to the business] definitely . . . because IT [referring to the IT department] and business communications is a very structured environment. It's process-based, it's um systems-based and so on, therefore if your management style doesn't compliment you know, that level of structure . . . I think that would impact definitely on it" (Busman1).*

This finding lead to the following proposition:

> In a clan or adhocracy culture, 'HR management' can negatively impact the 'effectiveness of IT and business communications' through an unstructured management style.

Busman1 referred to an unstructured management style which did not compliment the structured way of communicating between IT and business, which were two conflicting cultural characteristics. An unstructured management style tended to be associated with either Clan or Adhocracy located on the 'flexibility and discretion side of the continuum, while Hierarchy and Market located on the 'stability and control' side of the continuum tended to be more structured (Cameron & Quinn, 2005).

5.1.2 Organisational leadership

The cultural dimension 'organisational leadership' impacted the BITA criterion, 'effectiveness of IT and business communications' through a lack of proper leadership. A lack of proper leadership in understanding IT's role diluted effectiveness and the role IT could play in positioning the organisation in the market.

> *". . . I mean the lack of proper leadership in understanding the role of IT again, you know to drive this business it dilutes that, that effectiveness use, then IT doesn't play the*

role of IT that it should in us getting into that position as a preferred or rather backbone of public transport . . .” (Busman4).

This finding lead to the following proposition:

> In a hierarchy culture, ‘organisational leadership’ can negatively impact the ‘effectiveness of IT and business communications’ through a lack of understanding of IT by business.

According to Luftman et al. (1999) understanding by both IT and business executives was considered an important enabler of alignment and a lack of understanding was considered an inhibitor of alignment (Luftman et al., 1999). Often the important role that IT could play was only recognised once IT innovation was applied by a competitor in the industry. However, this was only possible once senior business management understood and supported IT endeavours (Luftman et al., 1999).

5.1.3 Success criteria and value

The dimension of success criteria and value that impacted ‘the effectiveness of IT and the business communication’ included performance measures which drove communication. There were certain performance measures within Organisation X such as Key Performance Areas (KPA) which measured employee performance; these may have driven the communication and in so doing impacted the effectiveness of IT and business communications. Refer to the following statement:

“KPA’s . . . It drives the communication, it ensures that there’s some communication. The only challenge is that the measurables is not always specifically in IT, IT defined you know . . .” (ITman3).

This finding lead to the following proposition:

> In a market type culture, ‘success criteria and value’ can positively impact the ‘effectiveness of IT and business communications’ through performance measures which drive communication.

According to Luftman (2003), it was important for IT organisations to be able to demonstrate their value in measures that the business could understand; however, business and IT metrics often differed. Further to this, Luftman (2003) stated the importance of continual assessment of performance metrics to understand the cause of not meeting the performance criteria and how to improve the environment. Competitiveness and productivity were characteristics of a 'Market type' culture which was achieved through regular performance assessments and establishment of new targets in order to outpace the competition (Cameron & Quinn, 2005; Igo & Skitmore, 2006).

5.2 Governance

All six cultural dimensions had an impact on the BITA criteria 'Governance'. This was based on the highest number of co-occurring coded text. This determined the cultural dimensions with the strongest impact, between cultural dimensions and BITA maturity criteria and included: HR management and organisational leadership, dominant characteristics and strategic emphasis were the third highest number of co-occurring coded text.

5.2.1 Human Resource (HR) management

Aspects of 'HR management' that impacted 'Governance' included management style and a lack of discipline within the organisation. The cultural dimension 'HR management' and 'management style' impacted the BITA maturity criterion 'Governance', because the management style within the organisation was very procedural driven, meaning there was a tendency to adhere to procedure but, on the other hand, this caused them to not take risks, as noted by the respondent in the following statement:

> *"I think it does impact the governance in the organisation, positively and negatively. Positively in the sense that they* [referring to the employees] *are sticklers for procedure, negatively because they do not want to . . . you know, you got to take calculated risks" (ITman5).*

This finding led to the following proposition:

> In a hierarchy type culture, 'HR management' can positively impact 'Governance' through the management style which is procedural driven and supports 'governance'.

Organisations characterised by an emphasis on rules and procedures had a hierarchy with clear lines of decision-making authority which were characteristic of a Hierarchy profile (Cameron & Quinn, 2005; Igo & Skitmore, 2006).

A strong emphasis on 'Governance' in the organisation and in IT affects management as they are held accountable for lapses in governance as reflected in the following statement:

> *"There's a big emphasis on governance* [pause] *especially within IT via the management,* [pause] *they are held accountable if there are lapses in governance" (ITman2).*

Based on previous studies it could be concluded that steering an organisation in a structured way, with formal and regular meetings to demonstrate decision-making responsibilities, was expected to have a stabilising and controlling influence on organisational performance (El-Mekawy et al., 2014).

5.2.2 Dominant characteristics (CDC)

'Dominant characteristics' that impacted 'Governance' included 'rules-based policy-and procedure-driven organisations with an emphasis on auditing and audit reporting'; this was reflected in the following quote:

> *". . . in that there is a big emphasis on auditing, audit reports and so forth. I think it's the auditing function they audit the government. They rule based and that the policies and policy driven that would impact . . . they would audit the policy" (ITman2).*

This finding led to the following proposition:

> In a hierarchy-type culture, the 'dominant characteristics' can positively impact 'Governance' through an emphasis on rules, policies and procedures and auditing practices.

According to previous research, organisations that were more internally focused, where there was an integration of all governance levels, where well defined strategies were converted into policies at a tactical level and then into functions at an operational level, were characteristic of a 'Hierarchy' profile of organisational culture (El-Mekawy et al., 2014).

5.2.3 Success criteria and value (CSV)

Components of 'success criteria and value' that impacted 'Governance' were performance requirements and success measures such as KPAs. KPAs were classified as 'success criteria and value', and impacted 'Governance' as reflected in the following statement:

> *"Well, the KPA drives people towards governance because we cannot have repeat audit findings so I believe it has an impact. It's actually driving you to compliance" (ITman3).*

This led to the following proposition:

> In a market-type culture, 'success criteria and value' can positively impact 'Governance' through KPAs which are performance measures which guide people's behaviour to comply with 'Governance' and avoid repeat audit findings.

In a study of IT governance by Weill and Ross (2004), 250 enterprises in 23 different countries across America, Europe and Asia-Pacific found that the top performing enterprises governed IT differently than other enterprises, by linking governance structures with performance measures in which they excelled, aligning their business goals, governance approach and mechanisms with performance goals and metrics.

5.2.4 Strategic emphasis (CSE)

Components of 'strategic emphasis' that impacted 'Governance' included enterprise strategies and objectives, the business plan and fare revenue. The following extract from the IT strategy document related to the alignment of enterprise strategy with IT-related decisions:

> *"Provide a consistent approach integrated and aligned with the enterprise governance approach. To ensure that IT-related decisions are made in line with the enterprise's strategies and objectives, IT-related processes are overseen effectively and transparently, compliance with legal and regulatory requirements are confirmed, and the governance requirements for board members are met" (ITStratPlan).*

This finding led to the following proposition:

> In an adhocracy type culture, the 'strategic emphasis' can positively impact 'governance' when integrated and aligned with enterprise strategies and objectives, impacting IT related decisions and IT related processes.

Low alignment maturity between business strategy and IT strategy was cited as a primary reason why companies were unable to maximise and achieve the full benefit from their IT investments, which impacted the company's overall performance due to lower returns on investment and lower profits (Luftman et al., 2010).

5.2.5 Organisational glue (COG)

The people within the organisation, an element of the organisational glue, impacted 'Governance' in that there was a lack of adherence to procedures, a lack of respect for top management and mistrust. This was reflected in the following statement:

> *". . . at the moment . . . the people are not really strong on governance. There's a lot of fraud happening there's a lot of basically mistrust and not even respect for the top management . . . there's a big issue with us as management because . . . in some of the meetings when some junior people are addressed it's like, who are you, . . . that's governance you the responsibility lies with top management" (ITman1).*

This finding led to the following proposition:

> In a clan type organisational culture, the 'Organisational glue' can negatively impact 'Governance' through the people of the organisation who do not comply with governance by a lack of adherence to procedure, a lack of respect for top management and mistrust.

The necessary support required from individuals within the company for successful strategic alignment to occur was recognised in studies as early as 1954 when Drucker stated that individuals must conduct themselves in a contributory manner to support the organisation's strategic goals (Chong, Ooi, Chan, & Darmawan, 2011). Having had a well-developed governance structure did not necessarily imply that it was effective in the organisation (De Haes & Van Grembergen, 2008). Procedures were meant to govern what people do; however, in this

case, although the structures existed, they were not adhered to, which implied they were not being enforced by management.

5.2.6 Organisational leadership (COL)

Organisational leadership that impacted 'Governance' was the leadership within the organisation and top management. A lack of understanding of the importance of 'Governance' by the organisational leadership at a Regional Executive Committee (REXCo) level impacted governance. This was reflected in the following statement:

> *". . . most people don't understand the importance of governance to operating and running an organisation the size of Organisation X and . . . I think most people even at the Regional Executive Committee (REXCo) level, they don't have a full appreciation of the importance of governance" (Busman3).*

This finding led to the following proposition:

> In a hierarchy type culture, the 'organisational leadership' can negatively impact 'Governance' through a lack of understanding of the importance of governance.

In a previous study by Luftman (2000), senior executive support for IT was identified as an enabler of alignment and a lack of senior executive support as an inhibitor of alignment. A lack of understanding by the organisational leadership inhibited alignment and negatively impacted governance in this case study.

5.3 Human resource skills (BHR)

5.3.1 Human resource (HR) management

HR management which related to management of employees was the only cultural component that had a notable number of co-occurrences of code with the BITA component Human resource skills (BHR). Employees who were not held accountable by management impacted the delivery of services as reflected in the following statement:

> *". . . the human resource skills that is appointed, the people appointed are not really held accountable to the extent that they should be delivering the service to the, delivering and production-wise" (ITman3).*

These findings led to the following proposition:

> In a clan type culture, 'HR management' can negatively impact 'HR skills' through a failure to hold employees accountable for poor service delivery.

In both BITA and organisational culture, the people were regarded as a key aspect to an organisation's success (El-Mekawy et al., 2014). Skills maturity included all human resource considerations including hiring and firing, staff motivation, training and education, and culture (Luftman, 2003). HR management was concerned with the management of employees within an organisation and, according to Cameron and Quinn's (2005) CVF organisations where the HR manager focused on human resources aligned to business strategy and impacting financial outcomes, was characteristic of an adhocracy cultural profile. HR management that focused on employees' needs and developing human capability was associated with a clan cultural profile (Cameron & Quinn, 2005).

5.4 Measurement of the competency and value of IT (BCV)

5.4.1 Success criteria and value

One cultural component, namely 'Success criteria and value', had the highest number of co-occurrences with the BITA maturity criteria 'Measurement of the competency and value of IT' and therefore suggested a relationship between the cultural dimension and the BITA maturity criterion. The success criteria (CSV) 'income' impacted on the way IT was perceived and therefore the 'competency and value of IT (BCV)' as IT supported the ticketing system which contributed to the income when working effectively. This was reflected in the following statement:

> *"I think when it comes to the income, it definitely affects the way they perceive IT, in that IT supports the ticketing system and if the ticketing system is functioning effectively, then IT is seen as highly competent and adding value" (ITman2).*

This finding led to the following proposition:

> In a market type culture, 'Success criteria and value' can positively impact the 'measurement of the competency and value of IT' through IT supported systems that positively contributed to success criteria such as income.

Achieving goals, leading the competition, expanding the market share and achieving optimal levels of financial return were success criteria characteristic of a market cultural profile (Cameron & Quinn, 2005). For attaining a high maturity level with regard to 'competency and value measurements', IT must have demonstrated their value in business terms that are understood by the business (Luftman, 2003).

5.5 Partnership between IT and the Business functions (BPART)

The four cultural dimensions 'Organisational glue', 'Strategic emphasis', 'HR management' and 'Success criteria and value' had the highest number of co-occurrences of coded text with the BITA maturity criterion 'Partnership' and is now discussed.

5.5.1 Organisational glue

Customer services, an aspect of 'organisational glue', impacted the 'Partnership' between Business and IT through utilising IT systems. This was reflected in the following statement:

> *". . . there is some requirement for IT to deliver Customer service support. So at least there is one positive where the Business has no choice but to make use of IT systems to sell tickets to interact with the customer like SMSs that we provide. So at least that helps because Customer Services is all, the target of everybody" (ITman3).*

This finding led to the following proposition:

> In a market type culture, the 'organisational glue' such as customer services can positively impact 'partnership between IT and the business' when the business utilises IT systems for customer communication.

An organisation that emphasised customer focus was characteristic of a market-type culture (Cameron & Quinn, 2005). 'Partnership' referred to the relationship between business and IT and was ranked highly on Luftman's (2003) list of enablers and inhibitors of alignment. In this instance, the customer service, an element of the 'organisational glue', impacted 'Partnership' by enhancing the relationship between business and IT through the business utilising IT systems.

5.5.2 Strategic emphasis

'Partnership' was impacted by 'strategic emphasis' in the following way: IT had an important strategic role to play when it came to technology which impacted the 'partnership' between Business and IT. This finding was reflected in the following statement:

> *". . . the strategic the long haul* [referring to company services] *, they realise IT has got a big role to play therefore in terms of networks, signals and all the rest of it, CCTV, the boards . . . so it definitely has impact on the partnership between IT and the business" (ITman5).*

This finding led to the following proposition:

> In an adhocracy type culture, the 'strategic emphasis' that is inclusive of IT strategy and the role IT can play can positively impact 'Partnership between business and IT'.

IT's participation in business strategy and IT having an equal role to play in strategy formulation, was an important enabler of alignment (Luftman, 2003). Change readiness and meeting new challenges were emphasised in an adhocracy culture and included being at the leading edge of new knowledge, products and services (Cameron & Quinn, 2005).

5.5.3 Success criteria and value

The maturity of the BITA maturity criterion 'partnership between business and IT' was positively impacted by the cultural component 'success criteria and value' when consistently applied.

> *'' You know if those people don't have proper KPAs and stuff like that measures . . . then what we are doing for them is not going to necessarily be felt by them, whatever IT does for the business won't necessarily be felt and the impact on the partnership between IT*

> *and the business . . . them* [referring to the business functions] *having proper KPAs and implementing their vision and their missions and their values type of thing, that can enhance partnership between IT and the business in the sense that um, when it's applied then there's definitely positive results to be achieved'' (ITman5).*

Organisations that had a high maturity level on value measurements should have been able to demonstrate the IT value in a way the business understood (El-Mekawy et al., 2014).These findings led to the following proposition:

> In a market type culture, 'success criteria and value' can positively impact 'partnership between business and IT' through consistently measuring employee performance which will reflect the impact of IT on people's outputs and ultimately business performance.

5.5.4 Human Resource (HR) management

HR management impacted 'partnership between IT and the Business' because there was no drive by management to integrate IT and the Business and provide direction as to who was responsible for what. This was reflected here:

> *". . . if you asking me "do you think it impacts?" yes, it does but in our organisation it doesn't currently happen . . .. There's not a drive to really integrate this two departments. . . . Management is not saying if the display boards are going up, who's responsible for now?" (ITman1).*

This finding led to the following proposition:

> In a clan type culture, 'HR management' can negatively impact 'partnership between business and IT' through a lack of direction from management.

Luftman et al. (1999) found in a study of enablers and inhibitors of alignment that executives acknowledged the need for a cooperative and close working relationship with IT, especially when formulating process which made it easier to achieve alignment. Different roles, skills and activities were needed to properly manage the human resources of an organisation and the HR manager therefore needed to incorporate characteristics of all four cultural profiles of the CVF

according to Cameron and Quinn (2005); However, only one dominant culture could be cited by the HR manager.

5.6 Scope and architecture of the IT infrastructure (BTec)

Scope and architecture refers to the flexibility of the IT infrastructure to technology and business changes, and delivering customised solutions to customers (Luftman, Derksen, Dwivedi, Santana, Zadeh & Rigoni, 2015). Two cultural components were found to have an impact on 'Scope and architecture of the IT infrastructure', based on the highest number of co-occurrences in the coded text, 'organisational glue' and 'strategic emphasis'.

5.6.1 Organisational glue

Organisational glue impacted 'Scope and architecture of the IT infrastructure' in the following way. The customer, being an element of the 'organisational glue', impacted the IT systems used by staff to interact with customers. It was reflected in the following statement:

> *"Customer service does have some positive aspects because it drives us to customer service and our interaction of our customers of our systems is impacted" (ITman3).*

A focus on customers was characteristic of the market cultural profile (Cameron & Quinn, 2005). This led to the following proposition:

> In a market type culture, the 'organisational glue' such as the customer can positively impact 'scope and architecture of the IT infrastructure' through impacting the kind of systems used to interact with customers.

