



**CONCEPTUALISING THE EFFECTIVENESS OF THE BLACK ECONOMIC
EMPOWERMENT SCORECARD AS A TOOL FOR ADDRESSING
INFORMATION TECHNOLOGY GOVERNANCE CHALLENGES**

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Dedication

TO MY FAMILY

FOR YOUR LOVE, GUIDANCE AND SUPPORT.
THIS DISSERTATION IS DEDICATED TO YOU



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Firstly, I would like to acknowledge my supervisor **Dr Kennedy Njenga** of the University of Johannesburg. His patience, thoughts, ideas, and the lessons given to me on the research process and the structuring of this dissertation were invaluable. His advice was always and continues to be useful and this work would not have been possible without him.

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Preface

Parts of this work have already appeared in the following publication;

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This acceptance by the scholarly community has given direction, encouragement and impetus to the production of this dissertation. In all cases, the published works have been re-formatted, modified, updated and synthesized into this dissertation.





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Abstract

There is currently a lot of research work being done to gain insight into the value proposition for IT governance frameworks and different other variables that have significant bearing on successful implementation of IT governance in South African organizations. There has however been no adequate research conducted on how Black Economic Empowerment (BEE) policy and more specifically the four significant elements of the BEE scorecard (ownership, preferential procurement, skills development and management and control) affect IT governance within South African Enterprises. The study explores BEE policy as a means of redressing past inequalities and then presents BEE challenges that influence IT governance implementation. A broad outline of the research and a conceptual framework that will assist in monitoring the effectiveness of these four elements of the BEE scorecard towards IT governance implementation are presented. The study aims at giving an improved understanding and insights about the strength of the relationship between these two variables (BEE scorecard and IT governance), both of which have a bearing on the success of businesses operating in South Africa as a third variable. Kaplan and Norton's balanced scorecard is used to measure business success (organization performance). The adopted method of data gathering was quantitative research with extensive use of questionnaires that targeted IT professionals and practitioners closely affiliated with BEE initiatives. The findings show a weak association between BEE and successful IT governance implementation. The results also reveal IT governance maturity has advanced to well-managed level 4. The human capital and diversity in the IT workforce lag behind in progress as a result of inadequate adherence to BEE metrics. There was a strong relationship between organization performance and BEE metrics, and a very weak link between IT governance and organization performance. It is envisaged that the resulting framework arising out of this work will form a foundation for other scholars and practitioners in the IT governance field to expand on gained knowledge, espousing the creation of a compressive IT framework that does not only focus on management tools and frameworks for IT governance efficiency but embraces the social dimensions of IT governance that may inhibit or enable IT governance effectiveness.

Key words

IT Governance, BEE Scorecard, IT skills, organization performance

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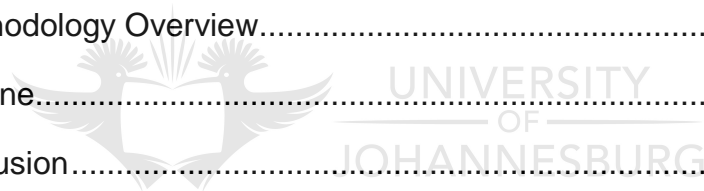


Chapter 1

This chapter holistically highlights the background study of main concepts underlying this study, BEE and IT governance. Relevance and the need to study the strength of relationship between BEE and IT governance and its influence on business success is outlined. Research purpose and methodology to achieve research objectives are briefly discussed.



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1.1 Introduction

This chapter starts with introducing the background of IT governance and BEE as well as the objectives/research questions of the study, and the scope of the study, followed by rationale of the study highlighting the need and significance of the study. The next section discusses IT governance and frameworks, and a brief discussion of the BEE, methodology overview, research purpose, and the research structure. The chapter finishes with the conclusion.

The future success of Information Technology (IT) enabled organizations is guaranteed by the presence of existing and accurate IT governance practices and guidelines that are understood and properly implemented. In order for IT governance to be properly implemented, there must be a system of good IT decision making processes which influences the measure of potential value that will be realized in any IT investment (Weill and Woodham, 2002; Schwarz and Hirschheim, 2003). This implies a need for high proficiency and maximum competence in appropriately leveraging IT activities in an efficient manner to diminish IT costs and task duplication.

IT decisions form the organizational baseline for value generation throughout IT (Porter, 1985; Brown and Yarberr, 2009; van Grembergen, 2004). The complexity of IT systems necessitate good IT governance arrangements within organizations to accurately govern key IT activities in order to derive expected value from IT. Effective IT governance predicts the wealth that IT generates for an organization (Pearlson and Saunders, 2009; Weill and Ross, 2004; Bernroider, 2008; Verhoef, 2007).

According to van Grembergen (2004), more emphasis should be put on placing qualified people in decision making positions that affect investment in and management of IT. This position is also echoed by Benedict (2006). This study uniquely highlights emerging trends within a post-apartheid South Africa where there has been a deliberate policy by the South African government to redress issues of the past and encourage greater participation of black professionals in critical decision making positions in the IT

sector. The IT sector in South Africa presently shows a rising number of Black IT professionals entering this sector. The study highlights the present Black Economic Empowerment (BEE) scorecard and conceptualizes the efficiency of the BEE scorecard on IT governance in South African organizations. The four significant elements of the BEE scorecard (management and control, ownership, preferential procurement and skills development) are seen as metrics for effective BEE policy implementation are considered in light of their influence and challenges on IT governance within South African enterprises.

The outcome of this work is the creation of a conceptual framework that considers the challenges of IT governance implementations and the relationships these have had with BEE policies. The framework will help provide useful insights for South African organizations and their understanding of IT governance patterns for implementation with regard to BEE policy and its scorecard.

This study focuses on these emerging issues and questions. It looks at the following IT governance frameworks: KING III, COBIT, ITIL, and ISO/IEC 17799. These have been selected because of their popularity of use (Hardy, 2006a; ITGI and OGC, 2005). These frameworks are frequently applied by organizations to assess and benchmark their own IT governance positions in terms of progress and advancement (Hardy, 2006a). The study also looks at the BEE scorecard. According to Ramaphosa *et al.* (2009), metrics for Black Economic Empowerment comprise parameters such as the number of Black people playing more significant roles and decision making in areas such as *Procurement, Housing, Tendering, Skill and Training* and *adequate Black Representation in executive management positions*, etc. For purposes of this study, I have only focused on (i) Procurement; (ii) Skill Development; (iii) Black Ownership; (iv) Management and Control. The research highlights the IT areas of organizations and how BEE (including these specifically mentioned parameters) influence IT governance and process facilitation. These chosen metrics of the BEE scorecard are deemed necessary in helping determine success/failure issues for IT governance.

1.2 Need for Research into BEE Scorecard and IT governance

Information and Communication Technology (ICT) is the key strategy used by organizations in South Africa to develop and accelerate their economic growth (SAITI 2000; IST-Africa, 2004), and this is obtainable through an inclusive economic approach which seeks to reach out to previously disadvantaged individuals (Evans, 2006). The promotion of diversity in the composition of the management pool and executive board in corporate governance, and the resulting improved corporate performance have attracted the attention of many scholars in the contemporary literature (Richard, 2000; Fields and Keys, 2003; Forbes and Milliken, 1999). It has been empirically affirmed that a more heterogeneous group generates creative and innovative ideas, thereby improving performance (McLeod., and Stephen 1992; Watson et al. 1993). Similarly, there is wide agreement in the literature that collaborative and inclusive governance is regarded as a prerequisite for accelerating economic competitiveness by harnessing and fostering innovation in all population demographics (Hamann, Khagram, and Rohan, 2008).

Additionally, van Scheers asserts (2010) that, *“Accordingly, Broad-based BEE must be associated with and ensure the highest standards of corporate governance”*. The growing dependence on ICT by all economic sectors not only calls for proper governance (IT governance), it also requires meaningful participation of an adequately trained and knowledgeable IT workforce. This meaningful participation in the ICT industry can be manifested in growing ownership, skill development and active participation in management positions. Such initiatives can be enhanced by procuring locally-based IT industries and improving the indigenous IT workforce (BEE ICT charter, 2005). Benedict (2005) states that *“black economic empowerment is a reality that affects most companies in South Africa, including the IT Industry”*. As such the researcher seeks to understand the implications of this full participation (through BEE metrics) and proper implementation of IT governance policies and frameworks with the premised arguments based on human capital and diversity perspective theories.

Truth, Queensberry, Huang *et al.*, (2008) also utilized human capital and diversity theories to promote an inclusive environment for a technology-enabled IT workforce in their study titled “*Linking Economic Development and Diversity Workforce*”. They go on to assert that human development is not only ethical but imperative for organizational survival. This is resonated by Lot Ndlovu cited by Times Live (2004) saying that “*Black economic empowerment is an ethical, moral issue; it's a governance issue. If business in this country had spent more time paying attention to ethics and morals and good governance, and less time hiding behind rules and laws, there would be no need today for black economic empowerment*”.

Many studies have been conducted trying to assess the IT governance status in South African enterprises as well as the challenges facing IT governance (Gomes, 2007; Chitambala, 2006) but no attention has been given to the effectiveness of the BEE scorecard to address the successful implementation of IT governance. Peterson (2003) affirms that IT governance is subject to external factors that negatively or positively impact on its ability to meet the desired objectives of IT initiatives. Lee, Lee, Park and Jeong (2008) also claim that compliance to laws and regulations of a country as well as political environment plays a pivotal role in enabling or inhibiting the successful implementation of IT governance. BEE is referred to as a legislative framework with socio-economic and political connotations presenting opportunities and challenges for organizations (Empowerdex, 2009; Wooley, 2005). It is therefore imperative for all South African organizations to adhere to its requirements in order to successfully compete in the South African business arena (Ponte, Roberts, and van Sittert, 2007). This is confirmed by a growing number of BEE rating agencies created to help organizations to increase their BEE rating.