5.6.2 Strategic emphasis

'Scope and architecture of the IT infrastructure' was impacted by strategic emphasis in the following way. The 'strategic emphasis' on customers impacted the 'scope and architecture of the IT infrastructure' and was reflected here:

> *"It* [referring to the strategic emphasis] *also has a positive impact because at least it's customer driven and you need systems in place so there are, there will be enhancement of IT structure for that purpose" (ITman3).*

A strong emphasis on external positioning in the market and customers is characteristic of a market cultural profile (Cameron & Quinn, 2005).

This led to the following proposition:

> In an adhocracy type culture, the 'strategic emphasis' can positively impact 'scope and architecture of the IT infrastructure' through its customer focus; this drives the need to have IT systems in place to enhance the IT infrastructure.

5.7 Summary

This chapter began with a summary of the findings for BITA maturity of organisation X. To answer the research question pertaining to this finding, 'What are the perceptions of the Business and IT groups with regard to BITA maturity?', this study explored and described the perceptions of business and IT groups with regard to business and IT alignment maturity, using Luftman's (2000) SAMM to see whether there were any significant differences between the two groups.

The perception of the overall alignment maturity for both Business and IT management groups were similar, with IT managers scoring 1.79 and Business managers scoring an average of 1.82.

IT and Business managers differed on three out of the six maturity criteria which included:

- Communication – IT managers scored higher than Business managers
- Governance – Business managers scored higher than IT managers
- Partnership – Business managers scored higher than IT managers

The remaining three maturity criteria including Skills, Competency and Value measurement, and Scope and Architecture were perceived similarly by Business and IT managers, between a 1 and 2 maturity level.

To answer the third and final research question 'How do cultural dimensions impact BITA maturity criteria?' this study then:

- explored and described whether relationships existed between cultural dimensions and BITA maturity criteria;

- explored and described whether the existing culture within a South African parastatal supported BITA or not.

The findings indicated that characteristics of all four cultures were present within organisation X, with a hierarchy culture as the dominant culture. The cultural dimensions of the CVF had characteristics of each culture with one dominant culture. Figure 15 represents a summary of the findings of the impact of the organisational culture dimensions on BITA maturity criteria. The diagram illustrates how the different types of organisational culture impacted BITA maturity criteria. The impact of each cultural dimension on BITA is discussed in the following paragraphs.

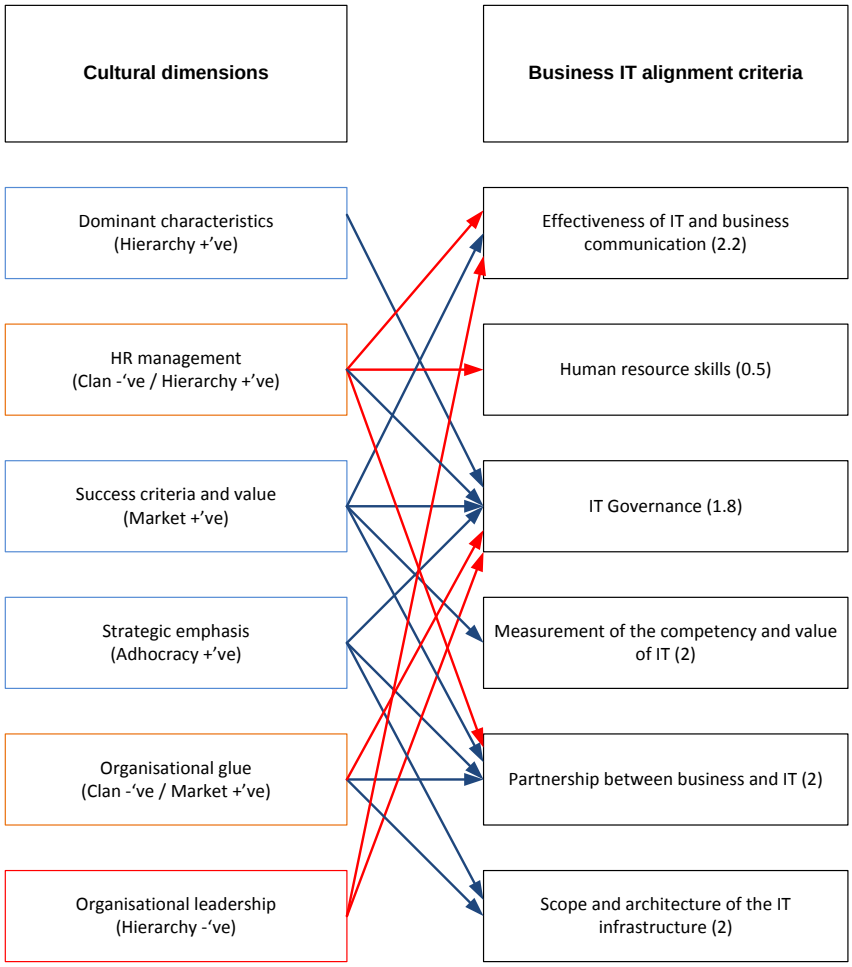

Figure 15. Relationship between cultural dimensions and BITA maturity criteria indicated by the arrow. (The arrow head indicates the direction of the relationship and the BITA maturity criterion impacted. Blue arrows indicate positive impact, red arrows indicate negative impact. The dominant culture for each cultural dimension appears in brackets.)

5.7.1 Impact of Hierarchy culture on BITA

Hierarchy culture had both a positive and negative impact on BITA maturity criteria.

Positive impact

Hierarchy 'dominant characteristics' and 'HR management' positively impacted 'governance' through cultural characteristics such as structure, rules and policies, reporting, process orientation associated with a 'Hierarchy' type culture (Cameron & Quinn, 2005). These cultural characteristics were compatible with maturity criteria specified by Luftman's (2000) BITA maturity model which included reporting, structure and prioritisation of processes. A hierarchy 'HR management' culture also positively influenced governance through the management style which was procedural driven.

Negative impact

Hierarchy cultural characteristics that negatively impacted BITA included 'organisational leadership' through a lack of understanding of IT by the business which impacted 'effectiveness of IT and business communications' and a lack of understanding of the importance of 'governance' which negatively impacted 'Governance'.

5.7.2 Impact of clan culture on BITA

Negative impact

Clan cultural dimensions that negatively impacted BITA included 'HR management' through an unstructured management style which impacted the 'effectiveness of IT and business communications, the 'organisational glue' through the employees in the organisation who did not comply with 'governance' because of a lack of adherence to procedure, a lack of respect and distrust, and 'HR management' that negatively impacted 'HR skills' by failing to hold employees accountable for poor service delivery. Clan 'HR management culture' also negatively impacted 'partnership' through a lack of direction from management.

5.7.3 Impact of market culture on BITA

Positive impact

Market type cultural characteristics that positively impacted BITA included 'success criteria and value' that positively impacted the 'effectiveness of IT and business communication' through performance measures which drove communication as well as positively impacted 'governance' through KPAs, performance measures which guided people to comply with 'governance' and which also reflected the impact of IT on performance outputs. 'Success criteria and value' also positively impacted the 'measurement of the competency and value of IT' through IT systems that contributed to income, a success criterion.

A market type 'organisational glue' such as customer services and customer focus positively impacted the 'partnership between business and IT' when business utilised IT systems for customer communication and impacted 'scope and architecture of the IT infrastructure' through the kind of systems used to interact with customers.

5.7.4 Impact of Adhocracy culture on BITA

Positive impact

An adhocracy type 'strategic emphasis' positively impacted the BITA maturity criterion 'governance' when it included IT-related processes, ensuring that it aligned with enterprise strategy. When inclusive of IT strategy and the role IT can play, an adhocracy 'strategic emphasis' positively impacted 'partnership between business and IT' and positively impacted 'scope and architecture of the IT infrastructure' through an emphasis on customer focus which drove the need to have IT systems in place to enhance the IT infrastructure.

5.7.5 The impact of an incongruent overall culture on BITA

Negative impact

An overall incongruent culture negatively impacted the overall BITA maturity of the organisation.

In this chapter, the researcher discussed the analysis and findings with regard to the impact of culture on BITA in relation to the research problem.

To answer the research question ‘How do cultural dimensions impact BITA maturity criteria?

The cultural dimensions ‘dominant characteristics’ and ‘HR management’ which were predominantly hierarchy type profile positively impacted ‘governance’.

A hierarchy type ‘organisational leadership’ negatively impacted ‘effectiveness of IT and business communication’.

A clan type ‘HR management’ negatively impacted ‘effectiveness of IT and business communication’, ‘HR skills’ and ‘partnership’.

A market type ‘success criteria and value’ positively impacted ‘effectiveness of IT and business communication’, ‘governance’ and ‘measurement of the competency and value of IT’. A market type ‘organisational glue’ positively impacted ‘partnership between business and IT’ and ‘scope and architecture of the IT infrastructure’.

An adhocracy type ‘strategic emphasis’ positively impacted ‘governance’, ‘partnership’ and ‘scope and architecture of the IT infrastructure’.

An overall incongruent culture negatively impacted BITA maturity of the organisation.

CHAPTER 6: CONCLUSION

This chapter concludes with the findings of the study and includes a summary of the 'problem statement', 'the purpose of the study', research methodology and the research questions. This is followed by the propositions based on the findings of the case study. Following that, the theoretical and practical contributions are discussed, along with the recommendations, limitations of the study and suggestions for future research.

6.1 Research purpose and rationale

The purpose of this qualitative case study was to explore and describe:

1. the organisational culture and BITA of a South African parastatal;
2. the perceptions of business and IT groups with regard to business and IT alignment maturity, using Luftman's SAMM (2000) and to see whether they differed;
3. whether relationships existed between cultural dimensions and business and IT alignment maturity criteria;
4. whether the existing culture within business and IT supported BITA or not.

In this study, several years since BITA was established as a prominent area of research, it is still a problem for many organisations, with insufficient research done on how organisational culture, which forms a very important component of every organisation, impacts BITA, particularly within the public sector in a South African context. Much research has been focused on formal structures that impact alignment, but has neglected to take into account the informal structure such as the organisational culture that impacts BITA. In addition, most BITA studies have been conducted in developed countries in private sector organisations. This has left a gap in existing research in which insufficient research has been done in government institutions, particularly in developing countries.

Hence this research served to contribute to the greater body of knowledge on BITA and focused on understanding how organisational culture impacted BITA in a South African parastatal. The research explored, and described the relationship between, BITA and organisational culture.

6.2 Research methodology

This study addressed the research questions through both a deductive and inductive approach with qualitative methods for data analysis. The use of a case study was most suitable for answering 'what' and 'how' questions and for developing context-rich knowledge on the phenomena. Data collection was achieved through semi-structured interviews, while triangulation was achieved by making use of company documents. Data analysis was done using thematic analysis and basic descriptive statistics.

6.3 Theoretical contribution

According to Gregor (2006), theory can be classified by primary goals of theory and begins with a problem to be solved. The theory that develops depends on the nature of this problem and the questions that are addressed (Gregor, 2006). The primary goals of theory can be distinguished by Analysis and description, Explanation, Prediction and Prescription. The combination of these goals leads to five theory types (Refer Table 13).

Table 13. A taxonomy of theory types in Information Systems research (Gregor, 2006, p. 620)

Table 2. A Taxonomy of Theory Types in Information Systems Research	
Theory Type	**Distinguishing Attributes**
I. Analysis	Says what is. The theory does not extend beyond analysis and description. No causal relationships among phenomena are specified and no predictions are made.
II. Explanation	Says what is, how, why, when, and where. The theory provides explanations but does not aim to predict with any precision. There are no testable propositions.
III. Prediction	Says what is and what will be. The theory provides predictions and has testable propositions but does not have well-developed justificatory causal explanations.
IV. Explanation and prediction (EP)	Says what is, how, why, when, where, and what will be. Provides predictions and has both testable propositions and causal explanations.
V. Design and action	Says how to do something. The theory gives explicit prescriptions (e.g., methods, techniques, principles of form and function) for constructing an artifact.

Based on this classification of theory types, the theory in the current study can be classified as Theory type 2, Explanation Theory**.**

The word 'theory', broadly used, encompasses the terms conjectures, models, frameworks or body of knowledge (Gregor, 2006). The theoretical contribution to studies in the business IT-alignment domain is that it provides an explanation of what is culture and how it has an impact

on BITA in the form of specific cultural dimensions in an organisation with similar cultural characteristics to Organisation X, using the CVF to diagnose the cultural profile and with a similar BITA maturity, using Luftman's (2000) maturity model. Cultural dimensions can have a positive or negative impact on BITA maturity criteria. Refer to Table 14 of the Propositions of Theory which proposes whether a specific cultural dimension is likely to have a positive or negative impact on a specified maturity criterion based on the findings in the study of a South African parastatal. Certain cultural dimensions such as 'success criteria and value' and 'strategic emphasis' seemed to have a general positive impact as all BITA maturity criteria were positively impacted by it while certain cultural dimensions with characteristics of a particular culture type such as a hierarchy 'organisational leadership' and a clan 'HR management' had a negative impact when certain conditions were present.

6.4 Summary of Findings

The findings for each research question are discussed below, together with the conclusion that follows. The term culture has been used interchangeably with organisational culture as the content and meaning are the same so when the researcher speaks of cultural characteristics is referring to the characteristics of the organisational culture.

6.4.1 Question 1 - What are the cultural dimensions of the Business and IT groups within a South African parastatal?

The six cultural dimensions of the CVF model for the parastatal were found to be incongruent, meaning that there was no consistent dominant culture throughout the organisation, based on IT and Business managers' perceptions. There were characteristics of all four cultures for each cultural dimension. The conclusion based on these findings was that the subsidiaries and departments within the organisation were operating in silos and not as one organisation, because the culture was fragmented. According to Cameron and Quinn (2005), having cultural incongruence was a sign that change was needed within the organisation. Organisations with cultural congruency were more typical of high performing organisations (Cameron & Quinn, 2005) and it was, therefore, recommended that Organisation X strived toward a unified culture throughout the organisation. This also indicated that the organisational culture could not be assumed to be homogeneous, but may contain sub-cultures within business units or departments.

Prior research publications supported this and were generalisable to other parastatal organisations in developing countries.

When the overall culture was calculated based on the sum total of all four cultural types, it emerged that Hierarchy was the dominant culture as perceived by both IT and business managers. Theoretically, this supported previous studies of the CVF that found that government organisations were characterised by a hierarchy cultural profile overall. The difference was that the Business manager's graph was stronger towards a market culture, while the IT manager's graph was leaning more towards a clan culture. The conclusion based on this finding was that Business managers were more externally focused on the customers, while IT managers were internally focused on team work and development of staff. In addition, IT provided a service to the business who was its internal customer in the organisation. This could also have indicated a cultural difference between departments within the organisation and how the culture differed, based on their function.

6.4.2 Question 2 - What are the perceptions of the Business and IT groups with regard to BITA maturity?

This result found low levels of overall BITA maturity within a South African parastatal, with IT regarded as an administrative support rather than viewed strategically within the organisation. Organisation X's average score was considered low compared to a previous study by Silvius (2007a) who found the average maturity level within a government or public sector organisation to be at a level 2. This corroborated findings of previous studies which found BITA maturity to generally be lower in public entities, as compared to private organisations.

IT and business managers differed slightly in their perceptions of BITA maturity, with a difference of 0.03 between the average scores of the two groups. This was not a big enough difference to warrant it a significant difference. Similarly, results were found in a study of 12 Dutch firms by Silvius (2007a), with minor differences between business and IT management.

6.4.3 Question 3 - How do cultural dimensions impact BITA maturity criteria?

Table 14 summarises the propositions developed from the findings. Cultural characteristics refer to the cultural characteristics of each cultural type for a specific dimension identified within the

parastatal organisation of the study. For example characteristics of a Hierarchy type culture for the cultural dimension 'leadership' would include the leadership style being that of a co-ordinator, organiser or administrator role.