As such, scholars from different fields of study constantly attempt to understand and delineate the implications of BEE on other economic sectors. Esser and Dekker (2008) looked at the role of BEE on corporate governance, Human (2006) looked at BEE in the construction industry, and Nair (2006) looked at the practicalities of BEE in small and medium businesses to name but a few. IT governance is a subset of corporate

governance (van Grembergen,2004; Peterson, 2003); therefore it is worthwhile to narrow down and investigate BEE and IT governance. In a similar way, Evans (2006) looked at BEE and ICT by putting more emphasis on the inclusiveness of the previously disadvantaged in ICT at the managerial level. In this study, BEE Scorecard and IT governance are correlated to assess the effectiveness of the BEE Scorecard to ensure successful implementation of IT governance.

1.3 Background to IT Governance

IT governance is seen as a subset of corporate governance focused on IT systems and their performance and risk management (ITGI, 2010). A common understanding of the main theme in IT governance is the means to accurately delineate the roles and responsibilities between the board of directors and the top managers, and to appropriately administer and manage the IT risks and opportunities that characterize an organization (Croteau and Bergeron, 2001; Brown and Yarberrry, 2009). For organizations to fully realize their IT strategic value, IT best practices have to be recognized, built up or adopted, as well as put into operation and embedded into the business processes (Croteau and Bergeron, 2001; Brown and Grant, 2005; Sohal and Fitzpatrick, 2002). According to Guldentops (2004), this is a big leap towards good IT governance. Models should be consistently employed for the extraction of business rules and polices within organizations so as to ensure effective and transparent IT governance that is aligned to the business strategy (Helbig, Hrdinová and Canestraro, 2009; Pearlson and Sauders, 2009; van Grembergen, 2004).

According to Schwarz and Hirschhein (2003), governance issues related to organizing IT functions are often portrayed as highly complex and cumbersome. Lee *et al.*, (2008) affirms that compliance to laws and regulations of country as well as political environment play pivotal role in enabling or inhibiting the successful implementation of IT governance. Ask, Björnsson, Johansson *et al.*, (2007, p. 4) have looked at the IT

governance function of a number of organizations and have concluded that these initiatives result “*from the business side mainly due to a feeling of lack of control over the development-side of the IT function*”. They conclude that tension arises from the IT personnel and business with the political dimension of forums adding weight to these tensions making investment, evaluations and prioritization of IT initiatives problematic. Ask *et al.*, (2007), in their attempt to incorporate sociological building blocks (Social Systems Theory) into the study of the organization of IT, have provided insights as to the tensions that arise particularly in the dimensions of politics that creates complexities and problems.

1.4 IT Governance Frameworks

The release of the KING III report in the month of September 2009 symbolizes a significant milestone in the development of corporate and, by extension, IT governance in South Africa. KING III is a framework that emphasizes self-regulation whereby organizations voluntarily monitor their own adherence to legal and ethical standards (PWC, 2010). Proponents argue that KING III allows organizations to maintain control over standards through self-policing. The key principles of KING III include good governance, sustainability, innovation, fairness, collaboration, and social transformation in a strategic and coherent manner (PWC, 2010). Apart from KING III, there are other applicable frameworks for proper IT governance implementation within South Africa that are manifested in organizations.

Simonsson and Johnson (2006) acknowledge that COBIT and other frameworks could equally be applied in tandem and still result in compliance and process enhancement. Gulentops (2004) highlights the point that COBIT does not provide, as its task, how to route map for IT implementation. This task is performed by ISO/IEC 17799 and ITIL. They provide best practice information and process advancement. COBIT, rather, is responsible for measuring processes encapsulated in ISO 1779 and ITIL, and it can be leveraged by process enhancement (ITGI and OGC, 2005). Weill & Ross (2004) have

created a comprehensive IT governance framework that can be utilized to develop a high level IT governance framework that can be used to dispense tasks for decision making. However, its application does not give further assistance on how an IT company can actually deploy them practically; its usefulness is only based on theory. ITIL gives details regarding the creation and sustenance of service level agreements, assists in the establishment of processes of service level agreements (SLA) and supports the creation of processes linked to IT delivery and support (ITGI, 2010; Hardy 2006a). ISO/IEC 17799 is solely meant to address security issues within organizations and therefore it plays a major role in increasing confidence in activities that are carried out internally and externally by the organizations (Information Shield, 2005; Hardy, 2006a). It is implemented through security standards and security management practices.

Additionally, COBIT is a widely used framework for IT governance improvement, risk mitigation, IT value delivery, and strategic maturity assessments (Weill and Woodham, 2002; von Solms, 2005). IT governance frameworks are said to be descriptive in nature as they help describe the condition of IT companies in accordance with best practices (IT Governance Institute; 2007). COBIT can be effectively deployed concurrently with other widely used IT frameworks such as ITIL and ISO/IEC 1779 (Hardy, 2006a; ITGI and OGC, 2005; ITGI, 2010). Conclusively, based on the current literature, COBIT and ISO/IEC 17799 give direction as to what should be done and ITIL give details as to how it should be done. Holtsnider and Jaffe (2007) reiterate that if these frameworks are applied consistently across an entire organization, they can result in an appropriate execution of IT governance.

1.5 Background to Black Economic Empowerment

This section gives an overview about paradox of BEE and its social implications on IT governance.

1.5.1 Paradox of Black Economic Empowerment

Paradoxes or self-contradicting circumstances or statements are seen as occurrences that force the actor to switch mode from reflection to action (Luhmann, 1995). In this temporary state of disharmony, and in order to deal with contradictions, the actor is forced to face parallel logics and choose between different strategies for *deparadoxization* (Luhmann, 1995). The actor can employ one of the following four *deparadoxization* strategies: (i) temporization - seen as detaching the contradiction in time; (ii) spatialization - detaching the contradiction but through separating the conflicting elements in space rather than time; and (iii) relativization - bringing in an unbiased second-order observer.

Black Economic Empowerment (BEE) was legislated the past ten years by the South African government to give economic power to formerly deprived persons through employing black people in public and private enterprises so as to improve their quality of life (Esser and Dekker, 2008; Ponte *et al.*, 2009; Nieman and Bennett, 2006). The following are fundamental areas highlighted for ICT sector development as explicated by the BEE charter:

The creation of the BEE legislative framework also forced parallel logic and, in some cases paradoxes onto its citizens. The legislative framework and its scorecard, “the BEE scorecard” is equally endowed with paradoxes that have socio-economic and political connotations which present opportunities and at the same time challenges for organizations (Empowerdex, 2009; Nieman and Bennett, 2006). There are paradoxes echoed by the imperativeness for all South African organizations to adhere to BEE in order to successfully compete in South African business arena (Ponte *et al.*, 2007). The paradox is that, within capitalist societies, the owners of property/capital (irrespective of their race or ethnicity) impose codes of professional closure that reflect bourgeois

cultural assumptions concerning professional competencies, and that these codes create barriers to mobility for un-propertied members of the working class. A significant part of the BEE framework is intended to bring about diversity and meaningful economic participation by all citizens. The underprivileged groups, being the remnants of apartheid regime in South Africa before 1994, include African, Asian and Colored groups (Nattrass, Nicoli, and Seekings, 2001).

There has been research conducted regarding the paradox of diversity (Bannerji, 2000). The situation in South Africa regarding diversity in work place is not unique. A country such as Canada has equally faced a paradox of diversity. Bannerji (2000; 559) puts it this way;

The social relations of power that create the difference implied in sexist-racism, for example, just drop out of sight, and social being becomes a matter of a cultural essence (Bannerji, 1991). This is its paradox—that the concept of diversity simultaneously allows for an emptying out of actual social relations and suggests concreteness of cultural description, and through this process obscures any understanding of difference as construction of power. Thus, there is a construction of a collective cultural essence and a conflation between this, or what we are culturally supposed to be, and what we are ascribed with, in the context of social organization of inequality. We cannot then make a distinction between racist stereotypes and ordinary historical/cultural differences of everyday life and practices of people from different parts of the world. Cultural traits that come, let us say, from different parts of the third-world, are used to both create and eclipse racism, and we are discouraged from reading them in terms of relations and symbolic forms of power.

Luhmann's (1995) suggested framework has been created for South African businesses to switch mode from the reflection of what BEE means towards action. The type of action envisaged by the Government however has varied radically, creating what Habib

and Padayachee (2000) calls “*new social groups*”. The clarity of this new social grouping is shown by Hammond *et al.*, (2009) who acknowledge that the growth of a new black bourgeoisie within the South African capitalist economy did and does not necessarily imply that credentials will open a path of upward social mobility for the majority of South Africa’s black working class.

There have emerged a few problems with BEE which cast doubt as to its sustainability as well as effectiveness. The contributing factors primarily dwell on organizations’ lack of proper IT governance and as well as a lack of establishing proper IT policies. The BEE charter sets out criteria for organizations to align policies and processes for BEE in order to remain competitive in the local and international market (Esser and Dekker, 2008). BEE influences companies directly or indirectly and, depending on how it is handled, may create opportunities and risks or problems for an organization. In its current form, BEE is now known as Broad-Based Black Economic Empowerment (BBBEE) to emphasize the fact that this policy is not meant to benefit only the elite minority of blacks (Ramaphosa *et al.*, 2009; Roger and Roger, 2008).

BEE’s four significant elements include procurement, ownership, skill development and management control. These are discussed in the next section briefly.

Procurement

The ICT sector commits itself to the implementation of strategies to ensure increased procurement from good and satisfactory BEE contributors (BEE Charter, 2005).

Ownership

This is a BEE element that emphasises a need for a special BEE fund to finance the acquisition of equity from established companies in the ICT industry. The ownership indicators on direct empowerment (BEE ICT Charter, 2005) are calculated as follows:

$\text{VrS} = \frac{\% \text{Vr}}{\% \text{VrT}} \times \text{WP}$
<p>Where VrS is the score achieved for the ownership indicator being measured %Vr is the percentage that unrestricted voting rights (in the hands of black people in the enterprise being measured) hold to the total of all voting rights held by members of the enterprise VrT is the compliance target for voting rights in respect of the applicable ownership indicator being measured, as specified in the scorecard. WP means the weighting points allocated to the applicable ownership</p>

Figure 1: *Ownership Calculation in ICT sector (ICT charter, 2005)*

Skills development

The proposals that are set aside by both the Information Systems, Electronics and Telecommunications Technologies ISETT-SETA (Skills Education Training Authorities) and the Media, Advertising, Publishing, Printing and Packaging MAPPP- SETA for high-level training to fund and encourage various training organizations to provide ICT training to designate groups (BEE Charter, 2005).

Management and Control

According to the ICT Charter (2005), organizations should strive to increase number of previously disadvantaged in management and governing bodies, putting more emphasis on including women, youth and people with disabilities in order to nurture and tap the potential value these groups can bring to the growth of the ICT sector and the country as a whole.

1.5.2 Deparadoxization of BEE towards effective IT Governance

To redress the imbalances of the white dominated resource accessibility in all aspects of business contexts, the South African Government formulated autonomous bodies

charged with regulating and ensuring meaningful participation of black people in the economy of the country as part of showing good governance (Denton and Vloeberghs, 2002). One measure used by the South African government was the creation of the BEE scorecard, a tool used to measure the BEE compliance level of South African organizations. The South African government uses the BEE scorecard and adopted organization support measures to uphold broad-based black economic empowerment (Wooley, 2005; Roger and Roger, 2008). Nieman and Bennett (2006) also add that BEE can be regarded as an external factor that impacts either negatively or positively on any entity that aims to carry out business in South Africa. Inge (2004) states that black people have only been empowered within the spheres of the political arena while the status quo is still maintained in critical modern economic sectors such as engineering, science and technology.

Similarly, diverse ethnic groups with varying culture and values in Malaysia resulted in social, economic and political inequalities. During the colonial era there, the British government, in collaboration with Malaysian unions, established policies intended to ensure economic and political domination over the Malay people (Gomez & Jomo, 1999). Ironically, by using these policies the least favoured groups (Indians and Chinese) outperformed the preferred groups in almost everything. A lot of university graduates were Chinese and Indians which implied that critical and in-depth skills essential for economic growth were still in the hands of less favoured minority thus making them indispensable for economic sustenance (Trindade and Lee, 1997). Instead of focusing on ownership, Malaysia put more emphasis on educating and training professionals and managers to prepare them for the mammoth task of administering and delivering quality services. This is reinforced by Weill and Ross (2005) affirming that successful IT governance does not ensue by chance, rather it is a consequence of meticulous design and implementation by very well informed managers with extensive knowledge of what proper IT governance entails. Scott (1968) affirms that the Malaysian government is shifting focus from ethnic group representations to individual capabilities and expertise in employment policies as well as in other critical areas where transformation initiatives comes into play. Such investing in knowledge building of

human capital is the key to effective IT governance in an organization. BEE therefore influences companies directly or indirectly, and depending on how it is handled, it may create opportunities and risks or problems for an organization. In its current form, BEE is now currently known as Broad Based Black Economic Empowerment (BBBEE) to emphasize the fact this policy is not meant to benefit only the elite minority of blacks (Ramaphosa *et al.*, 2009; Roger and Roger, 2008). However the term “BEE” will be used consistently through the study.

1.6 Problem Statement

There is a general belief that adherence to BEE scorecard is necessary for business success in South Africa but exactly how this has impacted on IT Governance remains a key concern. Despite an affirmation that BEE is an imperative legislative framework that impacts on business domains (Ramaphosa, Nzimande, Lunes *et al.*, 2009), there is a lack of conceptualisation regarding the BEE scorecard and IT governance together. These are still seen as mutually exclusive entities. The current study is dedicated to assessing the role that the BEE scorecard plays in IT governance. Consideration regarding the problem statement is discussed in depth in section 5.2. The following critical questions were formulated in order to address the problem outlined above.

1.6 .1 Research Questions

- 1) What is the present IT governance maturity status in organizations?
- 2) To what extent are these organizations investing in human capital and diversity in the IT workforce?
- 4) How have the metrics in the BEE scorecard influenced IT governance?

5) What relationship exists between the BEE scorecard and IT governance implementation?

1.6.2 Research Objectives

This study sought to provide useful insights that were aimed at understanding the impact of BEE on successful implementation of IT governance. The arguments of this study are based on the premises of inclusivity, diversity and investment of human capital in IT workforce. Thus the following objectives underlie this study:

- To determine IT governance maturity which will give clues as to the level of success with which IT governance is currently implemented.
- To establish the extent to which organizations are investing in human capital and diversity in the IT workforce, the results of which will indicate the preparedness of the country to meet the growing need for indigenous ICT professionals.
- To establish the effectiveness of the BEE scorecard (within the ICT arena) in addressing IT governance issues, the results of which will indicate the role of BEE in ensuring successful IT governance.
- To determine the level of association between BEE and IT governance, the results of which will determine higher levels of BEE compliance and also indicates a higher chance of the successful implementation of IT governance.

1.7 Research Methodology Overview

The researcher sampled stakeholders in South African industries belonging to the ICT sector. The samples were sourced from the Gauteng region, the main economic powerhouse of the nation. The quantitative approach was adopted to conduct this research. Questionnaires were distributed to investigate and examine respondents'

awareness and views on the requirement for successful IT governance including BEE compliance status for selected organizations. Likert scales and maturity model scales were used to measure respondents' awareness and views on the requirement for successful IT governance and the extent to which organizations embrace diversity in IT workforce leadership. The questionnaire comprised sections which individually addressed a specific aspect of delineated concepts.

1.8 Research Outline

Chapter 1 delineates the introduction and background of all concepts underlying this study, overview of the methodology, research purpose and research outline. Chapter 2 forms the first part of the literature review focusing on IT governance. Chapter 3 forms the second part of the literature review, delving into BEE dynamics and BEE balanced scorecard. Chapter 4 forms the last part of the literature review, introducing the theoretical lens supporting the validity and relevance of the study, resulting in the creation of a proposed framework based on all previous chapters. Chapter 5 delineates the research methodology, Chapter 6 discusses data analysis, Chapter 7 discusses the findings of the study and Chapter 8 includes implications to theory and practice, research limitation, recommendations and conclusions.

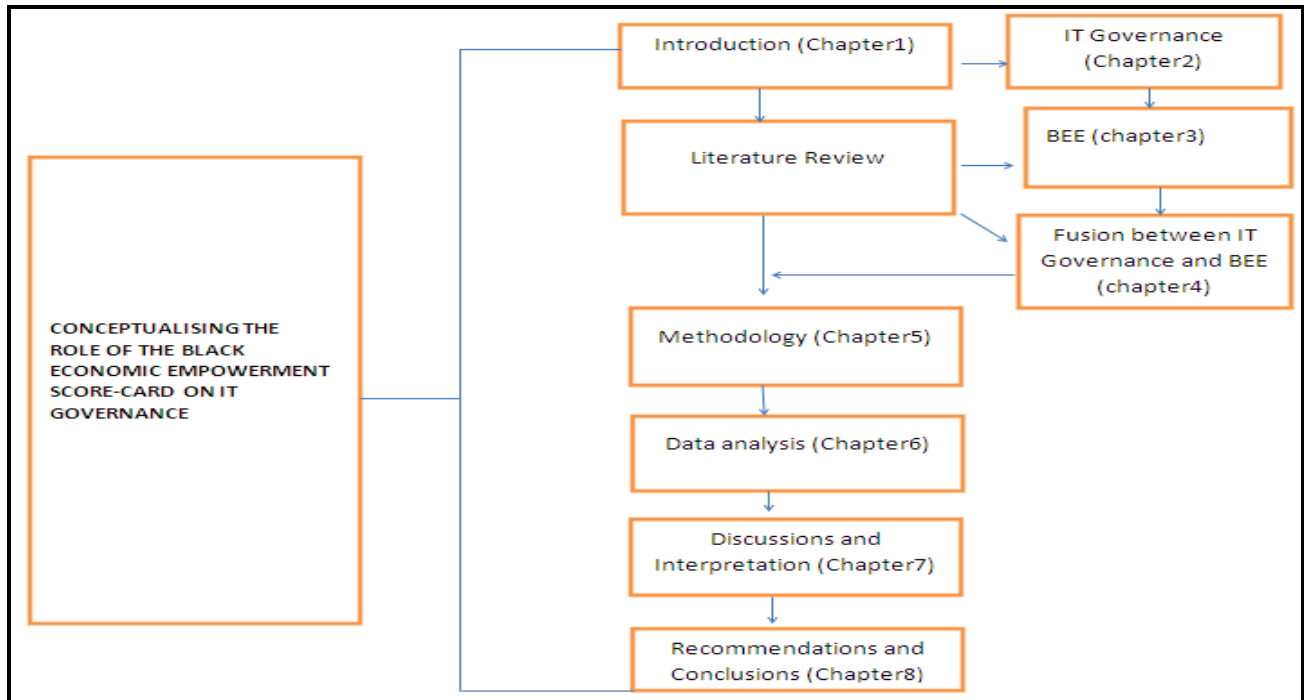


Figure 2: Research Outline

1.9 Chapter Conclusion



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This chapter provided the background for the main concepts underlying this study. Black economic empowerment issues have built up in the ICT industry in South Africa over the past 10 years (Evans, 2006). Since IT governance is an essential ingredient of corporate governance, the current study was inspired by the limitations of the previous studies that only focused on empowerment and diversity initiatives and on corporate governance resulting in improved corporate performance. This chapter introduces the synchronous fusion between the BEE scorecard and IT governance. The chapter has highlighted the significance of diversifying and investing in human capital in the IT arena, since diversity, innovation and creativity are central to any organization's survival. As confirmed by Coghlan and Hurley (1996), running organizational IT function is getting progressively more intricate. IT executives and their staff should acquire new skills so that they put more focus on business skills rather than technical skills. This

chapter has therefore outlined the need to study the BEE scorecard as a means of influencing successful IT governance implementation.