Table 14. Propositions of theory

No.	Propositions
1	A clan 'HR management' culture can negatively impact the 'effectiveness of IT and business communications' through an unstructured management style.
2	A hierarchy 'organisational leadership' culture can negatively impact the 'effectiveness of IT and business communications' through a lack of understanding of IT by business.
3	A market 'success criteria and value' culture can positively impact the 'effectiveness of IT and business communications' through performance measures which drive communication.
4	A hierarchy 'HR management' culture can positively impact 'Governance' through the management style which is procedural driven and supports 'governance'.
5	A hierarchy 'dominant characteristics' culture can positively impact 'Governance' through an emphasis on rules, policies and procedures, and auditing practices.
6	A market 'success criteria and value' culture can positively impact 'Governance' through KPAs which are performance measures which guide people's behaviour to comply with 'Governance' and avoid repeat audit findings.
7	An adhocracy type 'strategic emphasis' culture can positively impact 'governance' when it is inclusive of IT-related processes ensuring that it is aligned to enterprise strategy and objectives, ensuring transparency and compliance with legal and regulatory requirements and, in so doing, meeting governance requirements.
8	A clan type 'organisational glue' culture can negatively impact 'Governance' through the people of the organisation who do not comply with governance because of a lack of adherence to procedure, a lack of respect for top management and mistrust.
9	A hierarchy type 'organisational leadership' culture can negatively impact 'governance' through a lack of understanding of the importance of governance.
10	A clan 'HR management' culture can negatively impact 'HR skills' through a failure to hold employees accountable for poor service delivery.
11	A market type 'Success criteria and value' culture can positively impact the 'measurement of the competency and value of IT' through IT support systems that positively contribute to success criteria such as income.
12	A market 'organisational glue' culture, for example, customer services can positively impact 'partnership between IT and the business' when the business utilises IT systems for customer communication.
13	An adhocracy type 'strategic emphasis' culture that is inclusive of IT strategy and the role IT can play can positively impact 'Partnership between business and IT'.
14	A market 'success criteria and value' culture can positively impact 'partnership between business and IT' through consistently measuring employee performance and having proper KPAs, making a positive impact of IT on staff outputs and the business more evident, enhancing the partnership between business and IT.
15	A clan 'HR management' culture can negatively impact 'partnership between business and IT' through a lack of drive and direction by management to define and delegate responsibilities.
16	A market 'organisational glue' culture that focuses on the customer can positively impact 'scope and architecture of the IT infrastructure' through impacting the kind of systems used to interact with customers.
17	An adhocracy 'strategic emphasis' culture can positively impact 'scope and architecture of the IT infrastructure' through its customer focus which drives the need for IT systems that enhances the IT infrastructure.
18	An organisation with an overall incongruent culture can negatively impact overall BITA maturity.

The BITA maturity criteria most impacted by cultural dimensions included ‘governance’ and ‘communication’ and ‘partnership’. These results were similar to findings of a previous study by Silvius et al. (2010) who established that there was a relationship between organisational culture and BITA maturity on the variables ‘governance’, ‘partnership’ and ‘skills’ which were derived quantitatively. Although Silvius et al. (2010) did not find a relationship between organisational culture and the BITA maturity criteria ‘communication’, it was expected but not confirmed in the study, due to specific characteristics of the organisation which did not have an organised alignment process; this impacted the communication score.

The BITA maturity criteria ‘governance’ was impacted by all six cultural dimensions. As with culture, ‘governance’ formed part of every aspect of an organisation and therefore would be impacted by culture. The cultural dimensions’ dominant characteristics, HR management, success criteria and value, and strategic emphasis had a positive impact on ‘governance’, while ‘organisational glue’ and ‘organisational leadership’ had a negative impact on governance. The conclusion from this was that the non-technical, human-related aspects of BITA were affected by the organisational culture, because culture related to shared values, norms and behaviour of a group, which would impact the human aspects of BITA.

Two cultural dimensions that impacted BITA negatively within Organisation X were ‘HR management’ and ‘Organisational leadership’. The existing management style of employees may not have been in line with the dominant culture of organisation X which was ‘hierarchy’ and had a strong focus on process and structure. Based on this finding, it could be concluded that HR management which represented the management of employees within Organisation X was not managing employees effectively.

In answering the third objective of whether relationships existed between cultural dimensions and BITA maturity criteria this finding indicates a relationship does exist between the cultural dimensions ‘HR management’ and ‘Organisational leadership’ and BITA maturity criteria. The findings also indicated a relationship between the cultural dimensions ‘success criteria and value’ and ‘strategic emphasis’ and BITA maturity criteria.

To answer the fourth objective whether the existing culture within Business and IT supported BITA or not, for the cultural dimensions ‘HR management’ and ‘Organisational leadership’ did

not support BITA as it had a negative impact on BITA criteria. For the cultural dimensions 'success criteria and value' and 'strategic emphasis' it supported BITA as it had a positive impact on BITA maturity criteria.

The findings indicate that organisational leadership negatively impacted BITA because of poor leadership and a lack of understanding of IT's role and the impact IT could have on the business, as well as a lack of understanding of the importance of governance. 'Success criteria and value' and 'strategic emphasis' had the strongest positive impact on BITA with KPA's driving performance and employee behaviour. Strategic emphasis had a positive impact on BITA, as IT's inclusion in the organisational strategy showed a readiness for change and a desire to be at the forefront of new knowledge, products and services.

6.5 Practical contribution

The practical contribution of the study is that organisations wanting to improve their BITA must change their culture. Culture is not fixed and can be changed over time. This research may serve as a guideline to managers and leaders within government organisations as to the cultural dimensions to focus on in order to improve BITA. The cultural dimensions that had a general positive impact included 'success criteria and value' and 'strategic emphasis'. Therefore, including these cultural dimensions in an organisation and putting emphasis on them is likely to improve BITA. Two cultural dimensions 'HR management' and 'organisational leadership' negatively impacted BITA. This suggested that if these dimensions were improved upon or changed, then the BITA maturity would likely be higher.

All six cultural dimensions impacted 'Governance'. Four of these including 'Dominant characteristics', 'HR management', 'Success criteria and value' and 'Strategic emphasis' impacted 'governance' positively. This suggested that if these dimensions were improved, then it is likely to improve BITA maturity. In contrast, 'organisational glue' and 'organisational leadership' negatively impacted 'governance'. This may suggest that a change in the culture of 'organisational glue' and 'organisational leadership' may result in a more positive impact on BITA.

The following recommendations are made, based on the findings, analysis and conclusions.

Based on the finding that cultural incongruence existed at Organisation X, it is recommended that Organisation X strive toward one unified culture throughout the organisation, as congruent cultures were more typical of high-performing organisations (Cameron & Quinn, 2005).

Business managers and IT managers differed slightly in their perceptions of the overall culture. It is recommended that business managers gain a better understanding of IT and, vice versa, IT managers gain a better understanding of the business which would enable a better alignment. Luftman (2000) noted this as an enabler of alignment.

Organisation X scored a below average level of maturity for BITA. It is recommended that the cultural dimensions that are in conflict are changed to match the dominant culture within the organisation for better cultural congruence.

Two cultural dimensions were found to impact BITA negatively within Organisation X – HR management and organisational leadership. The cultural dimension HR management negatively impacted the BITA maturity criterion HR skills because employees were not held accountable for delivering a service and for productivity. The cultural profile of the management style seemed to be more flexible than rigid, which was reminiscent of a clan culture. It was therefore recommended that the cultural profile adopted should lean more toward the stability and control quadrant of the CVF model (Cameron & Quinn, 2005) and adopt the 'hierarchical' cultural profile with regard to HR management. HR management also negatively impacted the BITA maturity criterion 'communication'. This finding pertained to instances where the management style did not match the structured way IT communicated with the business, which was reminiscent of a clan type culture. Based on this, it is recommended that a more structured management style be adopted to match the structured style of communication, which would require Organisation X to adopt a 'hierarchy' cultural profile with regard to 'HR management'. The cultural dimension 'organisational leadership' negatively impacted BITA maturity criterion 'governance' and communication'. This finding related to a lack of proper leadership in understanding IT's role and a lack of understanding with regard to the importance of 'governance'. Based on this, it is recommended that the organisational leadership provide the necessary support for IT which would act as an enabler to alignment (Luftman, 2000).

6.6 Limitations of the study

The study is limited in that it made use of only a single case study and so was not able to compare it with a current study of a similar type organisation for a more rigorous study. In addition, the sample size was reasonably small but, considering purposive sampling was used with participants selected for their knowledge on the topic, the population from which the sample was chosen was not very big. In addition, the type of organisation was limited to government. This, however, was selected specifically because of a gap that was identified in the research for this type of organisation. The study was limited to one example of an organisation that was predominantly of a 'hierarchy' culture type. It would be of interest to see how an organisation of a different culture performed on BITA maturity and how a different culture impacted BITA.

6.7 Suggestions for future research

Given the fact that only a single case study was conducted, it is suggested, based on this limitation, that future research be conducted within a few similar type organisations such as government entities, to see if the same results would be achieved. In addition, based on the fact that it was not possible to compare the impact of different cultures on BITA, it is suggested that this be explored through future research and also to see whether a change in culture would improve BITA. It is also suggested that a bigger sample be used to see if the outcome of a similar study would obtain the same results.

A strong link was found between cultural dimensions and BITA maturity criteria. This study highlighted the dominant relationships between culture and BITA; however all the cultural dimensions and BITA maturity criteria are intertwined and influence each other.

In this chapter, the researcher concludes the dissertation with a summary of the research purpose and rationale, research methodology, the theoretical contributions, findings and conclusions in the context of the research questions. It also summarised the propositions derived from the study. Lastly, the practical contribution, study limitations and suggestions for future research were discussed.

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Appendix A: Research Participant Consent Form

I, _____, consent to participate in the research on understanding the impact of culture on BITA.

I am aware that participation is voluntary and that I may choose to withdraw from this study at any time, should I choose to do so.

_____

Signature Date

Appendix B: Interview Protocol (Creswell, 2014, P. 194)

Date:

Place:

Interviewer full name:

Interviewee full name:

Instructions for the interview:

The interview questions: Refer to appendix D.

Probes for the questions:

Thank you statement:

Log of notes (stating whether primary material or secondary material):

Log of audio recordings (stating whether primary material or secondary material):

Log of documents (stating whether primary material or secondary material):

Appendix C: Definition of Terms

Culture

Culture has been defined as "a set of shared, taken-for-granted implicit assumptions that a group holds and that determines how it perceives, thinks about and reacts to various environments" (Schein, 1996, p. 236).

National Culture

Hofstede studied culture at a national level and defined it as "the collective programming for the mind, which characterise the members of one organisation from others" (Hofstede, 2011, p. 3). "By Collective programming Hofstede refers to the symbols, heroes, rituals and values that collectively form a culture" (Silvius, 2008, p. 12).

Organisational Culture

Organisational culture has been defined as "the culture within an organisation and includes the common expectations, goals, beliefs, ideas, common understanding and norms of the people in the organisation which varies between organisations" (El-Mekawy, 2012, p. 31).

Organisation

"A structured social grouping with a defined purpose" (Denison & Spreitzer, 1991, p. 11).

Group Culture

Schein (2006, p. 17) defined culture at a group level as "a pattern of shared basic assumptions learned by a group in solving it's problems of external adaptation and internal integration and through its success has become accepted and consequently passed down to new members as the correct way to perceive, think and feel in relation to their problems".

Business IT Alignment (BITA)

BITA has been defined as "applying information technology (IT) in an appropriate and timely way, in harmony with business strategies, goals and needs" (Luftman, 2000, p. 3).

Information Systems (IS)

IS has been defined as "systems that assemble, store, process and deliver information relevant to an organisation (or to a society), in such a way that the information is accessible and useful to those or wish to access it, including managers, staff, clients and citizens" (Buckingham, Hirschheim, Land, & Tully, 1986).

Information Technology (IT)

"IT has been defined as a branch of technology dedicated to, the study and application of data and processing thereof i.e. the automatic acquisition, storage, manipulation (including transformation, management, movement, control, display, switching, interchange, transmission or reception of data), and development and use of hardware, software, firmware, and procedures associated with this processing" (Glossary, 2001).

Information Technology (IT) Management

IT management can be conceptualised as a problem of co-ordinating the relationship between the business domain and the IT domain (Sambamurthy & Zmud, 1992).

Business Strategy

"Business strategy is defined as a framework of decisions in an organisation that determines and reveals its objectives, purposes, or goals, produces the principal policies and plans for achieving those goals, and defines the range of business the organisation is to pursue, the kind of economic and human organisation it is or intends to be, and the nature of the economic or non-economic contribution it intends to make to its stakeholders, employees, customers and communities" (Andrews, 1971).

IS Strategy

"IS strategy can be defined as a strategy to implement information systems that recognises operational requirements, in other words 'demand' for information and systems to support the overall business strategy and its plan to gain or maintain an advantage" (Issa-salwe, Ahmed, Aloufi, & Kabir, 2010).

IT Strategy

IT strategy has been defined as the prioritizing and selection of IT projects, based on their benefits and added value for the organisation (Peppard & Ward, 2004).

IT capability

IT capability has been described as "the ability an organisation has to be able to incorporate other resources of the organisation through the usage and allocation of IT resources in an organisation" (Thamhain, 1992).

Appendix D: Semi-Structured Interview Questions

Culture questions (Cameron & Quinn, 2005)

1. Can you describe the dominant characteristics of the organisation?
2. How would you describe the leadership within the organisation?
3. How would you describe the management style within the organisation?
4. What would you say is the glue that holds this organisation together?
5. What do you feel is the strategic emphasis of the organisation?
6. Describe how the organisation defines success and how success is measured?

BITA Questions followed by questions relating to the impact of culture on BITA (Luftman, 2000)

Section 1: Effectiveness of IT and business communications

1. To what extent does IT understand the business?
2. To what extent does the business organisation understand IT?
3. What is the primary means of organisation learning? (e.g. intranets, bulletin boards, education, meetings, e-mail)
4. Can you describe how business and IT usually communicate? What is the favoured communication style (e.g. ease of access, familiarity of stakeholders)
5. To what extent is there knowledge sharing between IT and the business (e.g. intellectual understanding and appreciation of the problems/ opportunities, tasks, roles, objectives, priorities, goals, direction, etc.)
6. Can you describe the role and effectiveness of the IT business liaison/s?

7. Do you think that the dominant characteristics of the organisation impacts the effectiveness of IT and business communications?

8. Do you think that the organisational leadership impacts the effectiveness of IT and business communications?

9. Do you think that the management style within the organisation impacts the effectiveness of IT and business communications?

10. Do you think that the organisational glue impacts the effectiveness of IT and business communications?

11. Do you think that the strategic emphasis of the organisation impacts the effectiveness of IT and business communications?

12. Do you think that the organisation's definition of success and success measures impacts the effectiveness of IT and business communications?

Section 2: Measurement of the competency and Value of IT

1. Are there metrics and processes in place that measure IT's contribution to the business? If yes, can you please describe them?

2. Are there measures in place to measure business investment and performance? If yes, please describe them?

3. Are value measurements for IT and business interlinked? Are there IT business investments? If yes, can you describe them?

4. Are there service level agreements between IT and the organisation? To what extent? What do they entail?

5. Are there any benchmarking practices? If yes, can you describe them?

6. To what extent are IT investments assessed or reviewed? (Formally or informally and how often)

7. To what extent has the IT function demonstrated contribution to the accomplishment of the organisation's strategic goals? Can you describe it?

8. Do you think that the dominant characteristics of the organisation impact the measurement of the competency and value of IT?

9. Do you think that the organisational leadership impacts the measurement of the competency and value of IT?

10. Do you think that the management style within the organisation impacts how the value and competency of IT is measured?

11. Do you think that the organisational glue impacts how the competency and value of IT is measured?

12. Do you think that the strategic emphasis of the organisation impacts how the competency and value of IT is measured?

13. Do you think that the organisation's definition of success and success measures have impacted how the competency and value of IT is measured?

Section 3: Governance

1. Does IT participate in strategic business planning? If so, to what extent and if they do not, why not?

2. Does Business participate in IT strategic planning? If so, to what extent and if they do not, why not?

3. How is IT budgeted for?

4. Is there an IT steering committee with senior level IT and business management participation? If there is can you please describe how they operate and how frequently?

5. How are IT projects prioritised?

6. Can you describe the ability of the IT function to react and respond quickly to the organisation's changing business needs?

7. Do you think that the dominant characteristics of the organisation impacts governance within the organisation?

8. Do you think that the organisational leadership impacts governance within the organisation?

9. Do you think that the management style within the organisation impacts governance within the organisation?

10. Do you think that the "organisational glue" impacts governance in the organisation?

11. Do you think that the strategic emphasis of the organisation impacts governance within the organisation?

12. Do you think that the organisation's definition of success and success measures impacts governance within the organisation?

Section 4: Partnership between IT and business functions

1. How is it perceived by the business? Can you describe it please?

2. What role does IT have in strategic business planning? Can you please describe it.

3. Are there risks and rewards (e.g. bonuses) associated with IT-based initiatives (i.e. a project is late and over budget because of business requirement changes) shared by both IT and business management or not? Please describe this.

4. To what extent are there formal processes in place that focus on enhancing the partnership relationships that exist between IT and business (e.g. cross-functional teams, training, risk/reward sharing)?

5. How would you describe the relationship and trust between business and IT?

6. Do business sponsors/ champions pertain to IT-based initiatives? Please describe this?

7. Do you think that the dominant characteristics of the organisation impact partnerships between IT and business functions in the organisation?

8. Do you think that the management style within the organisation impacts partnerships between IT and business functions in the organisation?

9. Do you think that the organisational glue impacts partnerships between IT and business functions in the organisation?

10. Do you think that the strategic emphasis of the organisation impacts partnerships between IT and business functions in the organisation?