Chapter 2 Literature Review

This chapter delineates the concept of IT governance and its essential components as well as the overall value IT governance brings to an organization. This chapter puts more emphasis on vitality and the significance of IT governance as a good corporate practice. It unpacks IT governance frameworks and their respective contribution toward addressing IT governance issues. It serves as a basis for the arguments in this study that IT governance has become integrated in business processes and that it operates within constantly changing social contexts that may impact on its effectiveness.




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2.1 Introduction

The main purpose of this chapter is to provide insights based on IT governance on the literature. It starts by discussing corporate governance and its relationship with IT governance followed by the main tenets of IT governance. As affirmed by Weill and Ross (2004), IT governance is an integral part of corporate governance; this accounts for this chapter starting by delving into corporate governance. It also continues by elucidating and unpacking equally important IT governance aspects which include strategic alignment, the purpose of IT governance, fundamental decision making models and IT governance frameworks selected for this study. The chapter finishes with the conclusion.

2.2 Corporate governance

The logo of the University of Johannesburg, featuring two stylized birds facing each other with an open book between them, and the text 'UNIVERSITY OF JOHANNESBURG' to the right.

Prior to jumping into the broader issue of IT governance, Weill and Ross (2004), and Calder (2009) suggest that it is of utmost importance to first look at corporate governance in organizations. Corporate governance is not only broad in scope but it also has varying connotations and implications in different countries and organizations (Ali and Gregoriou, 2006; Forbes and Milliken, 1999; Green, 2005). According to Rezaee (2007), corporate governance is now known to denote the entire process of governing companies and fulfilling shareholders' interests in compliance with laws and ethics, ensuring transparency and accountability in organizations financial and non-financial performance to eradicate any corruption or scandals within those organizations. Similarly, Green (2005) defines it as a spectrum of key factors that are engaged in maintaining equilibrium between decision-making power vested in the CEO, the board and the shareholders and managers to guarantee clarity in responsibility and role assignment in organizations' activities. Mallin (2002) confirms that ensuring clarity

in responsibility and role assignment is key to assuaging prevailing conflicts between the key players in the corporate governance domain.

According to Rezaee (2007) corporate governance in enterprises happened to be a prevailing industry topic that drew the attention of corporate governance professionals as result of corporate scandals in very big enterprises such as WorldCom, Tyco, and many others in 2002. Lipman and Lipman (2006) note that the significance of corporate governance in organizations is not recent, but the magnitude of the disastrous financial outcome of these fraudulent scandals have had a destabilizing effect on the confidence of diverse investors and have amplified investors' apprehension about the capacity of enterprises, both public and private, to look after their stakeholder interest. Deficiencies in the stewardship of investors' financial capital by companies' management result in many companies suffering acute diminution in profits (Ali and Gregarious, 2006; Mallin, 2000). This is reinforced by Rossouw (2005) claiming that dwindling confidence in the corporate sector has led to a downward strain on stock prices globally, especially in U.S. Consequently, the US government interceded and enforced new legislation obliging CEO's to verify the meticulousness and accuracy of their respective organizations' accounts and to publicize their financial reports (Green, 2005; Epstein and Hanson, 2006). Consequentially, enterprises in America strengthen their self-regulation through strict rules and codes of conduct that direct their employees' behaviour (Arjoon, 2005; Huse, 2005). **Figure 3** portrays what corporate governance entails.

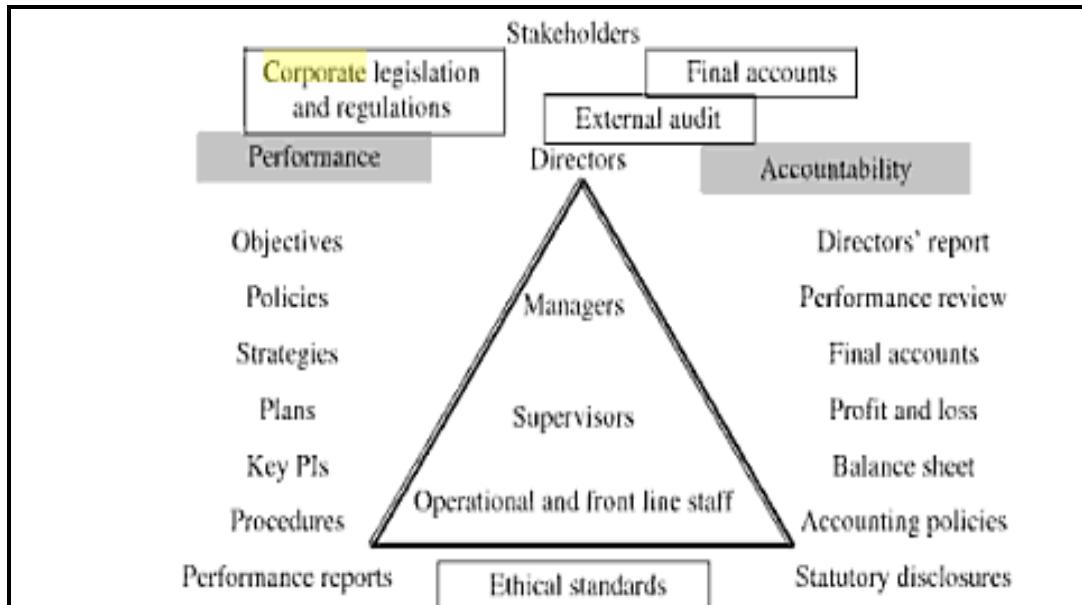


Figure 3: *Corporate governance constituents (Pickett, 2010)*

A lot of studies demonstrate that many factors drive and shape the evolution of corporate governance in the corporate world (Forbes and Milliken, 1999, Pickett, 2010, Lipman and Lipman, 2006). Forbes and Milliken (1999) admit that corporate governance is an excessively intricate system in view of the fact that it does not comprise just one set of laws to resolve matters concerning corporate governance, but there is a variety of laws coming from various independent statutory bodies.

Moreover, even though state law was profoundly predominant in corporations in the past, it is only after scandalous practices became rampant in large companies such as Enron, that the Sarbanes – Oxley statute grew to be a truly corporate law epitomizing federal law (Steger, 2004). Sarbanes –Oxley Act was inaugurated as a way to bring an end to widespread investor scepticism about the protection of their investments in corporations. The Sarbanes - Oxley Act lays substantial emphasis on rectifying the most essential deficiencies underlying inconsistent corporate governance systems (Lipman and Lipman, 2006; Epstein and Hanson, 2006). Such manifestations of inadequate corporate governance practices include embezzlement of corporate funds, inability of

management to successfully address conflict of interests that are rife in corporate governance, pervasive vagueness, unreliability, and lack of standards when reporting financial performance (Lipman and a Lipman, 2006). Steger (2004) is of the opinion that the prevailing absence of independence between major partakers, being auditors, management, board of directors, investors, in corporate governance has the potential to preclude success of accomplishing transparent and accurate governance in industries.

Brown and Yarberr (2009) point out that it still remains a fundamental prerequisite for organizations to spell out how to create those conditions through constructing right kinds of safeguards, right customs, habits and practices that will bring about true independence and thinking about the welfare of the of the stakeholders. In addition, Durde and Pech (2006) state that having an effective board of director's means having an effective group of people who work together as team with a significant degree of independence. The possibility of engaging in independent decision-making and debating issues intensely then getting back together as a team requires a strong decision making ability and expertise. Shortcomings that may develop because of one's effectiveness on the job depends on the kind of decisions one makes and it is therefore imperative that board members have a deep understanding of the dynamics of decision making (Brown and Grant, 2005; Brown and Yarberr, 2009, Weill and Ross, 2004). Likewise, Steger (2004) advocates that key players in corporate governance in one company must not only attempt to mirror or analyse what other companies do, but also attempt to elevate the best practices of management within their companies. He further cautioned that, in many cases, senior managers are not subjected to adequate scrutiny by boards of directors.

However, Du Plessis, McConvill and Bagaric (2005) suggest that with appropriate control systems in place, a lot of problems, such as executives fighting with the board of directors due to lack of reflection of clear long term objectives in the corporate policies,

could be avoided. The involvement of all employees in corporate governance, a good system of corporate governance for board of directors, shareholders, and top management are actually key to ensuring proper tracking of an organization's performance (Fisher, 2004). Additionally, the paramount ingredients of good corporate governance are professionalism and trust between key players. These will project the company toward a brighter future by using principles, policies and practices that are well understood and strictly observed by everyone (Fisher, 2004, Galbraeth, 2006, Robins, 2006).

2.3 Relationship between Corporate and IT governance

IT governance is acknowledged and widely accepted as a dynamic expansion of corporate governance focusing on IT related issues in the organizations (IT governance Institute, 2008; Pearson and Saunders, 2009; Weill and Ross, 2004, Calder, 2007). In addition, IT governance is recognized as a suitable approach adopted by businesses to charge the board with the responsibility to leverage effective technology usage within the organizations (Norfolk, 2005; IT Governance Institute, 2006). Weill and Ross (2005) and Norfolk (2005) articulate that IT governance is a fundamental ingredient of enterprise governance. However, even though a lot of current literature suggests that corporate governance is confused with enterprise governance, the latter is said to be broader in scope than the former. Throughout this study, the term IT governance will be utilized as the basis for this study.

Epstein and Hanson (2006) point out that corporate governance is the broad framework through which companies are guided and pointed in the right direction for proper administration and control. Additionally, Lipman and Lipman (2006) regard it as a legal framework through which disagreement between corporate governance key players are resolved, while IT governance espouses the accomplishment of the corporate mission, objectives, goals, tactics and strategy through the proper implementation of valuable IT

initiatives and investment (Pour, 2006 ; Sohal and FitzPatric, 2002; Weill and Woodham ,2002).

Corporations' excessive reliance on information technology has consequently made it impractical for corporate governance to successfully deal with matters within its domain without being concerned about information technology issues (IT governance Institute, 2008). As such, Calder (2007) urges that corporate governance should thus steer and gear IT governance up for a positive business outcome. Consequently, information technology can shape potential strategic opportunities that have been delineated by the company and can yield vital contributions to strategic plans as input (Weill and Woodham, 2002). In this fashion, IT governance can smooth the progress of the enterprise in exploiting all cost effective benefits inherent in the efficient utilization of information technology, and thus it can be perceived as forming a basis for proper corporate governance (Renken, 2004). Therefore it is prudent to deduce that corporate governance and IT governance are closely interlinked such that a deficiency in one can result in a deficiency in the other. Verhoef (2007) also concedes that it is imperative that IT governance be well incorporated in the whole corporate governance structure. Additionally, this association can be well articulated by ascertaining that corporate governance policies translate well with IT governance for successful implementation (Brown and Yarberry, 2009). **Figure 4** demonstrates how IT governance fits in corporate governance within an organization.

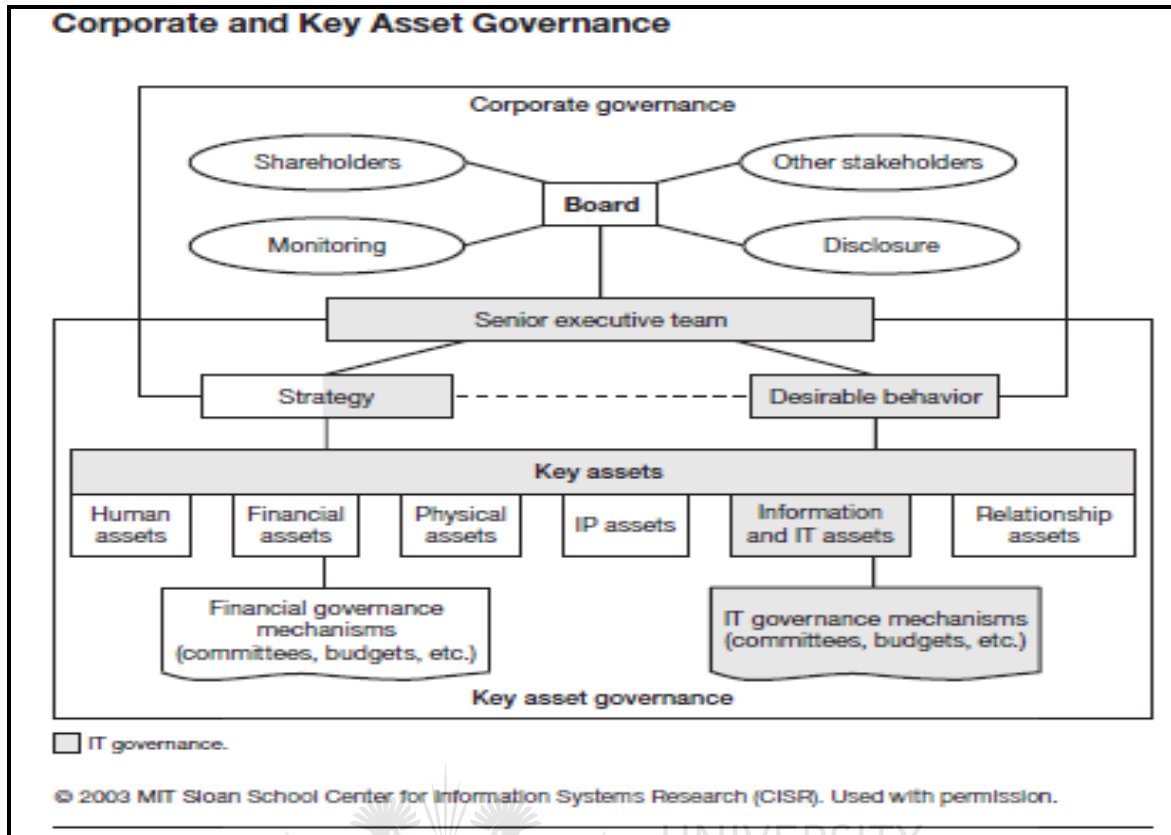


Figure 4: Corporate and Key Asset Governance (Weill and Ross, 2005)

2.4 IT Management and IT Governance

Since its early development, Information Technology has been assisting firms to perform more efficiently and facilitating businesses to venture into new opportunities and thus expand their market share (van Grembergen, 2004; IT governance Institute, 2008). During its evolution, IT has developed into the backbone of business success to an extent that it would not be viable for business to sustain its competitive advantage without it (Porter, 1985; Pearlson and Saunders, 2009). Weill (2004) affirms IT is no longer regarded as an isolated business function but as a vital constituent of an enterprise.

As affirmed by Van Grembergen, 2004 cited by Sallé (2004), a three stage approach as demonstrated in **Figure 5** was followed by IT organizations when technology started gaining widespread recognition, compelling IT organizations to be more business oriented as opposed to being technically oriented.

- The first stage is IT infrastructure management where focus lies on enhancing the management of IT organization. Calder (2007) stresses that a solid IT infrastructure management ensures maximization of return on operational IT investment.
- The subsequent stage is service management (ITSM) which perceives IT organization vigorously recognizing the need for satisfaction of customers through delivery of services and products customized for their unique needs. Additionally, Sallé (2004) states that the development and management of service-level agreements supporting IT services should be tailored to the requirements of customers in terms of quality and cost.
- The last stage is IT governance which focuses on value creation and management to sustain business; this is of paramount importance (van Grembergen, 2004; Peterson, 2003). Unlike in other stages, in this last stage, IT organizations have embraced full integration of IT solutions and business processes, allowing business to expand and improve services for quality excellence (van Grembergen, 2004).

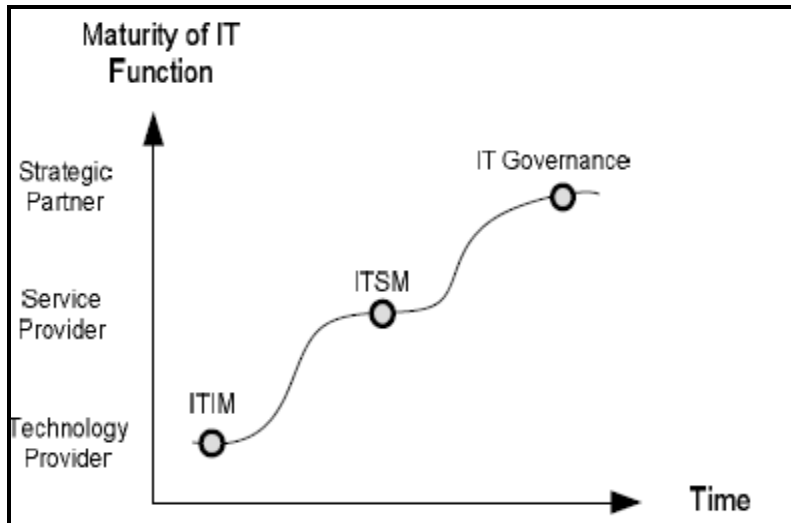


Figure 5: *Evolution of IT Function (van Grembergen, 2004 cited by Salle, 2004)*

The principal concern embedded in the multiple definitions of IT governance is the linkage between information technology and existing potential business objectives that indicate where the business will be in the future (Sallé, 2004; Henderson and Venkatraman, 1999). van Grembergen (2004) admits that the distinction between IT governance and IT management has always been difficult to establish due to their implicit resemblance. Nevertheless, Peterson (2003) proposes a clear distinction between the two concepts by means of the diagram demonstrated below (**Figure 6**).

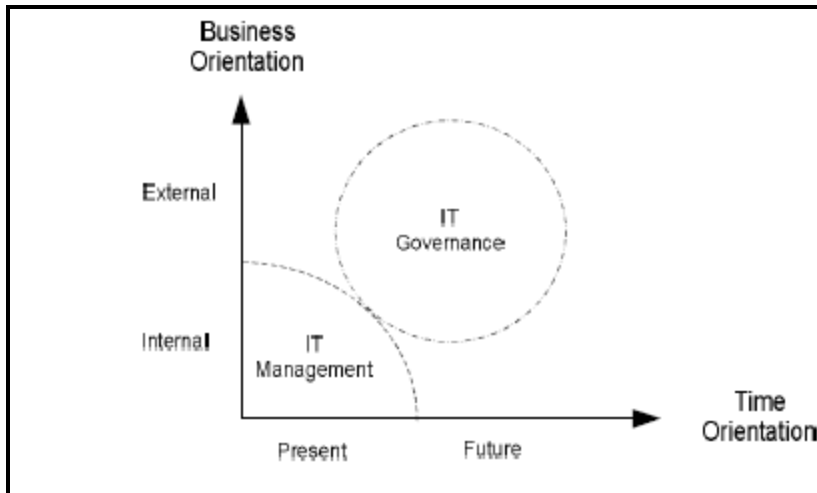


Figure 6: *IT management and IT Governance (Peterson, 2003)*

IT management underlies effectiveness and efficiency in coordinating provision of IT services and products as well as managing existing IT operations within an organization (ITGI and OGC, 2005; ITGI, 2010; Sallé 2004; Betz, 2007). Whereas IT governance is said to be more comprehensive and its focus extends beyond just internal IT issues, it also involves executing and adapting IT solutions to meet both internal and external needs of the business (Johnson 2005; Brown and Grant 2005). It is important to note that IT management focuses only on the present needs of the business to fulfil daily IT operations to meet short term goals while IT governance focus on both present and future needs of the business to accomplish long term goals of the business (van Grembergen, 2004).

However, IT Governance Institute (2006) argues that even though IT management has a narrow time dimension as indicated by van Grembergen (2004) and Peterson (2003), it is imperative that its significance and intricacy warrant full commitment by IT professionals in the business arena. In addition, Sallé (2004) draws a distinction between IT management and IT governance by pointing out that elements of the former can be outsourced to an external provider whereas the latter is the integral part of any

organization rather than a commodity and therefore it cannot be delegated to any other outside entity.