11. Do you think that the organisation's definition of success and success measures impacts partnerships between IT and business functions in the organisation?

Section 5: Scope and Architecture of the IT Infrastructure

1. Can you describe the scope of the organisation's IT systems?

2. To what extent are IT standards articulated and compliant?

3. Can you describe the scope of architectural integration? This relates to how well components of the organisation's IT infrastructure are integrated?

4. To what extent is the level of disruption caused by business and IT changes (e.g. implementation of a new technology, business process and merger/ acquisition) transparent?

5. The following question pertains to the scope of IT infrastructure flexibility to business and technology changes. How is IT infrastructure viewed within the organisation in terms of the service it provides?

6. Do you think that the dominant characteristics of the organisation impact the scope and architecture of the IT infrastructure of the organisation?

7. Do you think that the organisational leadership impacts the scope and architecture of the IT infrastructure of the organisation?

8. Do you think that the management style within the organisation impacts the scope and architecture of the IT infrastructure of the organisation?

9. Do you think that the organisational glue impacts the scope and architecture of the IT infrastructure of the organisation?

10. Do you think that the strategic emphasis of the organisation impacts the scope and architecture of the IT infrastructure of the organisation?

11. Do you think that the organisation's definition of success and success measures impacts the scope and architecture of the IT infrastructure?

Section 6: Human resource skills

1. Can you describe to what extent the organisation fosters an innovative entrepreneurial environment?

2. The following question pertains to the cultural locus of power in making IT decisions? Where is the cultural locus of power for IT decisions located and at which level?

3. Can you describe the organisation's readiness for change?

4. Can you describe career crossover opportunities in the organisation among IT and business personnel?

5. To what extent are there opportunities for employees to learn about and support services outside the employee's functional unit (e.g. programmers trained in product/ service production functions, customer service trained in systems analysis) using programs such as cross training and job rotation?

6. Can you describe the interpersonal interaction (e.g. trust, confidence, cultural, social and political environment) across IT and business units in our organisation?

7. Can you describe the extent to which the IT organisation has the ability to attract and retain the best business and technical professionals?

8. Do you think that the dominant characteristics of the organisation impacts human resources and skills within the organisation? If yes, in what way? If no, why not?

9. Do you think that the organisational leadership impacts human resources and skills within the organisation? If yes, in what way?

10. Do you think that the management style within the organisation impacts human resources and skills within the organisation? If yes, in what way?

11. Do you think that the "organisational glue" impacts human resources and skills within the organisation? If yes, in what way?

12. Do you think that the strategic emphasis of the organisation impacts human resources and skills within the organisation? If yes, in what way?

13. Do you think that the organisation's definition of success and success measures impacts human resources and skills within the organisation?

Appendix E: Codebook

Codes relating to cultural dimensions	
Code 1	CDC
Label	Dominant organisational characteristics (Cameron & Quinn, 2005)
Definition	The dominant cultural style of an organisation (Cameron & Quinn, 2005)
Description	The dominant culture influences the norms and values of employees in an organisation and can either be one of four cultural types according to the CVF; Clan, Hierarchy, Adhocracy or Market (Cameron & Quinn, 2005). Characteristics of Hierarchy culture include a focus on "rules, specialisation, meritocracy, hierarchy, separate ownership, impersonality and accountability"(Cameron & Quinn, 2005, p. 37). Market culture types are externally focused on customers and the market with structures that support goal attainment (El-Mekawy et al., 2014). Clan culture types are internally orientated and supported by a flexible organisational structure (Cameron & Quinn, 2011; Hartnell et al., 2011). Characteristic of a family like culture are "shared values and goals, cohesion, participation, individuality and a sense of togetherness" (Cameron & Quinn, 2005, p. 41). Adhocracy culture is externally orientated and is supported by a flexible organisational structure (Hartnell et al., 2011). This type of culture is characterised by change and adaptation with the hope that it will lead to organisational growth (Gregory et al., 2009).
Code 2	COL
Label	Organisational leadership

Definition	The dominant culture influences the leadership style
Description	The most effective leadership style of a particular culture for example market culture effective managers are good at directing, producing results, negotiating and motivating others; clan culture leaders are seen as parental figures, team builders, nurturers, mentors and supports; adhocracy culture leaders are entrepreneurial, visionary, innovative, creative, risk orientated and future driven; hierarchy culture leaders are good organisers, controlling, monitoring, administering, co-ordinating and maintaining efficiency(Cameron & Quinn, 2005, p. 47)
Code 3	CSV
Label	Success criteria and value of IT
Definition	Organisational effectiveness is the most highly valued success criteria for each organisational culture type. Criteria for effectiveness is a measure of the most highly valued criteria for success whereas value of IT is a measure of how successful IT is in the organisation (Cameron & Quinn, 2005).
Description	Success criteria for hierarchy culture is based on the operational theory that control leads to efficiency which results in effectiveness and includes timeliness, smooth functioning and predictability. In a Hierarchy culture, the assumption that controls lead to efficiency and effectiveness and therefore controls in IT, timeliness, smooth functioning are highly valued and considered successful in a hierarchy culture. In a Market culture, the most highly valued criteria of effectiveness would be achievement of goals, outperforming the competition, increasing the market share and achieving maximum return on investment. In a Clan culture, the most highly valued success criteria include a high staff morale and level of satisfaction and team work resulting in committed staff leading to effectiveness. In

	Adhocracy culture most highly valued success criteria would include new products and innovation in IT, creative solutions to problems and growth in external markets as measures of effectiveness (Cameron & Quinn, 2005).
Code 4	CSE
Label	Strategic emphasis
Definition	Strategic emphasis is what the business focuses on in its long term goals (Cameron & Quinn, 2005).
Description	The strategic focus of an organisation would be influenced by its dominant culture and most likely influence its strategic approach to IT. In a hierarchy culture the strategic emphasis are on rules and regulations, formalised structures and standardised procedures; a market culture's strategic emphasis is on the economic market, it's mechanisms and monetary exchange. Competitiveness and productivity is achieved through external positioning and control. In a clan culture, "the strategic emphasis is on long term benefits of individual development with high importance placed on cohesion and morale" (Cameron & Quinn, 2005, p. 43). In an adhocracy culture, the strategic emphasis is on developing a vision for the future, organised chaos and disciplined imagination (Cameron & Quinn, 2005).
Code 5	COG
Label	Organisational glue
Definition	Organisational glue is what holds the organisation together
Description	In a hierarchy culture, the long term concerns are stability, predictability and efficiency with formal rules and policies holding the organisation together; in a market culture, the glue emphasizes winning and achieving goals and targets; in a clan culture, loyalty and tradition is the glue of the

	organisation while in an adhocracy culture, commitment and innovation is the glue of the organisation (Cameron & Quinn, 2005).
Code 6	CHRS
Label	Human resource skills
Definition	Human resource skills relate to management of staff and human employees within the organisation.
Description	Human resource skills relates to the management practices and strategic choices an organisation makes regarding its human resource considerations such as the social and cultural environment it cultivates (Sledgianowski & Luftman, 2005). For an internal focus relating to staff, integration of all employees at all levels are required including change readiness and career crossover. This is associated with a clan culture. An external focus relating to staff and skills requires a need to develop customer orientated employees that can increase the levels of customer satisfaction and form new avenues with suppliers and develop new products and services. This is characteristic of adhocracy cultures but not hierarchy and market cultures (El-Mekawy et al., 2014).
Codes relating to BITA maturity criteria	
Code 7	BCOM
Label	Effectiveness of IT and business communications
Definition	Communication in the context of BITA is the exchange of information, knowledge and ideas amongst IT and business professionals ensuring a mutual understanding of the business and IT environment and organisational strategies (Wong et al., 2012, p. 491).
Description	Successful communication is when the receiver completely understands

	the message received by the receiver. Communication facilitates BITA and ensures IT is integrated into the business (Sledgianowski & Luftman, 2005). Communication facilitates common understanding between business and IT and vice versa (Sledgianowski & Luftman, 2005). To facilitate BITA communication is required first (Wong et al., 2012).
Code 8	BCV
Label	Measurement of the competency and value of IT
Definition	Competency/ Value measurement is described as the management practices and strategic IT choices made by an organisation based on the value of IT to that organisation (Sledgianowski & Luftman, 2005).
Description	IT measures should include more than technical measures but measures of cost efficiency, cost effectiveness and human related measures (Sledgianowski & Luftman, 2005). Measuring the benefits of IT investments is a cause of concern as value is not always quantifiable in monetary terms (Silvius et al., 2009b). Service level agreements (SLAs) underpinned by operational level agreements (OLAs) are technical performance measures (Sledgianowski & Luftman, 2005). Benchmarking and continuous improvement are characteristic of highly co-ordinated organisations that are able to maintain alignment between performance and service delivery outputs (El-Mekawy et al., 2014).
Code 9	BGOV
Label	Governance
Definition	IT governance processes include the formalisation and institutionalisation of strategic IT decision making or IT monitoring procedures (De Haes & Van Grembergen, 2008, p. 1). Governance is the choice organisations make when allocating decision rights for IT activities such as selecting prioritizing projects, assuming ownership of technology, controlling

	budgets and IT investments (Sledgianowski & Luftman, 2005). The goal of IT governance is to attain better alignment between business and IT (De Haes & Van Grembergen, 2008, p. 2).
Description	Empirical evidence has established that organisations with more mature IT governance practices are more likely to have a higher degree of BITA maturity. Relational mechanisms which are means of communication in IT governance frameworks include active participation and collaboration between corporate executives, IT management and business management (De Haes & Van Grembergen, 2008). Relational mechanisms are important for attaining and sustaining BITA (De Haes & Van Grembergen, 2008). Decision rights for IT activities include centralised and decentralised structures which determine ownership and allocation of funds in an IT department (Sledgianowski & Luftman, 2005). In a centralised structure the decision making power is located at the top levels where as in a decentralised structure the decision making power is distributed to the regions (Zheng et al., 2009). The literature agrees that a decentralised structure is more favourable to organisational effectiveness(Zheng et al., 2009). A federated structure combines the strengths of a centralised and decentralised structure (Zheng et al., 2009). Having an IT steering committee to oversee significant decisions of a centralised IT structure increases alignment of IT and business strategies (Sledgianowski & Luftman, 2005). Organisations with a mature IT governance practices are more likely to have a higher degree of BITA (De Haes & Van Grembergen, 2008).
Code 10	BPART
Label	Partnerships between IT and business functions
Definition	Partnership is how IT perceives the business and how business perceives IT. It includes the trust that forms between participants and sharing or risks and rewards (Sledgianowski & Luftman, 2005). Partnership is also

	about the IT function having an equal role in planning business strategy (El-Mekawy et al., 2014).
Description	Perceptual differences between business and IT executives have been found to affect the strategic planning process. Having a mutual understanding between the CEO and CIO is a pre-requisite for IT strategic alignment (Johnson & Lederer, 2010). In mature partnerships IT has an equal part in planning business strategy (El-Mekawy et al., 2014). Pervasiveness of trust and value forms one of the components of partnership (Sledgianowski & Luftman, 2005). Trust develops through social relationships which grow reputation and confidence in trusting partners (Ruppel & Harrington, 2000). Trusting behaviour requires a mutual openness, co-operation over time which requires working towards a common goal. Regular, accurate and transparent communication is needed to transcend co-operation and lead to understanding the others perspective to form trust (Ruppel & Harrington, 2000). Regular communication builds knowledge-based trust through creating a platform for exchanging information between partners about each other's values, preferences and approaches to problems (Ruppel & Harrington, 2000).
Code 11	BTEC
Label	Scope and architecture of the infrastructure
Definition	"Enterprise architecture is a practical framework for integrating business and IT (Gregor et al., 2007, p. 96). SAMM defines scope and architecture as the management decisions and strategic choices an organisation makes regarding the allocation of technical resources for information technology infrastructure including the scope and extent of it (Sledgianowski & Luftman, 2005).
Description	IT standards make the connection amongst technology standards easier to integrate and provide information access across business units and share

	information amongst business partners (Sledgianowski & Luftman, 2005). A mature architecture is one where IT is fully integrated with the organisation and extends beyond just technical IT (El-Mekawy et al., 2014).
Code 12	BHR
Label	Human resource skills
Definition	According to SAMM , skills pertain to management practices and a strategic choice an organisation makes regarding its human resource considerations such as the social and cultural environment it cultivates (Sledgianowski & Luftman, 2005). Skills form the basis of BITA because without the necessary skills and competencies the vision, strategies, structures and processes will not be able to be carried out and there will not be a successful alignment (Silvius et al., 2009b).
Description	Matured skills is associated with an innovative and entrepreneurship working environment (El-Mekawy et al., 2014). In this type environment the loci of power and management style is formed by the leadership and relationship style. Leaders are responsible for and provide the source of innovation and risk taking (El-Mekawy et al., 2014). Concerning the competencies of individual IT professionals, there is an increasing awareness that in addition to technical skills there is also a need for social and business skills in order to add value to the business of the organisation (Silvius et al., 2009b). Luftman (2000) lists support from non-executives as one of the top enablers of BITA and require business professionals to have an understanding of IT and IT to have an understanding of the business (Silvius et al., 2009b).

Appendix F: Consistency Matrix

Below is a consistency matrix which provides a summary of the research problems, research questions and how it will be addressed by the research. It also lists the analysis method to be used. It is also a process model and provides a step by step process of each step of the research in the sequence shown in the consistency matrix, which is shown on the next page.

Table 15. Consistency matrix

Attaining the benefit of a relationship between business and IT alignment and organisational culture has been identified as the core problem. Therefore the research will explore, and describe the relationship between BITA and organisational culture in a parastatal using case study methodology.

Sub-problem	Literature Review	Hypotheses or Propositions or Research questions	Source of data	Type of data	Analysis
Attaining BITA is a pervasive problem. One of the factors hindering the attainment of alignment has been found to be organisational culture. BITA has been proven to enhance organisational performance. Organisational culture has been found to influence all aspects of an organisation. Given that business and IT are embedded in an organisational context it would thus influence the relationship between business and IT influencing the attainment of BITA.	El-Mekawy et al., 2014 Silvius et al, 2010 Silvius, 2009a Silvius, 2009b Silvius, 2007a Silvius, 2007b Luftman, 2000	Which of Luftman's (2000) maturity criteria are affected by cultural dimensions?	Semi-structured interviews	Nominal data	Thematic analysis

Sub-problem	Literature Review	Hypotheses or Propositions or Research questions	Source of data	Type of data	Analysis
Attaining the benefit of a relationship between business and IT alignment and organisational culture has been identified as the core problem. Therefore the research will explore, and describe the relationship between BITA and organisational culture in a parastatal using case study methodology.					
Restructuring and reorganisation of the business and IT has impacted the alignment between Business and IT. The new structure and operational model has merged previously separate entities to be operating under one management organisation each with its own culture into one organisational culture. How does the existing organisational culture impact on BITA maturity?	Cameron and Quinn, 2006; El-Mekawy et al., 2014; Silvius et al., 2010; Silvius, 2009a; Silvius, 2009b, Chan, 2002; Reich and Benbasat,, 2000; Leidner and Kayworth, 2006	What are the cultural dimensions of the business and IT groups in the parastatal organisation in the study?	Semi-structured interviews, participant observation, organisational documents	Nominal data	Thematic analysis
The new structure and operational model has merged previously separate entities to	El-Mekawy et al., 2014;	How do cultural dimensions	Semi-structured interviews,	Nominal data	Thematic analysis

Sub-problem	Literature Review	Hypotheses or Propositions or Research questions	Source of data	Type of data	Analysis
be operating under one management organisation each with its own culture into one organisational culture. How does the culture impact BITA?	Silvius et al., 2010; Silvius, 2009a; Silvius, 2009b, Leidner and Kayworth, 2006; Reich and Benbasat, 2000	impact BITA maturity criteria?	organisational documentation		

Appendix G: Extended Codebook

Table 16: Complete list of BITA codes

Code	Code Name
BCOM	**Communication**
BCOM_U_BUSIT	Understanding of business by IT
BCOM_U_ITBUS	Understanding of IT by business
BCOM_OL	Organisational learning
BCOM_STYLE	Style and ease of access
BCOM_KNOW_SHARE	Leveraging intellectual assets
BCOM_ITBUS_LIAS	IT business liaison staff
BCV	**Metrics**
BCV_IT_MET	IT Metrics
BCV_BUS_MET	Business Metrics
BCV_ITBUS_MET_LINK	Link between IT and business metrics
BCV_SLA	Service level agreements
BCV_BM	Benchmarking
BCV_IT_INV	Formally assess IT investments
BCV_CIP	Continuous improvement practices