2.5 Main Objectives of IT Governance

IT governance should be part of an enterprise's overall governance structure Its main objectives are as follows: (Brown and Yarberrry,2009, Guldentops,2004, Norfolk, 2005, IT governance Institute,2008).

Strategic Alignment: Strategic alignment emphasizes the need for sound investment decisions in order to bring optimum benefits to fruition thus increasing an organization's ability to generate revenue. Strategic alignment also ascertains a clear and unambiguous link between organization strategy and IT portfolio strategy together with its supporting IT program strategy through IT enabled project investments. Furthermore, strategic alignment plays a major role in ensuring improved transparency and understanding risks, costs and benefits thus allowing management to make informed decisions. This curtails pervasive IT project failure and capitalizes on the chances of projects succeeding (IT governance Institute, 2008, Henderson and Venkatraman, 1996).

Resource management: focuses on the effective deployment of IT resources, such as people, technologies and other facilities related to IT investments, through efficient use and allocation. Organizations must continuously assess competency and capability of their IT resources in order to sustain business operations (Guldentops, 2004). This could be achieved through the enforcement of policies and standards outlining adopted sourcing procedures and practices. Most importantly, according to IT governance Institute (2008), resource management encompasses mechanisms adopted by an organization to retain and share knowledge to avoid loss of highly valued skills as result of resignations by employees.

Risk management: Risk management entails risk awareness by an organizations' top management as well as the eagerness of organization management to understand and mitigate risks depending on the level of impact they might have on the business. This is so that IT assets can be proactively protected to ensure business continuity through disaster recovery mechanisms and implementation of security measures. It is about the establishment of risk assessment frameworks for delivering a consistent guideline and serving as a risk communicating tool tailored to suit the overall risk management context of a specific organization (Calder, 2009). Additionally, Weill (2004) asserts that a clear and comprehensive risk management plan should be developed and be communicated to stakeholders. In addition, reporting of IT related risks on a regular basis will ensure sufficient internal and external IT risk management and control.

Value delivery: value delivery is about ensuring the execution of value proposition at every phase of the delivery chain, starting from the development of business cases up to the completion of IT projects to ascertain that IT projects support business objectives. It can only be achieved if an organizations' IT portfolio and programs are well organized and optimized to support business goals. Brown and Grant (2005) stresses IT value delivery is not only confined to value realization by organizations, it includes responsiveness to customer needs as well. It also entails the utilization of IT capabilities and assets in a cost effective manner through proper cost management and control.

Performance measurement: performance measurement puts emphasis on tracking and monitoring IT services using widely recognized measurement tools such as a balanced scorecard. It includes well established and transparent reporting mechanisms between all key stakeholders of IT project investments reflecting the overall progress of the IT portion, program strategies towards reaching the envisioned business objectives, and an organization's effectiveness in mitigating risks. It is through performance measurement that problems can be identified and solved accordingly. This leads to the detection and improvement of implicit organizations' status quo (Kaplan 1993; Pearlson and Saunders, 2009). **Figure 7** shows summary of the main objectives of IT governance.

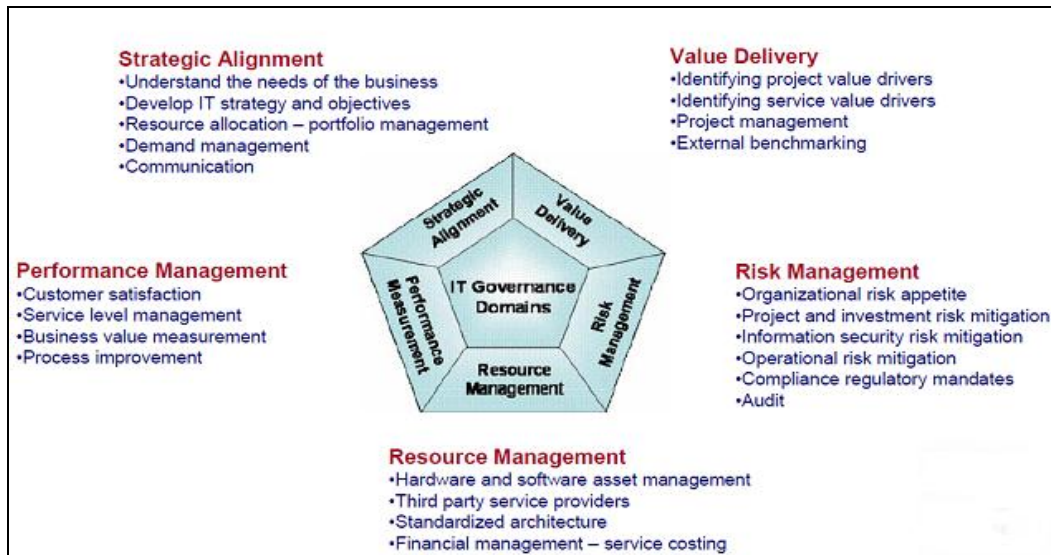


Figure 7: Main objectives of IT governance (Milne and Bowles, 2009)

2.6 The Importance of Strategic Alignment

Making sure that IT goals and directions fit with the business needs, goals and directions has been widely accepted as a proper business IT alignment or strategic alignment (Robson, 1994; Henderson and Venkatraman, 1999; Pearlson and Saunders 2009; Weill, 20004). Unlike any other area of business, aligning IT is the concern of the executive board and IT senior staff; this has noticeably become a real challenge in the 21st century (Henderson and Venkatraman, 1999). This is partly due to the fact that leveraging IT initiatives is expensive and therefore a specialized set of knowledge in IT and business is required of IT professionals. . This expertise is necessary to ensure the needs and directions of business are commonly shared and communicated throughout the organization (Ives, Jarvenpaa, and Mason, 1993). A lot of literature confirms that profitability of an organization could only be enhanced through the proper fusion of business and IT (Henderson and Venkatraman, 1990; Henderson and Venkatraman, 1996; Pearlson and Saunders, 2009). However, van Grembergen (2004) posits that the incapability of an organization to leverage IT has the potential to impede its success in

reaping the benefits offered by IT. Additionally, regardless of the general notion that business and IT strategies should be harmoniously integrated. The IT Alignment Governance Institute of the University of Antwerp Management School and IT Governance Institute (2008) emphasizes the need to sufficiently clarify characteristics of the implied alignment between business and IT strategies.

Despite the widespread dispute over the nature of alignment, Henderson and Venkatraman (1996) argue that alignment is perceived as enabling an organization to maximize its return on IT investment, thus assisting it to attain a competitive advantage through IT strategy and provide guidance and adaptability for the business to respond to emerging business opportunities.

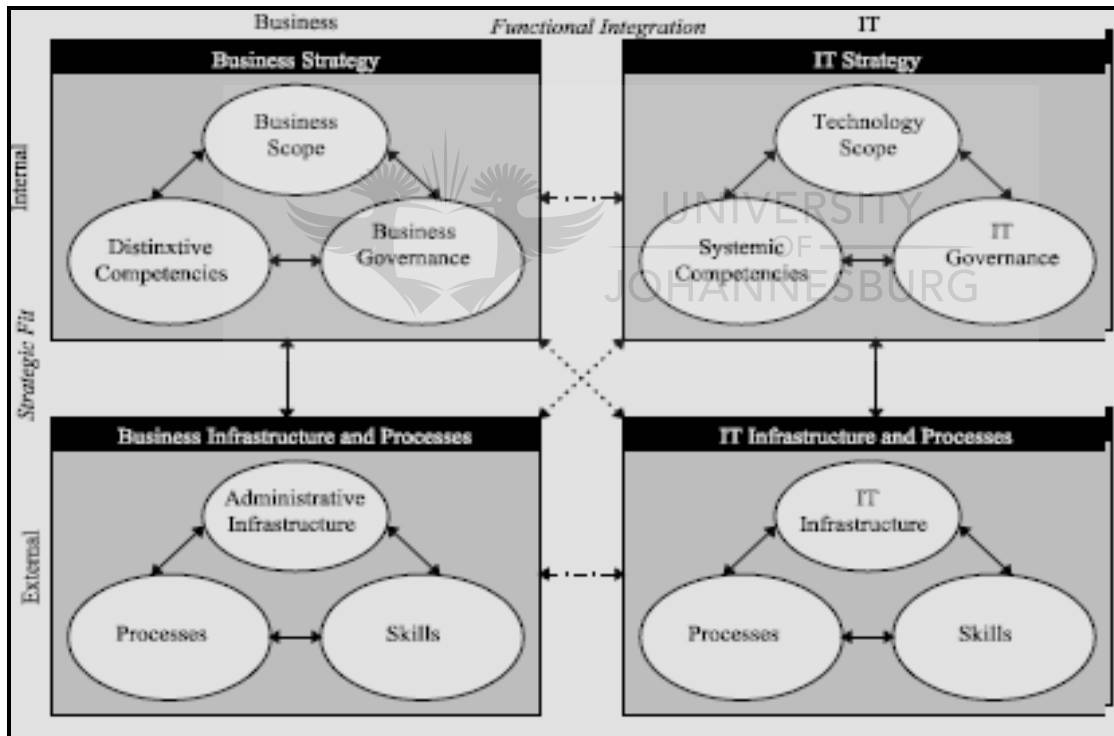


Figure 8: Strategic Alignment (Henderson and Venkatraman, 1996)

Henderson and Venkatraman (1996) has suggested the model depicted above to enlighten organizations as to how they can best achieve proper fusion between their business and IT divisions to allow IT to assist in business process optimization . This

fusion is driven by the need to ensure a fit between IT goals, objectives and activities and those of the business.