BGOV	**Governance**
BGOV_BSP	Formal business strategy planning
BGOV_ORG_STR	Organisational structure
BGOV_REP_REL	Reporting relationships
BGOV_IT_BUD	How IT is budgeted
BGOV_IT_SPEND	Rationale for IT spending
BGOV_STEERCOM	Senior Level IT steering committee
BGOV_PROJ	How projects are prioritised
BPART	**Partnerships**
BPART_PERC_IT	Business perception of IT
BPART_SBP	IT's role in strategic business planning
BPART_SHRisRew	Shared risks and rewards
BPART_ITBUS_REL	Managing the IT business relationship
BPART_REL_TRS	Relationship / trust style
BPART_BUSSPONS_CH	Business sponsors/ champions
BTEC	**Technology**
BTEC_PRI_SYS	Primary systems
BTEC_STD	Standards

BTEC_ARC_INTEG	Architectural integration
BTEC_ITINF_PCV	How IT infrastructure is perceived
BHR	**Human Resources**
BHR_INNOV_ENV	Innovative, entrepreneurial environment
BHR_IT_DEC	Key IT HR decisions made by
BHR_CHA_READ	Change readiness
BHR_CAR_CROS	Career crossover opportunities
BHR_CRFTR_JR	Cross-functional training and job rotation
BHR_SOC_INT	Social interaction
BHR_ATT_RET_TOP	Attract and retain top talent

Table 17: Complete list of cultural codes

Code	Code name
CDC	**Dominant Characteristics**
CDC_Clan	Clan
CDC_Hierarchy	Hierarchy
CDC_Market	Market
CDC_Public	Public entity, Government, Parastatal, political, unionised
CHRS	**Human Resource Skills**
CHRS_provide_support_develop_staff	Clan
CHRS_Autocratic	Hierarchy
CHRS_Consequence_manage	Market
CHRS_Weak_manage	Weak_political_ management
COG	**Organisational Glue**
COG_Rail_Cult_Trad	Clan
COG_PolnProc	Hierarchy
COG_Money	Market
COG_VisioMissVal	Vision, mission, values and the brand
COL	**Organisational Leadership**

COL_Democratic	Clan
COL_Autocratic	Hierarchy
COL_Strong	Strong leadership
COL_Weak	Weak leadership
CSE	**Strategic Emphasis**
CSE_Modernise	Adhocracy
CSE_CorpPlan	Corporate plan
CSE_Leader_Pub_Serv	Market
CSV	**Success Criteria and Value**
CSV_Customer_satisfaction	Customer Satisfaction
CSV_KeyPerfMeas	Hierarchy
CSV_Leadership	Leadership
CSV_Grow_Market	Market

Appendix H: Secondary Documents

Table 18: Secondary documents

Document name	Code
Organisation X Corporate Plan	CorpPlan
IT Strategic Plan	IT StratPlan
National Council of Provinces Committee (2012) - report	NCPC
Smith (2015) Passenger Rail Agency of SA: Danger signals - (Internet article)	Smith2015

Appendix I: Analysis and Findings for BITA within a South African Parastatal

2 PERCEPTIONS OF THE BUSINESS AND IT GROUPS WITH REGARDS TO BITA MATURITY

The study will explore and describe:

- the perceptions of business and IT groups with regard to business and IT alignment maturity using Luftman's (2000) SAMM to see if there are any significant differences between the two groups

In addressing the purpose statement: to compare the perceptions of business and IT groups with regard to BITA maturity using Luftman's (2000) maturity criteria, the interview data of each participant was analysed to determine the participant's perception of the maturity level of each BITA criterion. The findings are displayed in a set of graphs per BITA high level category showing each maturity criterion within each high level category and the maturity perceptions of each of the ten participants of Organisation X on a scale of one to five.

Luftman's (2000) maturity levels were used to assess the maturity of each component using the following scale.

- Level 1 – Without process (no alignment)
- Level 2 – Beginning process
- Level 3 – Establishing process
- Level 4 – Improved process
- Level 5 – Optimal process (complete alignment)

The medians of the five participants of each group for IT and Business Managers' group were compared using Box plot graphs in order to consolidate the findings to reflect the perception of each group namely the IT Managers and the Business Managers groups.

2.1 Communication

An overview of the Communication category is illustrated in Figure 16 comparing IT and Business Managers' groups. The maturity levels for each sub-component of the Communication maturity category for the IT and Business management groups were indicated in the Box plot graphs in Figure16 according to the assigned code per sub-category. Short descriptions of each maturity component appear below and are compared to previous findings.

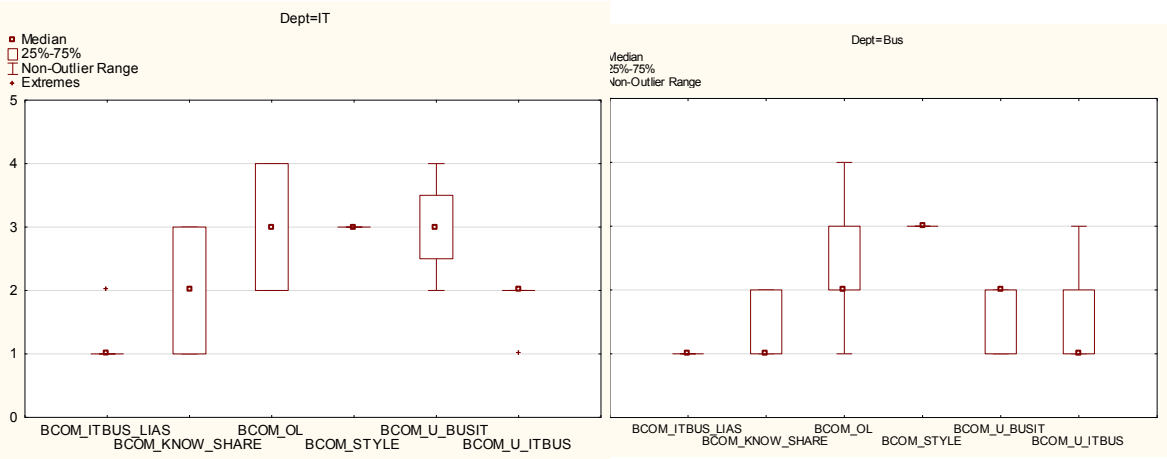

Figure 16: Box plots comparing Business and IT Manager's perceptions of 'Communication' criterion

2.1.1 Overview

On the whole, based on a comparison of the two graphs the organisation is perceived by IT Managers to have a communication maturity level between two and three and Business between one and two. Business and IT therefore differ in their perception of 'Communication' with Business perceiving the maturity to generally be at a lower level than what IT perceives it. There are mixed results in a previous research study where it was found the relationship between the retail business and IT within a high street bank to be "highly divisive" and problems focused on "failure to communicate properly and meet requirements" (Coughlan et al., 2005, p. 1). In another study however of differences between Business and IT executives in 12 Dutch firms, little difference was found between Business and IT Managers' perceptions (Silvius, 2007a).

2.1.2 IT Business Liaison staff

Both medians for IT and Business Managers as seen in Figure 16 indicated as code BCOM_ITBUS_LIAS were categorised as a maturity of 1 indicating a shared perception that there is no IT business liaison person or the role is only performed as needed. This is supported by Busman1 who noted that "I'm not aware of any deliberate business liaison" indicating that the IT and Business Managers' have similar perceptions that the IT Business liaison role is not aligned within Organisation X.

2.1.3 Leveraging intellectual assets

IT and business managers differ in their perception of 'Leveraging intellectual assets' within Organisation X, indicated as code BCOM_KNOW_SHARE in Figure 16. Most Business managers perceived the maturity of Organisation X to be at a level 1 which is reflected in a statement by Busman3 who stated that, "I think that's where in terms of knowledge sharing it becomes a challenge because how many of them know what you guys are doing, if you talk to somebody about LAN and some of the other terms that you do, they probably won't even know what you talking about some of them", indicating their perception of knowledge sharing within the organisation to be on an ad-hoc basis, in other words it happens informally or when required. In contrast IT Managers perceived it to be at a maturity level of 2 and was supported by ITMan5 who noted that "…from IT side about the Business, quite a large extent. From the Business side about IT not as what it should be" indicating there perceived to be some level of structured knowledge sharing mostly from IT's side though.

2.1.4 Organisational learning

IT and business managers differed slightly in their perceptions of 'Organisational learning' with the median for IT managers at a higher level maturity of 3 while Business managers perceived it at a lower maturity of 2 as seen in Figure 16 as BCOM_OL. A level 3 maturity denotes organisational learning primarily through training and departmental meetings while a level 2 maturity occurs mostly through e-mail, reports and newsletters (Luftman, 2000). IT managers' perception is supported in a quote by ITMan2 who stated that "…big one is meetings …" while

Business managers perceptions are reflected in a statement by Busman1 who noted, “Probably, intranet, meetings and email, except email only really deals with a certain population”.

2.1.5 Communication style and ease of access

Both IT and Business Managers similarly perceived the ‘Communication style and ease of access’ indicated in Figure 16 as BCOM_STYLE to be of a maturity level of 3 in their responses to question 4 which indicated that both groups perceived there to be two-way, formal communication. This was supported by Busman2 who stated that, “I would say they do it electronically most of the time. They not shy to talk to you over the phone”.

2.1.6 Understanding of IT by the Business

IT and Business Managers also differed in their perception of ‘Business understanding of IT’ as seen in Figure 16 as BCOM_U_BUSIT. IT managers’ perceived business to have a limited understanding of IT with a maturity level of 2. This perception was supported by ITMan2 who stated that “the business misunderstands IT and that the business doesn’t really understand what IT can offer the business”. Business Managers perceived ‘Business understanding of IT’ at a level 1 maturity. According to Luftman (2003) a level 1 maturity indicates that the organisation is without a process for this component and is characterised by a lack of understanding by Business Managers. This was reflected in a statement by Busman1 that “…there’s less understanding from the business side than from IT’s side and the reason why I say that is because the business should be driving IT or ICT to develop this strategy in the absence of that because that’s where it should come from”.

2.1.7 Understanding of business by IT

Business and IT management differed in their perception of ‘ITs understanding of the business’ (BCOM_U_ITBUS) as could be seen from the medians for IT and Business groups in Figure 16. IT Management perceived IT to have a good understanding of the business with the majority of IT Managers responses categorised at a maturity level of 3 while Business managers perceived the maturity at a level 2 indicating they perceived IT to have a limited understanding of the business. This difference in perception is reflected by the statements given by ITMan2 who

noted that "IT mainly understands the businesses goals and what the business needs to achieve its goals" while Business managers' did not share this view as reflected in a statement by Busman3 who noted, "I don't believe that IT understands the priorities of the organization in terms of where the emphasis should be" which indicated that Business and IT managers differed in their perceptions of IT's understanding of the business with IT Managers perceiving it to have a higher level maturity of 3 than Business Managers that perceived it at a level 2 maturity.

2.2 Metrics

Metrics pertain to the measurement of the competency and value of IT. Sledgianowski and Luftman (2005) described it as the management practices and strategic IT choices made by an organisation based on the value of IT to the organisation. Figure 17 shows a comparison of the maturity levels for the Metrics subcategories for the business and IT managers at Organisation X.

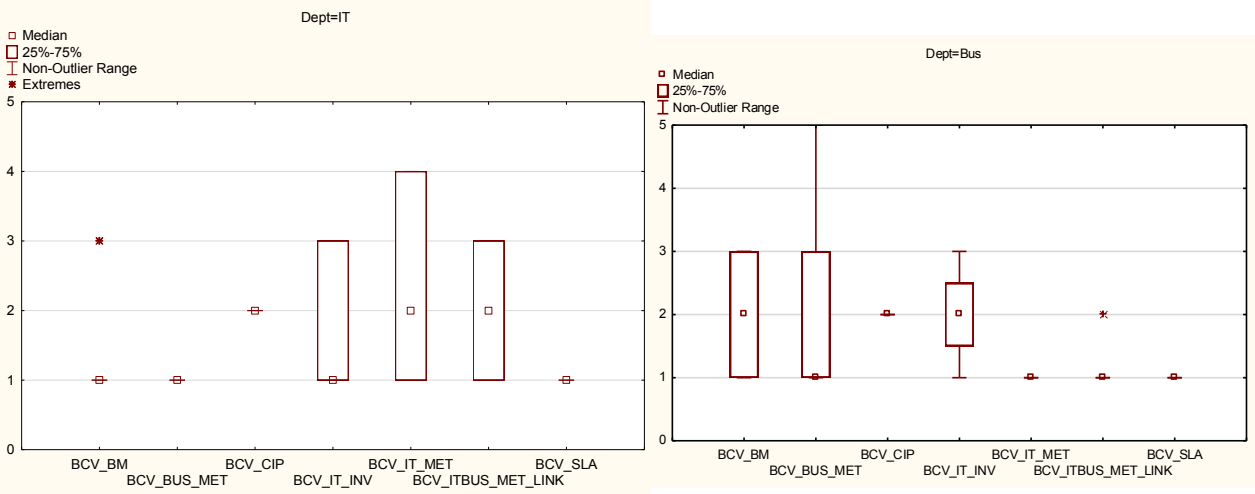

Figure 17: Box plots comparing IT and Business Managers' perceptions of 'Metrics' criterion

Overall IT and Business Managers perceived IT Metrics similarly at a level one maturity which means there was no alignment with regard to Metrics overall. This was supported by a previous study by Silvius (2007b) who found there to be very little difference in perceptions between Business and IT Managers overall. Luftman's (2003) findings that Business and IT metrics often

differ as IT struggles to demonstrate its value in business terms supports the finding in the current study of no alignment.

2.2.1 Benchmarking

Benchmarking relates to whether there are benchmarking practices within the organisation (Luftman, 2003). IT and Business managers differed in their perception of 'Benchmarking' practices within Organisation X as seen in Figure 17 as BCV_BM. IT managers perceived 'Benchmarking' practices to be at a level 1 maturity indicating that there were no processes for benchmarking which was seldom or never done within Organisation X. This was supported by ITman2 who noted "I don't think they really use benchmarking practices". In contrast Business managers perceived benchmarking at a level 2 maturity indicating that they perceived there to be some informal 'Benchmarking' that occurs (Luftman, 2003). This was supported by Busman5 who stated that "I am not sure within the organization but now that Organisation X has joined International Benchmarking Group we at least have access to 12 other companies with related types of business".

2.2.2 Business metrics

Business metrics refers to measures of business investment and performance (Luftman, 2003). IT and Business Managers perceive 'Business metrics' similarly at a level 1 maturity indicated as BCV_BUS_MET in Figure 17. Level 1 is when 'Business metrics' are rarely measured (Luftman, 2000). This was supported by ITMan3 who noted that "the measures that are in place are 'Customer perception'. All of these things, that is, totally not IT related but it goes on the KPA of IT" and supported by Busman4 who noted "Well they not so much IT but we do obviously, I'm talking from the property point of view. We do obviously do our own ratio analysis and see whether for example investments made in properties are making the necessary returns". IT and Business managers perceive 'Business metrics' similarly at a level 1 maturity which is indicative that no process exists within the organisation and 'Business metrics' for Business and IT are not aligned.

2.2.3 Continuous improvement practices

Continuous improvement practices relate to the extent to which the IT function contributed to the accomplishment of the organisation's strategic goals (Luftman, 2000). IT and business managers similarly perceived 'Continuous improvement practices' at a level 2 maturity as seen in Figure 17 as BCV_CIP indicating that there are a few instances where IT contributes to the organisation's strategic goals however the effectiveness is not measured (Luftman, 2003). This was reflected in a statement by Busman5, "Well I suppose in a sense giving you the website, when we had it you (IT) were able to put the tables on there and business information on there which people would access so in that sense you (IT) helped those who have access to technology". IT and business managers have similar perceptions with regard to 'Continuous improvement practices' which they both perceived at a level 2 maturity.

2.2.4 Formally assess IT investments

'Formally assess IT investments' relates to the extent to which IT investments are assessed or reviewed (Luftman, 2003). IT and Business managers differed in their perception of whether IT investments are formally assessed as can be seen in Figure 17 as BCV_IT_INV. IT managers perceived 'Formally assessing IT investments' as a level 1 maturity indicating that IT investments are not assessed. This was reflected in a statement by ITman2 who stated that "I don't know about formal investment review". In contrast Business managers perceived 'Formally assessing IT investments' at a level 2 maturity indicating that some formal assessment does occur but only when there are problems. This is supported by Busman4 who noted that "the only issue I know is that usually if the IT, it would be the fact that the systems or whatever current systems that you operate are either or to the extent that they are failing us, then there is a need for further investments…".

2.2.5 IT Metrics

IT metrics relates to metrics and processes that are in place to measure IT's contribution to the business (Luftman, 2003). IT and Business Managers differed when comparing the medians of their perceptions of the maturity level of IT metrics on a scale of one to five, as seen in Figure 17 as BCV_IT_MET. IT metrics were categorised as a level 2 maturity indicating that IT Managers perceived 'IT metrics' as technical and costs only with metrics rarely reviewed (Luftman, 2003).