Business strategy

Business strategy is said to be central to facilitating the transformation of organizations. Ives, Jarvenpaa, and Mason (1993) acknowledge the fact that the concept of strategy bears different meanings and conceptualizations depending on the context in which it appears. Nevertheless, a great many discussions agree on the essential components of business strategy being business scope, distinctive competencies, and business governance. Business scope describes business preferences concerning type of products and services it needs to offer to market. Distinctive competencies refer to ways in which the business adds value to its services and products either through efficient distribution or offering quality services with competitive prices so as to win more customers. Business governance denotes systematic mechanisms to coordinate and arrange business operations, Henderson and Venkatraman (1996) add that such initiatives as planning for strategic alliances and licensing issues are part of business governance.

Organizational infrastructure and processes

The critical components of this strategic alignment aspect include administrative infrastructure, relationship processes and skills. Administrative infrastructure entails overall organizational structure, roles, responsibilities and reporting mechanisms of a specific company. Processes include the layout of work flow and related information flow for performing main business activities. Skills include individual abilities and competencies to carry out various tasks required to foster the business strategy (Henderson and Venkatraman, 1996).

Information technology strategy

Current literature indicates the notion of IT strategy is fairly recent as compared to business strategy, and thus induces a variety of meanings, some of which are based on pure suppositions. However, Pearlson and Saunders (2009) concede that IT strategy gives rise to new optimism in the company. Henderson and Venkatraman (1996) identified information technology scope, systemic competencies and IT governance as most important elements of IT strategy. Information technology scope encompasses IT systems and facilities and competencies supporting organization operations e.g. network infrastructure and design, robotics and the like. Systemic competencies include those capabilities of IT that characterize innovative and creative IT organization: This includes such aspects as system reliability and flexibility to mention a few. IT governance structural approach designed to exploit IT capabilities and service. It is broader in scope and may focus on both internal and external IT issues of an organization. Moreover, it engages more on long term IT plans such as the development of partnerships and outsourcing mechanisms (Norfolk, 2005).

Information technology infrastructure and processes

Parallel to organization infrastructure and processes, this feature is characterized by architecture, processes and skills. Architecture includes selection of data, applications and configurations to support business activities. Processes include ways in which work processes fundamental to IT infrastructure operations are outlined e.g. system development, monitoring and control. Skill includes knowledge and expertise to manage IT infrastructure within an organization (Henderson and Venkatraman, 1999).

Strategic Fit and Function Integration

Having discussed the main element of strategic alignment, it is imperative that linkages between the components are consolidated in order to create a bigger picture of the entire model, and to determine how strategic alignment can be ensured. The first linkage as identified by Henderson and Venkatraman (1999) is vertical linkage. This refers to the strategic fit necessary for the business to make sound decisions that have a bearing on the future position of the business in the global market. Conversely, Luftman, Lewis and Oldach (1993) contend that strategic fit emphasizes the way to settle on beneficial business infrastructure using the business strategy. Another important linkage is functional integration which articulates how to attain proper fit between information technology and business. This insinuates that the transformation of business goals and processes dictate a consequent change in information technology strategy in order to maintain alignment (Pearlson and Sauders, 2009). Additionally, Porter (1985) confirms that the ability to leverage information technology gives a boost to businesses' competitive advantage in the marketplace, thus maximizing value derived from information technology.

2.7 Why IT Governance?

IT governance highlights the following essential IT aspects for business success (Robson, 1994; Weill and Ross, 2004; IT Governance Institute, 2006; Brown and Grant, 2005):

- Leadership
- Strategic vision and alignment
- Objectives
- Organization structure and processes
- Responsibility and accountability
- Transparency

There are many factors that have driven the recent popularity and recognition of IT governance in businesses. Firstly, IT accounts for a major portion of organizations' budgets (Sambamurthy and Zmud, 1999, Malizlish and Handler, 2005; Brown and Gatian, 1995). IT has always been accepted as a technical field and therefore it was more difficult for non-IT executors to understand how IT works. Consequently, it was considered a "black hole" where you put in a lot investment but you do not get what you expected out of this investment. This is worsened by the absence of the creation of business case which helps establish the potential value that IT can provide before IT investments are effected (Norfolk, 2005). Secondly, the inability to translate IT in business terms leads to a failure to properly mesh IT and business strategy as recommended by Pearlson and Sauders (2009). Thirdly, IT in itself has become so complex that governing it requires clarity and transparency for efficient risk management in order to create intended value (Khan 2006; Peterson, 2004). In this regard, Weill and Ross 2004 reiterates that it is important to note that IT is part of corporate governance and therefore cannot exist on its own.

The most important aspect of IT governance is that IT should align with the business objectives (Luftman, Lewis, and Oldach, 1993; Henderson and Venkatraman, 1990; Ives, Jarvenpaa, and Mason, 1993). Contrarily, Peterson (2003) asserts that having proper alignment alone is not sufficient; organizations need to determine if current IT value proposition is proportionate with IT investments that have been implemented, thus indicating the level of alignment between IT and business. Other crucial business concerns that IT governance addresses include measuring risk and cost at which IT creates value for an organization, and bringing the concept of risk management and resource management into play so as to achieve cost optimization (IT Alignment, Governance Research Institute of the University of Antwerp Management School and IT Governance Institute 2008). Additionally, even though the way IT interacts with the business is one of great controversy, Robson (1994) and Peterson (2003) stress IT governance is intended to strengthen internal control through policies, procedures and standards for transparency and compliance purposes as well as to reinforce the relation between IT and business.

2.8 Fundamental Decision Making Modelling

According to Brown and Magill (1994), allocation and distribution of decisions rights is an elementary component of IT governance. The contemporary literature on IT governance supports that IT governance could be classified as centralized, decentralized, federal or hybrid depending on the underlying organizational context and structure of a particular organization (Brown,1997, Weill and Ross, 2004; Pearlson and Saunders, 2009).Proper IT governance implementation assists organizations to make sound and informed decisions regarding IT investments and initiatives which are supposed to be in line with the overall business strategic objectives. As such, virtually all organizations get involved in some form of IT decision making process (Sambamurthy and Zmud, 1999). On the contrary, van Grembergen (2004) argues that every organization holds extremely different views regarding the detailed definition of accountability and the intensity of rigor in formally approving and divulging decision making processes in IT governance. Similarly, Weill and Woodham (2002) indicate that failure to adopt formal IT governance can consequently result in isolated decision making by individual managers which in turn raises misalignment issues that IT governance is meant to ameliorate, thus rendering IT governance futile or ineffective.

Hardy (2006) agrees that a lot of organizations are oblivious to the existence of the concept of IT governance, let alone what it entails. This leads to the pervasive failure of IT governance implementation. Peterson (2003) and Trite (2004) strongly assert that the only way to realize more value from IT is when senior managers invest a lot of time in designing, executing and communicating IT governance processes, policies and practices. Weill and Ross (2005) assert that successful IT governance is a consequence of meticulous design and implementation by very well informed managers with extensive knowledge of what proper IT governance entails. They further state that top companies attribute their success to the clear understanding of IT governance by all partakers in IT decision making. In actual fact, executive board and senior management's adequate knowledge and understanding of IT governance sets the best

benchmark for proper IT governance implementation (van Grembergen & De Haes, 2003, and van Grembergen, 2004).

Most importantly, IT governance necessitates fastidious analysis about the credibility of those who make decisions and the transparency in decision making processes within essential IT decisions domains. This includes IT principles, infrastructure, architecture, and investment and prioritization (Weill and Ross, 2004; Weill and Ross, 2005). Thus preventing universal misunderstanding of how to design more decent IT governance across organizational functional units. Weill and Ross (2004) cited by Sallé (2004) suggested the IT governance framework that delineates how decisions are made in key IT domains. The governance mechanisms involved in decisions are known as IT governance archetypes (Weill and Ross, 2004; Pearlson and Sauders, 2009). These include IT monarchy, feudal, federal and anarchy, these were created in an attempt to foster desirable behaviour through IT governance. **Figure 9** depicts IT governance matrix which maps key IT domains and IT governance archetypes to clearly illustrate who is engaged in which kind of IT decisions. Sallé (2004) acknowledges that this model has gained popularity among managers in IT and those outside IT, and therefore is regarded as the most appropriate tool for guiding IT decision in organizations.

The following briefly explains IT governance archetypes and IT governance domains as presented by Pearlson and Sauders (2009):

IT Governance Archetypes

Business monarchy: business leadership itself makes all IT related decisions.

Monarchy: IT leadership takes full decision right relating to IT for governing IT.

Federal: Governance rights are shared by senior executives and at least one business group.

Duopoly: Decision rights are shared by IT practitioners and one business group with a senior executive.

Feudal: Business units have all the design rights and authority is local.

IT Governance Decision domains

IT principles: These include organizational principles, policies and standards guiding the direction of organizational goals.

IT Architecture: An integrated set of technical choices.

IT Infrastructure Strategies: Strategies for the base foundation, centrally coordinated services, e. g., network, shared data, etc.

Business and Application needs: specifying the needs for purchased or internally developed systems

IT Investment and prioritization: Decisions about how much and where to invest in IT including project approvals and justification techniques.

Figure9 demonstrates IT governance matrix arrangements mapping IT decision domains with Governance Archetypes that can be adopted in any organization.