This was reflected in a statement by ITMan3, "Basically, in our environment it's just to have systems functional, networks up, ticketing up, so basically it is the systems and the networks, there are no other measurement criteria". In contrast, Business managers differed slightly in their perception and were categorised at a level 1 maturity indicating IT metrics to be technical only. This perception was supported by Busman1 who stated that "the only information that one sees is sort of like a monthly report with very limited performance criteria, but at a higher level I don't know".

2.2.6 Link between IT and Business metrics

Link between IT and business metrics pertained to whether the value measurements for IT and business were interlinked. IT and Business Managers differed in their perception of the 'Link between IT and business metrics' when comparing the means of the two groups as seen in Figure 17 as BCV_ITBUS_MET_LINK. IT managers' responses were classified as a level 2 maturity which indicated that Business and IT metrics were perceived as not linked. This was reflected in a statement by ITman5 who stated that "The only business investment that we have is providing the infrastructure to the business. So there are very little IT Business investments". In contrast, Business managers perceived the 'Link between IT and business metrics' to be at a level 1 maturity indicating that business managers perceived the value of IT investments to be rarely measured (Luftman, 2000). This was supported by Busman1 who stated that "I'm not aware of any direct linkage accepted, they form part of the normal investment portfolio, I don't think it's isolated out of that". IT and Business Managers differed in their perception of 'Link between IT and business metrics' with IT Managers perceiving it at a level 2 maturity while Business Managers perceived it at a level 1 meaning not aligned within Organisation X.

2.2.7 Service Level Agreements

'Service level agreements (SLA)' pertained to whether there were SLAs between IT and the business (Luftman, 2000). Both IT and Business Managers' perceptions were classified at a level 1 maturity as shown in Figure 17 as BCV_SLA indicating that SLA's are perceived to be used sporadically within the organisation which means that it was not a regular occurrence between Business and IT (Luftman, 2003). This was supported by Busman1 who stated that "I don't think there are any official ones. I'm not aware of them other than what we have been trying to do on

the region but those are maybe outdated as well but I'm not aware of any specific ones" in other words there were no structured SLA's and Busman1 were not aware of any. IT and Business managers perceived 'SLAs' similarly at a level 1 maturity which meant that 'SLA's' within Organisation X were not aligned (Luftman, 2003).

2.3 Governance

"IT Governance processes include the formalization and institutionalization of strategic IT decision making or IT monitoring procedures" (De Haes & Van Grembergen, 2008, p. 1).

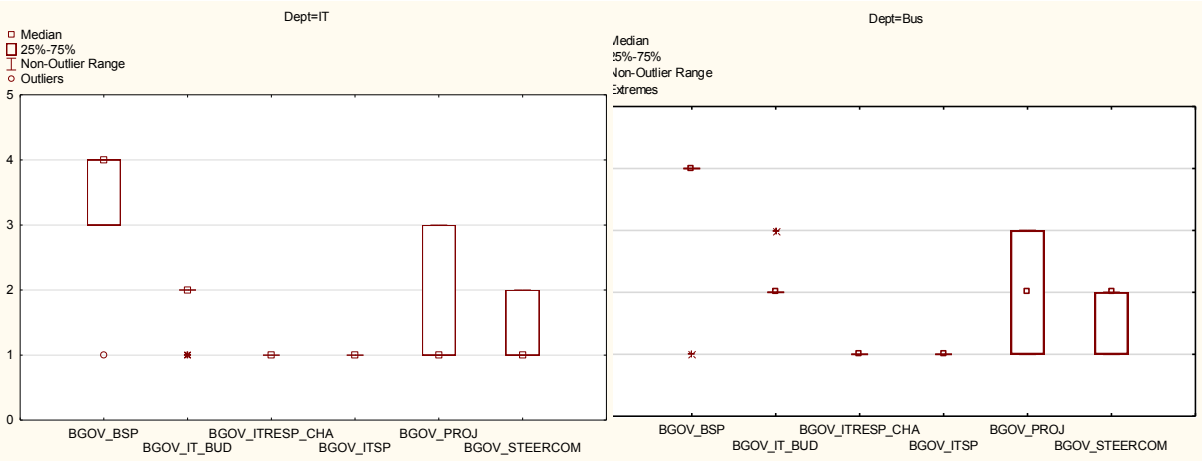

Figure 18: Box plots comparing IT and Business Managers' perceptions of 'Governance' criterion

An overview of the findings for the maturity levels for governance components as perceived by IT and business managers is presented in Figure 18 reveal that IT managers perceived governance at a level 1 maturity while Business managers perceived it at a level 2 overall. In previous studies it was found that organisations with a more mature set of 'governance' practices were more likely to have a higher level of BITA maturity and organisations with a poor set of IT governance practices more likely to have a lower level of alignment (Taylor, De Haes, & Van Grembergen, 2009).

2.3.1 Formal business strategy planning

The following maturity component relates to whether IT participated in strategic business planning and to what extent (Refer question 26, section 3: Governance in Appendix D). A level

4 maturity indicated an improved process which occurred at business unit and enterprise level with IT included (Luftman, 2003). This was supported by Busman3 who noted that "IT does participate in strategic business planning through the Group Executive responsible for ICT and when strategic planning was done at a corporate level, he does participate and he provides his input as well". IT and Business Managers therefore have similar perspectives regarding 'Formal business strategy planning' at a level 4 maturity which meant that 'Formal Business Strategy Planning' occurred at business unit and enterprise level with IT (Luftman, 2003).

2.3.2 How IT is budgeted for?

This question relates to the IT budget and how the budget for IT was allocated (Luftman, 2003). IT and Business Managers both perceived the maturity component 'How IT is budgeted for' to be at the same level 2 maturity as can be seen in Figure 18. A level 2 maturity was indicative that the process was in the beginning stages and that the budget was allocated as a cost centre per unit (Luftman, 2003). This was supported in a statement by ITman5 who noted that "we are a cost centre this business does not run on a profit centre you know so we don't charge them for it at the end of the day even though it's funny money we don't charge them for it". Busman1 also shared this perception and stated that "Look it's budgeted for within the same framework as the other disciplines within the organization and on both the capital as well as the operation side so the needs are part of the bigger pot and we know how their budgets are allocated". IT and Business managers thus have similar perceptions with regard to 'How IT is budgeted for' which was at a level 2 maturity.

2.3.3 IT response to changing business needs

This maturity component relates to the ability of the IT function to react and respond quickly to the organisation's changing business needs (Luftman, 2003). Both IT and Business managers perceived 'IT's response to changing business needs at a level 1 maturity, indicating that no process existed for this and therefore IT was unable to respond quickly to changing business needs. This was evident in a statement by Busman1 who stated that "Look I don't think IT reacts quickly enough and the reason being that the IT environment changes so quickly you know one has to let's say, far quicker than any of the other disciplines really, so I don't think they respond

quickly enough, no or not able to respond. I think there's an intention, but the ability to respond".

2.3.4 Formal IT strategy planning

Formal IT strategy planning relates to the extent to which business participates in IT strategic planning. IT and business managers perceived 'Formal IT strategy planning' similarly at a level 1 maturity. A level 1 maturity as it relates to 'Formal IT strategy planning 'meant that no process existed and that IT strategic planning was not done or done as needed (Luftman, 2003). This was supported by Busman5 who stated that "Not to my knowledge because if business meets any other department, not as far as I know there's strategic planning sessions usually… confined to IT and perhaps external people but I've certainly never been asked to give input". ITman3 also supported this perspective and stated, "Not to my knowledge and one of the reasons I believe is the business don't understand what value IT can bring". IT and Business managers have similar perceptions as regards 'Formal IT strategy planning' at a level 1 maturity which meant there was no alignment within Organisation X for IT strategy planning.

2.3.5 How projects are prioritised

This maturity component related to how projects were prioritised within the organisation. IT and Business managers differed in their perceptions of 'How IT projects were prioritised'. Most IT managers perceptions were classified as a level 1 maturity with the median of 1 indicating that IT projects were prioritised based on IT's reaction to business or IT needs (Luftman, 2003). This was reflected in a statement by ITman5, "According to the business requirements, we then setup projects and prioritise them accordingly on the region then it goes up to the project management office". Business managers' median was at a level 2 maturity indicating that the priority of projects was determined by the IT function (Luftman, 2003). This was supported by Busman4 who noted "Well, as far as I know it's based on each business units requirements but not on the systems side then IT on their own would then determine based on those requirements that the business units provide whether the infrastructure that we the IT infrastructure that we have is going to be able to accommodate some of those all those needs". IT and Business managers therefore differed in their perception of 'How IT projects are prioritised' with IT Managers perceiving it as not aligned while Business Managers perceived it to be at a level 2 maturity.

2.3.6 Senior level IT steering committee

The 'Senior level IT steering committee' maturity component related to whether there was an IT Steering Committee within the organisation with senior level IT and business participation (Luftman, 2003). Refer to question 29 of section 3 of the Interview questions in Appendix D. IT and Business managers differed slightly in their perspective of 'Senior level IT steering Committee'. IT managers' perceived the 'Senior level IT steering committee' at a level 1 maturity. This was supported by ITman3 who noted "No, not on the region. I have no knowledge of that. There was talk of it at some stage but it never happened". Business managers were categorised at a higher median of 2 maturity level indicating that a 'Steering committee' did exist but met informally as needed. This was evident in a statement by Busman4, "I used to remember there was but I'm not sure if it's still functional. There was and our head office guys not so much us in the region but the head office guys used to be part of that". Business and IT managers therefore differed in their perception of an 'IT steering committee' with IT managers perceiving it to be not aligned while business managers perceived it to be at a level 2 maturity.

2.4 Partnerships

Partnerships between IT and the business functions pertained to how IT was perceived by the business and how IT perceived the business. It included the trust that formed between participants and sharing of risks and rewards (Sledgianowski & Luftman, 2005). Partnerships also related to whether the IT function had an equal role in planning business strategy (El-Mekawy et al., 2014).

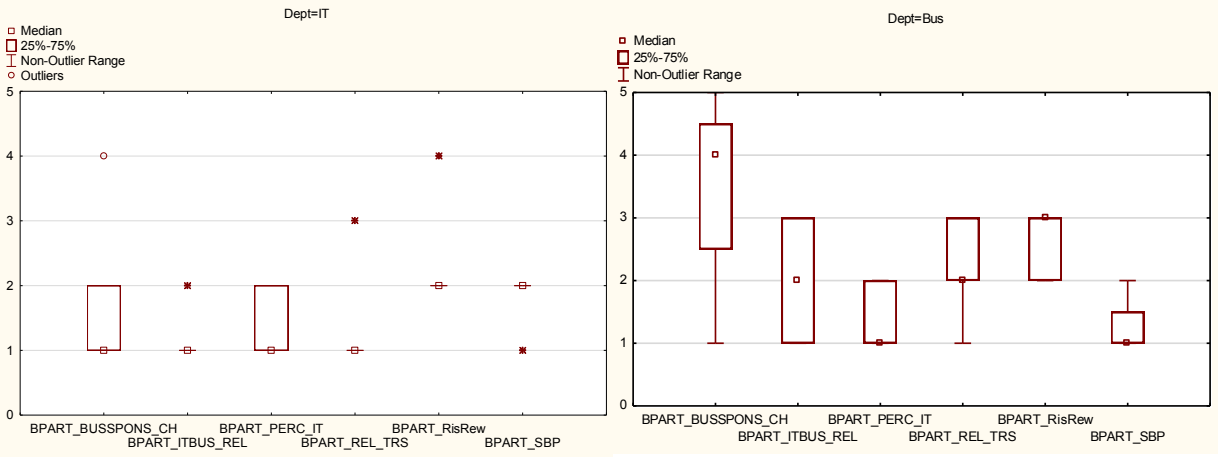

Figure 19: Box plots comparing IT and Business Managers' perceptions of 'Partnership' criterion

In the current study IT and Business managers differed in their overall perception of the alignment category ‘Partnership’ within Organisation X as seen in Figure 19. IT managers perceived ‘partnership’ within Organisation X to be at a level 1 maturity while Business managers perceived it at a level 2 maturity. A level 1 maturity indicated no alignment with regard to partnerships existed as perceived by IT managers while business managers perceived a level 2 maturity which indicated the beginning of alignment in partnerships (Luftman, 2003).

2.4.1 Business sponsors/ champions

This maturity component related to whether there were business sponsors/ champions for IT-based initiatives. Refer question 43 of Section 4 of the Interview questions in appendix D. IT and business managers differed in their perception of ‘Business sponsors /Champions’ as seen as code BPART_BUSSPONS_CH in Figure 19. IT managers perceived ‘Business sponsors /champions’ to be at a level 1 maturity indicating that no process existed which meant there were usually no business sponsors or champions (Luftman, 2003). This was supported by ITMan4 who stated that “there supposed to be but no there are not because IT has to do its own ground work in terms of business cases and all that stuff and present to Business and go and get its own funding for such initiatives. It’s rare that you get funding already available for Business and being requested to do certain tasks”. In contrast Business managers perceived it at a higher maturity level of 4 indicating that an improved process existed and that Business sponsors /champions existed at a corporate level. This was supported by Busman3 who noted that “you see the way the business processing works in the company is that you have got to have a sponsor. So there are sponsors. There’s no question about not having a sponsor, so every project has got a sponsor. Whether it’s by name or not, I cannot make much comment on it”. IT managers perceived there to be no alignment for the maturity component ‘Business sponsors /champions’ while Business managers perceived there to be an improved process that existed at a level 4 maturity indicating that Business sponsors /champions occurred at a corporate level.

2.4.2 Managing the IT Business relationship

'Managing the IT business relationship' related to the extent to which the IT business relationship was managed (Luftman, 2003). IT and Business managers differed in their perception of the maturity level for 'Managing the IT Business relationship' as can be seen in Figure 19 as code BPART_ITBUS_REL. IT managers perceived the maturity of 'Managing the IT-Business relationship' as a level 1 maturity which meant they perceived there to be no process to manage the IT-Business relationship and therefore no alignment existed for this maturity component (Luftman, 2003). This was supported by ITMan4 who stated that "It is informal because the Business Relationship Management leg is still missing while the role is not performed as prescribed in the operational model so ICT hurts. So there's no relationship that exists otherwise we won't be having so many problems". Business managers differed in their perception of 'Managing the IT-Business relationship' where the median was located at a level 2 maturity which meant the process was just beginning within the organisation and the relationship was therefore managed on an ad hoc basis (Luftman, 2003). This perception was supported by Busman4 who stated that "No, there's none of that. It's only through the SLA interaction that really there's some form of discussions that talk about IT and how it can assist the business but apart from that none". IT management therefore perceived this maturity component as 'not aligned' while Business managers perceived it at a level 2 maturity where the process was at the beginning phase.

2.4.3 Business perception of IT

This maturity component related to how IT was perceived by the Business. IT and Business managers had similar perceptions of 'Business perception of IT' and both had a median of a level 1 maturity as seen in Figure 19 as code BPART_PERC_IT. According to Luftman (2003) a level 1 maturity was indicative of being without process and IT was perceived as a cost of doing business. Business managers' perceptions were reflected by Busman3 who stated that "IT is not perceived to be in good light with the Business. The Business looks at IT and…and they feel that IT is not delivering on some of the issues and as I said to you the last time when we chatted, very basic function, it's not really serving my needs. Very simple, simple things". IT and Business managers' had similar perceptions that IT was seen as a cost of doing business rather than adding value to the business and at a level 1 maturity was not aligned.

2.4.4 Relationship and trust style

This maturity component related to the relationship and trust between business and IT. Refer to question 42 of section 4 of the interview questions in Appendix D.

IT and Business managers differed in their perceptions of the 'Relationship/ Trust style' of the organisation as seen in Figure 19 as code BPART_REL_TRS. IT Managers perceived the 'Relationship /Trust style' to be at a level 1 maturity indicating that it was without process (no alignment) and was characterised by conflict and mistrust (Luftman, 2003). This was supported by ITMan2 who noted that "I think where trust is concerned business and IT tends to be weary of each other. Business might think that IT won't deliver and IT tends to think that the business would not under...they would be under-resourced by the business". Business managers perceived 'Relationship /Trust Style at a level 2 maturity which was indicative of the beginning of the process and was characterised by a transactional relationship. The perception of the Business management group was supported by Busman1 who noted that "…the relationship is based on operational needs and conformance to performance standards like you know as in timekeeping as in will be the same as in network uptime so, so it's very much an integral part of the operations... if you say trust between the business and IT, I think trust... I think is a bit of a difficult word but if we say trust between the businesses, the business and IT, I think (sighs) trust is a bit of a difficult word but if we say trust, I think we trust what's happening in IT, however the (pause)... trust relationship is broken down through the, through let's say the lack of delivery from a strategic point of view". IT managers thus perceived there to be a lack of trust with no alignment in existence while business perceived the 'Relationship /Trust style' at a level 2 maturity which was indicative of the start of the process where the relationship and trust was transactional (Luftman, 2003).

2.4.5 Shared risks and rewards

'Shared risks and rewards' pertained to IT based initiatives such as projects that were shared by both IT and business management groups. Refer to Question 40, Section 4 of interview questions in Appendix D.

IT and Business perceived 'Shared risks and rewards slightly differently as can be seen in Figure 19 as code BPART_RisRew. IT managers perceived 'Shared risks and rewards' at a level 2

maturity. A 2 maturity level as applied to 'Shared risks and rewards' meant that it was at the beginning of the process within the organisation and IT took most risks with little reward (Luftman, 2003). IT managements' perception of 'Shared risks and rewards' was supported by ITman5 who noted that "Basically there are risks, I mean there are risks and rewards you know but I don't feel it is what it should be, the rewards specifically. You've got this management and rewards thing…what is it? Besides that one you got the other Regional manager's awards and stuff like that. There, there's too little coming more regularly out of IT. For that thing to be a really positive thing to answer that question it would have had to be a situation where IT on a monthly basis awards people, rewards people to perform for doing projects on time etcetera". In contrast, Business managers perceived 'Shared risks and rewards at a level 3 maturity which according to Luftman (2003) meant the process was being established within the organisation and therefore IT and Business were starting to share risks and rewards. This perception was supported by Busman3 who noted that "there are small pockets that they look at awards and that sort of a thing, but that's done again, not in an organised fashion, it's left to IT to come to the party rather than business to make a decision. Risk, I cannot remember any actions or implications of risk from IT's point of view, so I think it's probably the culture of business more than just IT. It's not unique and let me just stress, this is not unique to IT".

2.4.6 IT's role in strategic business planning

This maturity component related to the role IT had in strategic business planning. Refer to section 4 question 39 of the interview questions in Appendix D. IT and Business Managers differed in their perceptions of the maturity component 'IT's role in strategic business planning' as seen in Figure 19 as code BPART_SBP. IT managers perceived 'IT's role in strategic business planning' to be at a 2 maturity level. According to Luftman (2003) a level 2 maturity was indicative of the start of a process within an organisation and meant that IT was perceived as an enabler of business processes. This was supported in a statement by ITMan3: "From where I sit, I don't see IT being involved in strategic business planning however IT is seen as an enabler of requirements". In contrast, Business managers perceived 'IT's role in strategic business planning' at a level 1 maturity which meant they saw IT as not being involved in the Strategic Business planning process. This was reflected in a statement by Busman1 who noted "…one does not visibly see that ICT is playing that prominent role (pause)...". Business and IT managers differed in their perceptions with regard to 'IT's role in Strategic business planning'

with IT managers perceiving some level of alignment while Business managers perceiving there to be no alignment as regards this process and IT as not being involved in the Strategic Business Planning process.

2.5 Technology

'Technology' referred to the 'Scope and architecture of the IT infrastructure'. The strategic alignment maturity model defined 'Scope and architecture' as "the management decisions and strategic choices an organisation makes with regard to the allocation of technical resources for information technology infrastructure including the scope and extent of it" (Sledgianowski & Luftman, 2005, p. 114).

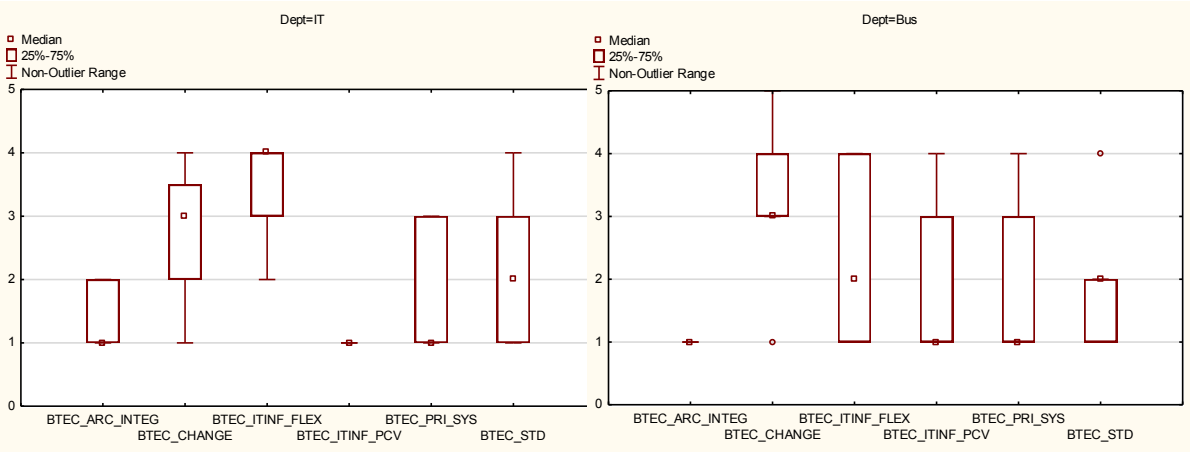

Figure 20: Box plots comparing IT and Business Managers' perceptions of 'Technology' criterion

An overview of the findings on the perception of alignment for Technology as represented in Figure 20 indicated that IT managers perceived the overall alignment of 'Technology' at a 2 maturity level while Business managers perceived it between a 1 and 2 maturity level. 'Technology or Scope and architecture' as it is referred to in SAMM (Luftman, 2000) had a lower maturity in public sector as compared to financial services companies (Silvius, 2007a). In the same study conducted by Silvius (2007b) differences found in perceptions between IT and Business management groups were insignificant.

The following were the findings for each component of the BITA maturity criterion 'Scope and architecture of the IT infrastructure'. The box plot graph compared the maturity levels for the Business and IT management groups.

2.5.1 Architectural integration

This maturity criterion related to how well components of the organisation's IT infrastructure were integrated. Refer section 5, question 51 of interview questions in Appendix D.

Both IT and Business managers perceived 'Architectural standards' coded as BTEC_ARC_INTEG in Figure 20 as a level 1 maturity. According to Luftman (2003) a level 1 maturity indicated no process existed and therefore the IT Architecture was regarded as not well integrated. This was supported by Busman1 who stated that "I don't think they that well integrated purely because of the lack of the strategic plan. Now I am aware of an Enterprise Architecture that's been put on the table but I don't believe it's been implemented, and you know maybe, and I think one of the... one of the discrepancies in that Architecture is that it's it hasn't been designed in an integrated way to align with the other Engineering systems". IT Architecture was similarly perceived by IT managers and supported by ITMan2 who noted that "I think integration is part of an on-going problem at Organisation X in that Organisation X inherited a diverse range of [pause] systems and they are still attempting to integrate them". Both IT and Business managers perceived IT Architecture at a level 1 maturity which according to Luftman (2003) meant no alignment existed for this component.

2.5.2 Transparency of disruption by business and technology changes

This maturity component related to the extent to which the level of disruption caused by Business and IT changes were transparent. Refer section 5 question 52 in Appendix D. IT and Business managers similarly perceived 'Transparency of disruption by business or technology changes' coded as BTEC_CHANGE in Figure 20 at a 3 maturity level which meant there were formal communication processes across functions (Luftman, 2000). This was supported by Busman4 who noted that "It's fairly transparent I think. It's well communicated, there's absolutely no, no problem there" and also supported by ITMan5 who noted that "Regionally yes, regionally all these changes, environmental changes, resource changes, equipment changes,

network changes or implementation or upgrades and stuff, the stuff is all communicated timeously to the business, regularly and more than once".

2.5.3 IT infrastructure flexibility to change

This maturity component pertained to the scope of IT infrastructure flexibility to business and technology changes (Luftman, 2003). Refer section 5 question 53 in Appendix D. IT and Business managers differed in their perceptions of 'IT infrastructure's flexibility to change' coded as BTEC_ITINF_FLEX as seen in Figure 20. IT managers perceived 'IT infrastructure's flexibility to change' at a 4 maturity level. A level 4 maturity indicated an improved process which meant that IT infrastructure was flexible to changes across functions (Luftman, 2003). This was supported by ITMan4 who stated that "It's very flexible. As I've said previously we created ICT infrastructure that was redundant so there's high availability of the network and systems". In contrast, Business managers perceived 'IT infrastructure's flexibility to change' at a level 2 maturity which meant that the process was in the beginning phase and that IT infrastructure was only slightly flexible towards business and technology changes but not nearly enough. This was supported by Busman5 who noted that "…because it's so structured there is very little flexibility. You can't overnight change from Oracle to SAP you can't overnight that and because your infrastructure is in place and you got standards and measurements and what was that COBIT stuff, you can't overnight pull up and change". IT and Business managers therefore differed in their perception of 'IT infrastructure's flexibility to change' and perceived different maturity levels in this regard with IT Managers perceiving it at a more mature level of alignment than Business managers.

2.5.4 How IT infrastructure is perceived

This maturity component related to how the IT infrastructure was perceived within the organisation in terms of the service it provided. Refer to question 53 of section 5 of the interview questions in Appendix D. IT and Business managers perceived 'How IT Infrastructure is perceived' similarly at a level 1 maturity as seen in Figure 20 as code BTEC_ITINF_PCV. According to Luftman (2003) a level 1 maturity indicated no process existed and as it related to 'How IT infrastructure is perceived' indicated it was a utility run at minimum cost. This perception was supported by Busman2 who stated that "…the infrastructure for me, the view

within the organization, sometimes you're downgraded because of various reasons and that is again if you don't have a budget, you cannot perform as well as what you really want to". IT and Business managers similarly perceived the IT infrastructure as not aligned within Organisation X.

2.5.5 Primary systems

This maturity component pertained to the scope of the organisation's IT systems (Luftman, 2003). Refer to question 49 of section 5 in the Interview questions of Appendix D. Both IT and Business managers at Organisation X similarly perceived the 'Primary systems' coded as BTEC_PRI_SYS in Figure 20 at a level 1 maturity based on the median of each group. According to Luftman (2003) a level 1 maturity was indicative that no process existed for this maturity component which meant that the 'primary systems' of the organisation was classified as 'traditional office support'. This perception was supported by ITMan3 who stated that "…the scope in IT as it stands at the moment is basically to provide communication like email exchange, document management and basically make sure that the network is up and running. So however, outside IT there is massive systems like Signalling, CCTV monitoring that's not part of IT, it's in silos, so from my perspective the scope is limited. But ours is basically the basic stuff". Both Business and IT managers perceived the 'Primary systems' at a level 1 maturity which meant it was not aligned.

2.5.6 Standards

Standards related to the extent that IT standards are articulated and compliant (Luftman, 2003). Refer to question 50 of section 5 of the interview questions in Appendix D. Business and IT managers' groups both perceived 'Standards' coded as BTEC_STD similarly at a level 2 maturity as seen in Figure 20. According to Luftman (2003) a level 2 maturity applied to 'Standards' means that IT standards are defined, enforced and complied to within the organisation at a functional level. This was supported by Busman1 who stated that "I think you comply quite well with COBIT as a standard and some of the other Corporate Governance things, I think that must be one of the stronger points with ICT". According to Luftman (2000) most organisations today are at a level 2 maturity. There therefore was a degree of alignment as regards IT standards but not fully aligned which would require a level 5 maturity.

2.6 Human Resource skills

Human resource skills pertains to the management practices and strategic choices an organisation makes regarding its human resource considerations including the social and cultural environment it cultivates (Sledgianowski & Luftman, 2005). Skills are an important part of BITA because without the necessary skills and competencies the vision, strategies, structures and processes will not be able to be carried out to achieve successful alignment (Silvius et al., 2009b).

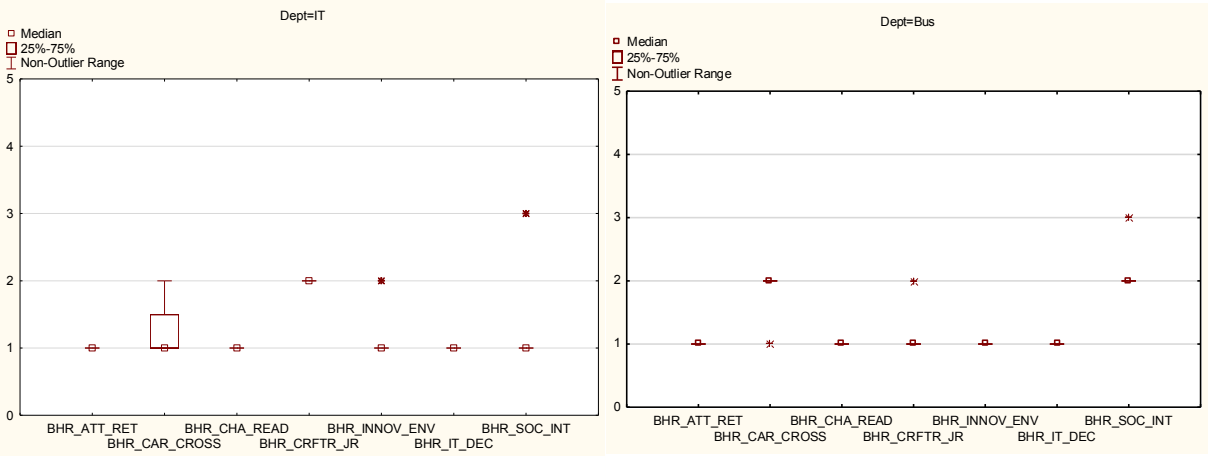

Figure 21: Box plots comparing Business and IT Managers' perceptions of 'Human resources' criterion

An overview of the overall perception of alignment of ‘Human resources’ in Figure 21 revealed that IT and Business managers perceived ‘Human resources’ similarly at a level 1 maturity which meant both groups perceived there was no alignment with regards to ‘Human resources’ within Organisation X. Similarly, in a study exploring the differences in perception of BITA by Silvius (2007b) there was little difference in perceptions found between Business and IT executives in a number of international Dutch firms. Public sector organisations that participated in the study were found to have a lower level of maturity than financial and professional services organisations (Silvius, 2007a).

2.6.1 Attract and retain top talent

This maturity component pertains to the organisations ability to attract and retain the best business and technical professionals (Luftman, 2003). Refer to question 66 of section 6 in

Appendix D. IT and Business managers perceived the maturity component 'Attract and retain top talent' coded as BHR_ATT_RET similarly at a 1 maturity level as seen in Figure 21. According to Luftman (2003) a level 1 maturity was indicative that the organisation was without a process for this component and characterised by no retention programme and poor recruiting within the organisation. This was supported by ITman3 who stated that "it's very difficult to retain and attract because of the perception that IT is not a technical organization, it's like an admin type support organization and because of that, we are not considered on the same breath as the engineering side of the business hence the salary structures is simply not conducive to retain or even attract technical professionals because we are not considered to be technical". Both Business and IT managers perceived there to be no alignment as regards attracting and retaining top talent.

2.6.2 Career cross-over opportunities

This maturity component relates to whether there are career cross-over opportunities in the organisation among IT and business personnel (Luftman, 2003). Refer to question 63 of section 6 in Appendix D. IT and Business managers differed in their perception of 'Career cross-over opportunities' coded as BHR_CAR_CROSS in Figure 21. IT Managers perceived 'Career cross-over opportunities' at a level 1 maturity which was indicative that there was no process meaning job transfers rarely occurred. This was supported by ITMan1 who noted that "Very low at this stage because IT people don't see themselves as business people. There are instances where people worked in other areas of business but they are in the minority". In contrast Business managers perceived 'Career cross-over opportunities at a level 2 maturity indicating the beginning of a process meaning that it occasionally occurred within the unit (Luftman, 2003). This was supported by Busman4 who noted that "There's been quite a number hey, I mean (pause) look I would think that not by design obviously, purely because employees are taking advantage of the opportunities". IT and Business managers differed in their perception of alignment pertaining to 'Career cross-over opportunities' with IT managers perceiving there to be no alignment while Business managers perceived a higher maturity level of 2.

2.6.3 Change readiness

Change readiness pertains to the organisation's readiness for change (Luftman, 2003). Refer to question 62 of section 6 in Appendix D. Both IT and Business managers perceived 'Change readiness' coded as BHR_CHA_READ at a level 1 maturity illustrated in Figure 21. According to Luftman (2003) a level 1 maturity indicated that no process existed for this component meaning that there was a tendency within Organisation X to resist change. This was supported by ITman3 who noted that "We are not ready for change. You'll have to have an extensive change management process in place if you want to implement whatever change is in the pipeline". Both IT and Business managers perceived Organisation X as not aligned regarding 'Change readiness'.

2.6.4 Cross-functional training and job rotation

This maturity component referred to the extent to which there were opportunities for employees to learn about and support services outside the employee's functional unit using programs such as cross training and job rotation (Luftman, 2003). Refer to question 64 of section 6 in Appendix D. IT and Business managers differed in their perception of 'Cross functional training and job rotation' coded as BHR_CRFTR_JR in Figure 21. IT Managers perceived 'Cross functional training and job readiness' at a level 2 maturity indicating that the organisation was beginning the process which was decided at a unit level (Luftman, 2003). In contrast, Business managers perceived 'Cross functional training and job readiness' at a level 1 maturity indicating no process present within the organisation and therefore no such opportunities available.

2.6.5 Innovative, entrepreneurial environment

This maturity component pertained to the extent to which the organisation fostered and innovative, entrepreneurial environment which was an important characteristic of a mature organisation (Luftman, 2000). Both IT and Business managers perceived the 'Innovative, entrepreneurial environment' coded as BHR_INNOV_ENV to be at a level 1 maturity within Organisation X as seen in Figure 21. A level 1 maturity was indicative that no process existed within the organisation for this component and was characterised by an innovative and an entrepreneurial environment being discouraged (Luftman, 2003). This was supported by ITman3 who noted that "The problem is it impairs innovation [pause], it's so structured that thinking out

of the box is basically unheard of and if you do it is frowned upon". Both IT and Business managers perceived it at a level 1 maturity indicating no alignment existed for this component.

2.6.6 Key IT HR decisions

This maturity component pertained to the cultural locus of power in making IT decisions and the level at which it occurred (Luftman, 2003). Refer to question 61 of section 6 in Appendix D. IT and Business managers both perceived 'Key IT HR decisions' coded as BHR_IT_DEC in Figure 21 similarly at a level 1 maturity. A level 1 maturity was indicative of no process for this component within the organisation meaning that the cultural locus of power for key IT HR decisions namely top business and IT management was located at the corporate office (Luftman, 2003).

2.6.7 Social interaction

Social interaction referred to the interpersonal interaction across IT and Business units within the organisation including trust, confidence, and cultural, social and political environment. Refer to question 65 of section 6 of the interview questions in Appendix D. IT and Business managers differed in their perceptions of 'Social interaction' coded as BHR_SOC_INT in Figure 21. IT managers perceived 'Social interaction' at a level 1 maturity which indicated that no process existed within the organisation and was characterised by minimal IT-business interaction (Luftman, 2003). This was supported by ITman3 who noted that "currently the entire business is in a very difficult situation with trust. We, we had a public protector involved. Decision making is impacted, little confidence". Business managers perceived 'Social interaction' at a higher maturity level of 2 indicating that this component was in the beginning process indicating a strictly business only IT-Business relationship (Luftman, 2003). This was supported by Busman5 who stated that "I said before you must...trust must be implicit, in other words the work that you do must not come out later". IT and Business managers differed in their perception of 'Social interaction' with IT managers perceiving there to be no alignment while Business Managers perceived it to be a strictly business relationship at a level 2 maturity.

2.7 Summary

The overall alignment maturity for both Business and IT management groups was similar with IT managers scoring 1.79 and Business managers scoring an average of 1.82. This however was slightly lower than the average score found in Luftman's (2000) study which found that most organisations had an initial alignment maturity level of 2. Reasons for this lower than average score could be that the organisation was undergoing a difficult period at the time the study was conducted with union strikes happening and possibly affecting the perceptions of the respondents in the study.

The average score for each management group per alignment maturity category was displayed and compared in Figure 22.

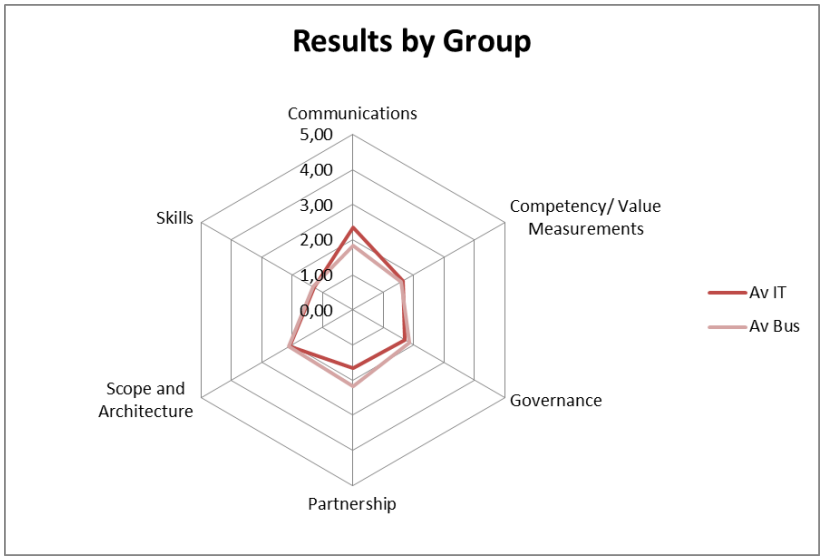

Figure 22: Overview of the alignment maturity criterion comparing IT versus Business management groups in the current study

IT and Business managers differed on three out of the six maturity criteria including:

- Communication - IT managers scored higher than Business managers
- Governance - Business managers scored higher than IT managers
- Partnership - Business managers scored higher than IT managers

2.7.1 Communication

IT managers scored higher than Business managers overall in the 'Communication' category. IT and Business managers differed in their perceptions of 'Leveraging intellectual assets', 'Organisational learning', 'Understanding of IT by the Business' and 'Understanding of business by IT' with IT perceiving all these components of 'Communications' maturity criterion at a higher level maturity than Business. All these components fell within IT's function which may be why IT perceived it at a higher maturity than Business.

2.7.2 Governance

Business managers perceived the category 'Governance' to be of a higher maturity overall than IT managers. IT and Business managers differed in their perception of maturity level of 'How IT projects are prioritised' with Business managers perceiving a higher maturity than IT managers. Business managers perceived that the priority of IT projects were determined by the IT function while IT managers perceived there to be no alignment in place, indicating that no process existed for prioritising IT projects within the organisation.

IT perceived there to be no alignment with regard to 'How IT is budgeted for' as most IT managers felt that previously IT was underfunded and that IT was not sufficiently budgeted for by the Business. Business managers however noted that IT was not budgeted any differently to other departments and therefore seen as a cost center per business unit (Luftman, 2003).

Business and IT managers also differed in their perception of 'Senior level IT steering committee' with IT managers perceiving it at a level 1 maturity while Business managers perceived it at a level 2 maturity. The reason for this is that IT perceived there to be no alignment with regard to an 'IT steering committee'. Most IT managers either believed that a 'steering committee' did not exist or they were uncertain whether it did exist. Business perceived the maturity to be at a level 2 indicating that 'a senior level IT steering committee' met informally as needed. Most business managers remembered that there was a steering committee at Organisation X's Head Office level but some managers were unsure whether it still existed.

2.7.3 Partnership

The relationship that existed between Business and IT ranked high on Luftman's (2000) list of enablers and inhibitors of alignment. How Business and IT perceived each other's contribution, the trust that developed amongst participants, ensuring suitable sponsors of IT initiatives and sharing of risks and rewards are all significant contributors of mature alignment (Luftman, 2000).

In the current study, Business managers perceived a higher overall alignment maturity in the category 'Partnership' as compared to IT managers. Business managers on average perceived it to be just above a level 2 maturity while IT managers perceived it to be between a level 1 and 2 maturity. Business and IT managers differed in perceptions in all components of 'Partnership' maturity criterion except 'Business perception of IT' which was perceived similarly at a level 1 maturity indicating no process existed and therefore no alignment. Both groups differed in their perceptions of 'Business sponsors /champions', 'Managing the IT Business relationship', Relationship and trust style', 'Shared risks and rewards' and IT's role in Strategic Business Planning'.

2.7.3.1 Business sponsors or champions

Business managers perceived 'Business sponsors/ champions' at a higher maturity of 4 compared to IT managers who perceived it at a level 1 maturity. Business managers perceived that business sponsors and champions occurred at a corporate level while IT managers perceived that no process existed within Organisation X with regard to business sponsors or champions, meaning that there are no business sponsors or champions. This could indicate that business and IT perceive things differently because IT managers have a harder time getting sponsorship or funding from the Business.

2.7.3.2 Managing the IT Business relationship

Business managers perceived 'Managing the IT Business relationship' to be at a higher level of maturity compared to IT managers' perception. IT managers perceived 'Managing the IT Business relationship' at a level 1 maturity indicating no process existed and therefore no alignment. In other words IT managers perceived that no process existed for managing the IT

Business relationship. Most of the IT managers indicated that there was no Business Relationship Manager to manage this process within Organisation X. In contrast, Business managers perceived the maturity at a level 2 indicating that the process was managed on an ad hoc basis if and when it was needed. Some of the Business managers referred to service level agreements (SLA's) which were held on an ad hoc basis to manage the 'IT Business relationship'.

2.7.3.3 Relationship and trust style

Business managers perceived 'Relationship and trust style' to be at a higher maturity level of 2 as compared to IT managers who perceived it at a level 1 maturity. A 'relationship and trust style' at a level 1 maturity was indicative that the relationship was characterised by conflict and mistrust and no alignment (Luftman, 2003). IT managers perceived there to be a lack of trust and felt that Business and IT were weary of one another and that business believed IT would not deliver while IT believed that they would be under-resourced by the Business (ITMan2). Business managers however perceived there to be a transactional relationship which meant that the relationship between business and IT was a formal relationship being a business only relationship.

2.7.3.4 Shared risks and rewards

Business managers perceived 'shared risks and rewards' at a higher level of maturity of 3 while IT managers perceived it at a level 2. A level 3 maturity was characterised by IT and Business beginning to share risks and rewards while a level 2 maturity was characterised by IT taking most of the risks and receiving little reward. IT managers perception was clear from the testimony by ITman5 who noted that risks and rewards were not what it should be especially when it came to rewards with IT not receiving enough rewards.

2.7.3.5 IT's role in Strategic Business Planning

Contrary to other components of 'Partnership' maturity criterion this was the only alignment maturity component where IT managers perceived a higher level of maturity than Business managers. IT managers perceived that IT was an enabler of business processes at a level 2 maturity in contrast to Business managers who perceived it to be a level 1 maturity. A level 1

maturity was characterised by no process that existed within organisation X for this and IT was therefore not involved and did not have a role in strategic business planning. Business managers' perception was reflected in a testimony by Busman1 who noted that IT did not play a visible role in Strategic Business Planning. IT managers' perception was supported by ITman3 who noted that IT was seen as an enabler of requirements which was characteristics associated with a level 2 maturity.

A previous study by Silvius (2007b) of exploring the differences in perceptions of business and IT alignment between business and IT executives of five Dutch firms found a lower level of maturity of 2 in the public sector industry as compared to a financial services and a professional services company. Silvius (2007a) found that the maturity level for 'Partnership' in the public sector was between a 2 and 3 as seen in Figure 23. This was similar to the perception for the Business management group in the current study which was just above a level 2 maturity however IT manager's perceived it at just above a level 1 maturity (Silvius, 2007b). In general, IT managers perceived a level 1 maturity for almost all the partnership components indicating they perceived that no process existed for these and therefore no alignment. This indicated a general unhappiness by IT managers of IT's partnership with the business.

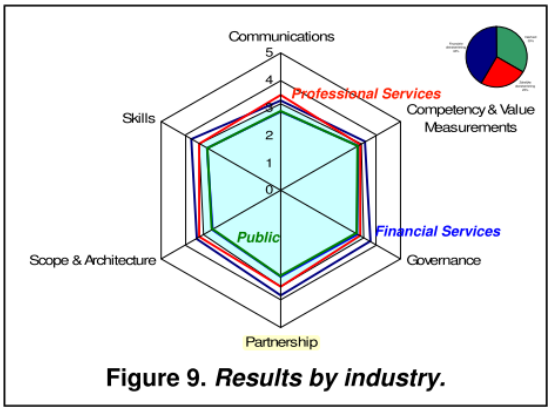

Figure 23: Overall maturity per industry in a study by Silvius(2007a)

In Silvius's (2007a) study Communications was at a level 2 maturity for the Public sector while in the current study IT managers perceived 'Communications' just above a level 2 maturity while Business perceived it at just below a level 2 maturity. IT may perceive it more highly as IT is responsible for communication to the customer whereas this does not form part of the Business's daily functions.

Silvius (2007a) found Governance in the Public sector to be perceived at a level 2 while in the current study Business managers perceived it at a maturity level of 1.88 while IT Managers perceived it at a level 1.7. This may be due to the fact that in the current study IT managers were unhappy with the IT budget at Organisation X. The current study's overall maturity level was below the international study done by Silvius (2007a) although not significantly lower therefore supported findings from Silvius's (2007a) study that alignment maturity was slightly lower in public service sector organisations.

Appendix J: Summary of Perceptions of BITA Maturity Criterion components per Respondent

Table 19: Summary of perceptions of BITA maturity criterion components per respondent

Components of BITA maturity criteria	Code	ITMAN 1	ITMAN 2	ITMAN 3	ITMAN 4	ITMAN 5	BUSMAN 1	BUSMAN 2	BUSMAN 3	BUSMAN 4	BUSMAN 5
IT business liaison staff	BCOM_ITBUS_LIAS	1	2	1	1	1	1	1	1	1	1
Leveraging intellectual assets	BCOM_KNOW_SHARE	2	1	1	3	3	2	1	1	1	2
Organisational learning	BCOM_OL	2	3	4	4	2	2	3	2	4	1
Style and ease of access	BCOM_STYLE	3	3	3	3	3	3	3	3	3	3
Understanding of business by IT	BCOM_U_BUSIT		3	3	2	4	2	1	2	2	1
Understanding of IT by business	BCOM_U_ITBUS	2	1	2	2	2	1	1	1	2	3
Benchmarking	BCV_BM	1	1	1	3	1	3	1	1	3	2
Business Metrics	BCV_BUS_MET	1		1	1		1	5	1	1	
Continuous improvement practices	BCV_CIP	2	2	2	2	2	2	2	2	2	2
Formally assess IT investments	BCV_IT_INV	1	1	1	3	3	3	1	2	2	
IT Metrics	BCV_IT_MET	4	1	1	2	4	1		1	1	1
Link between IT and business metrics	BCV_ITBUS_MET_LINK	3	3	1		1	1	2	1	1	1
Service level agreements	BCV_SLA	1	1	1	1	1	1	1	1	1	1
Formal business strategy planning	BGOV_BSP	3	4	4	1	4	4	1	4	4	4
How IT is budgeted	BGOV_IT_BUD	2	2	1	2	2	2	2	3	2	2
IT response to changing business needs	BGOV_ITRESP_CHA	1	1	1	1	1	1	1	1	1	1
Formal IT strategy planning	BGOV_ITSP	1	1	1	1	1	1	1	1	1	1
How projects are prioritised	BGOV_PROJ	1	3	3	1	1	1	1	3	3	
Senior Level IT steering committee	BGOV_STEERCOM	2	2	1	1	1	1		2	2	
Attract and retain top talent	BHR_ATT_RET	1	1	1	1	1	1	1	1	1	1

Components of BITA maturity criteria	Code	ITMAN 1	ITMAN 2	ITMAN 3	ITMAN 4	ITMAN 5	BUSMAN 1	BUSMAN 2	BUSMAN 3	BUSMAN 4	BUSMAN 5
Career crossover opportunities	BHR_CAR_CROSS	1	1	1		2	1	2	2	2	2
Change readiness	BHR_CHA_READ	1	1	1	1	1	1	1	1	1	1
Cross-functional training and job rotation	BHR_CRFTR_JR	2	2	2	2	2	1	1	1	1	2
Innovative, entrepreneurial environment	BHR_INNOV_ENV	2	1	1	1	1	1	1	1	1	1
Key IT HR decisions made by	BHR_IT_DEC	1	1	1	1	1	1	1	1	1	1
Social interaction	BHR_SOC_INT	1	3	1	1	1	2	3	2	2	2
Business sponsors/ champions	BPART_BUSSPONS_CH	2	4	1	1	1	4	1	4	5	
Managing the IT business relationship	BPART_ITBUS_REL	2	1	1	1	1	1	1	3	3	2
Business perception of IT	BPART_PERC_IT	2	1	1	1	2	2	1	1	1	2
Relationship / trust style	BPART_REL_TRS	1	1	1	1	3	2	3	2	1	3
Shared risks and rewards	BPART_RisRew	2	2	2	4	2			2	3	3
IT's role in strategic business planning	BPART_SBP	2	2	2	1	2	1	1	2	1	
Architectural integration	BTEC_ARC_INTEG	1	1	1	2	2	1	1	1	1	
Transparency of disruption by business or IT changes	BTEC_CHANGE		1	4	3	3	3	3	1	5	4
IT Infrastructure flexibility to change	BTEC_ITINF_FLEX	2	3	4	4	4	4	4	1	2	1
How IT infrastructure is perceived	BTEC_ITINF_PCV	1	1	1	1	1	3	1	1	1	4
Primary systems	BTEC_PRI_SYS	1	3	1	3	1	4	1	1	3	1
Standards	BTEC_STD	1	1	3	2	4	4	2	1	1	2
Department	**Dept**	**IT**	**IT**	**IT**	**IT**	**IT**	**Bus**	**Bus**	**Bus**	**Bus**	**Bus**