Decision Domain Style	IT Principles		IT Infrastructure Strategies		IT Architecture		Business Application Needs		IT Investment and Prioritization	
	Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
Business Monarchy										Cap appr comm
IT Monarchy				IT leaders		IT leaders				
Feudal										
Federal	Exec comm Biz leaders		Exec comm Biz leaders		Biz leaders Biz pro own		Biz leaders Biz pro own Biz IT RM	Biz leaders Biz pro own	Exec comm Biz leaders	
Duopoly		Exec comm IT leaders								
Anarchy										

Input rights = Decision rights =

Governance mechanisms Exec comm – Executive committee/C-levels Biz leaders – Business unit heads/presidents IT leaders – CIO, CIO offices and biz unit CIOs	Cap appr comm – Exec comm. subgroup includes CIO Biz prc own – Business process owner Biz IT RM – Business/IT relationship managers
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Figure 9: IT governance decision matrix (Broadbent & Weill, 2003 cited by ArgoWiki, 2009)

2.9 IT Governance Frameworks (COBIT, ISO /IEC 17799, ITIL and KING III)

COBIT

Since Information Technology is extensively incorporated into many organizations, effective implementation of IT governance has become a prerequisite for value realization from IT (Feed and Willlocks, 1998; Calder, 2009; Read, 2004). As such, a need for frameworks each with special focus within the realm of IT governance came in to being, hence the inception of control objectives for Information and Related Technology (von Solms, 2005). COBIT has stood out from the rest of the fundamental IT governance frameworks to the degree that it is generally misconstrued as the only core framework indicative of good IT governance and it has pervaded the current literature pertaining to IT governance (IT Governance, 2009). Pearlson and Saunders (2009) concedes that COBIT is recognized as the most important tool steering organizations towards proper IT governance through the use of diverse techniques and methods that help evaluate IT governance systems, thus allowing IT managers to balance between regulatory requirements, technological concerns as well as business risks.

COBIT is intended to be an IT governance framework meant to assist management in their endeavour to comprehend how to control and manage IT risks and benefits. The key feature that underlies the general acceptance of COBIT is the fact that it is an open-standard created and supported by the IT governance Institute and ISACA (IT Governance Institute, 2009). It can be implemented in any organization irrespective of IT platform taken on by a particular organization (IT Governance Institute, 2006). Ridley, Young and Carol (2004) emphasize that COBIT sets up a link between the business objectives of an organization and its IT standards through consistent policies and principles that have gained universal recognition by IT governing bodies and professionals. In addition, the IT Governance Institute (2009) states the three distinctive beneficiaries of COBIT are managers, auditors, and users. COBIT enables managers to cope with an unstable IT environment by providing them with refined and simplified techniques to effectively weigh benefits against risk when making IT investments. It

assures the users of the security measures imbedded in IT services that organizations deliver to customers, thus obtaining trust from both internal and external customers. It also helps auditors to authenticate their recommendations when providing guidance to management on how to carry out their internal controls.

Furthermore, according to Tuttle and Vandervelde (2007), COBIT can be executed at the uppermost level of IT governance, presenting a comprehensive control framework founded on an IT process that is designed by the IT Governance Institute to commonly complement every organization. COBIT not only lays down good practices for IT practitioners, but it contributes considerably towards the generation of value for an organization (Posthumusa and von Solms, 2005; Moeller, 2008; IT Governance Institute 2009): Lainhartiv (2000) corroborates that COBIT is the most germane and complete framework providing support for IT governance.

From a business perspective, COBIT can measure the performance of IT governance, the success of which has positive implication on overall organization performance. As such, COBIT is said to be the most popular framework for assessing the maturity of a particular organization's IT governance (Posthumusa and von Solms, 2005; Lainhart, 2000). This maturity model characterizing COBIT shares the same principles as the Software Engineering Institute's capability model (Ridley, Young and Carol, 2004). Ever since COBIT was initially released by the IT Governance Institute, it has gone through a constant evolution to meet emerging requirements (ITGI and OGC, 2005; ITGI, 2005). It defines IT governance as comprising four domains which are plan and organize, acquire and implement, deliver and support, monitor and evaluate (Pearlson and Sauders, 2009).

Plan and Organize (PO) encompasses ten IT process strategies and tactics in relation to the manner in which IT governance can be implemented. These domains describe 34 processes and each and every process envelops maturity indicators (metrics, role and responsibility assignment) of IT governance. Hardy (2006b) stresses that strategic vision has to be well planned, communicated and controlled, taking into account various

perspectives associated with the organization. Similarly, Tuttle and Vandervelde (2007) advocate that in order for COBIT to accomplish expected results, it is imperative that appropriate organization structure and technological infrastructure are in place, thus allowing full realization of IT strategy and a complete fusion of IT into business process. Acquire and Implement entails seven processes pertaining to acquisition and implementation issues. Deliver and support covers operational facilities and data management, service delivery, and security and continuity management. ITGI (2005) maintains that continuous assessment of IT processes is important to verify quality and compliance status of an organization with control requirement stipulated by IT governance institute. This includes the monitoring and evaluating of governance processes that focus on how performance is managed, how internal control is monitored and the extent to which an organization adheres to compliance standards and regulations.

ISO/IEC 17799

In accordance with von Solms (2005), ISO/IEC 17799 provides a set of guidelines and a range of principles to enhance information security management in an organization. Additionally, the IT Governance Institute (2006) acknowledges that even though 17799 is a security standard offering guidelines, it not only includes sufficient information regarding how security measures should be executed, it includes how to best maintain them. In the sphere of this standard, security control refers to the proper management of risks through the constant assessment of risks facing a particular organization (International Organization for Standardization, 2008). Straub, Goodman and Baskerville (2008) posit that each organization is confronted by different kinds of threats and vulnerabilities. Therefore the way each organization deals with them differs a great deal. And this is complicated by the fact that there is no specific criteria contained in the security control measures dictated by the standard (17799) because of the uniqueness of each organization's vulnerability to threats (Calder, 2007; ITGI and OGC, 2005). Each security control must be treated with equal importance and taken into account depending on the nature of the systems and project requirements in a specific

organization. Negligence of this may lead to unnecessary overspending on security measures or the inability to achieve sufficient security (Nnolim and Steenkamp, 2008). Doherty and Fulford (2006) stress that organizations should not lose sight of the fact that no single standard is a panacea to all security related issues. ISO/IEC 17799 can only achieve complete security by being used in tandem with other standards. Additionally, Straub *et.al* (2008) urge the intervention of management to guarantee the success of security measures by making sure that security initiatives sustain organizations' overarching objectives.

With the rise of concept of globalization, organizations have been subjected to intense competition from other organizations around the global, exposing them to a vast variety of threats emanating from diverse sources such as virus, frauds, hacking, phishing and many more (Relyea, 2004, Schultz ,2004). Siponen (2005) adds that information security has been driven by the need to protect the mountains of data being exchanged by organizations, hence the general acceptance of ISO/IEC 17799 as the essential standard in information security management.

According to von Solms (2005) ISO/IEC 17799 does not only focus explicitly on a specific matter concerning security, it also gives an overview of how organizations can cope with their security issues. This standard is criticized by Wiander (2007) for its scantiness in providing exhaustive details about conformance requirements compulsory for information security management strategy of an organization. He also reiterates that, in addition to its deficiency to adequately addressing security concerns, ISO/IEC 17799 cannot even support relevant certification programs. Nevertheless, when properly amended, Siponen (2006) believes the standard in question could efficiently fulfil high level information security requirements, thus assisting senior management to understand and appreciate fundamental issues inherent in information security. Correspondingly, ISO/IEC 17799 could be improved by applying a more technical approach in order to drive organizations toward a more stable and secure environment that is conducive of doing business with other organizations (Baskerville and Siponen

2002). The revised version addresses security issues in terms of policies and good practises which include organizational security policy, organizational security infrastructure , asset classification and control, personnel security, physical and environmental security. Since the ISO standard embodies the most universal information security framework obtainable in the market, a lot of organizations build their security framework on the basis of ISO/IEC 17799 because it goes a long way in articulating how information security can ensure in an organization (ISO/IEC 17799 2005 cited by Wiander, 2007).

ITIL

ITIL has gained popularity in organizations around the world because of its flexibility as a detailed and comprehensive framework aimed at supporting and delivering IT services for full value derivation for business viability and sustenance for big and small companies (Bartolin and Salle 2004; Stern, 2001, Elephant, 2008). It has also grown to be an effective standard for investigating and resolving problems associated with organizations' operational help desk which includes call monitoring log, maintaining databases for daily record of problems encountered and solutions. Stern (2001) affirms that effective solving of recurring IT-related problems is a fundamental aspect of ITIL without which quality IT service delivery is impractical. The concept of ITIL is based on the generally recognized notion that information is a crucial positive feature of an organization that provide reliable basis for making important strategic decisions (Robb 2007 and Rudd, 2004, Morency, 2005). As such, it is imperative that IT systems are able to effectively collect, analyse and distribute information for quality IT service delivery. ITIL focuses more on proper utilization and management tangible resources which constitute IT infrastructure such as hardware, applications and communication facilities (Pearson and Sauders, 2009). Rudd (2004) highlights that ITIL also addresses normally overlooked issues such as aligning IT systems with business overarching goals, constant business process improvement, continuous enhancement and

management of other business operations related to IT service support, management and delivery (Peterson, 2003, da Cruz and Labuschagne, 2006; Morency, 2005). Rudd (2004) identifies seven key elements of ITIL which include service delivery, service support, IT infrastructure management, IT service management implementation planning, IT application management, business perspective and security. Service delivery: address issues relating to the quality of delivery IT services. Service support: concerned with providing support for daily business operations. IT infrastructure management: concerned with the deployment of IT components and services e.g. testing and installation. IT service management implementation planning: includes processes and procedures for planning business visions and strategies to ensure proper alignment IT systems. IT application management: concerned that the best methodologies (e.g. application life cycle) are followed to ensure IT projects meet business requirements. Business perspective: concerned with guiding IT personnel to deliver services in line with business objectives to allow the full realization of IT value. Security management: concerned with managing security risks and vulnerabilities and providing suitable countermeasures. As a result of the constant evolution of technology which brings about new challenges, a new version of ITIL called ITIL v3 has been developed to address new issues in IT services and those that were overlooked by the original ITIL (Anthen, 2008). ITIL v3 seeks to enhance alignment between business and IT goals, building on its early versions to ensure that IT delivers business value and solve operational problems. This is achieved through service lifecycle (planning, designing, development and utilization of service) and its core principles which include service strategy, service design, service Transition, service continual service improvement (van Bon, de Jong, Kolthof *et al.*, 2008). **Figure 10** demonstrates how ITIL's service level management (SLM) fits in a business environment with other elements of ITIL.

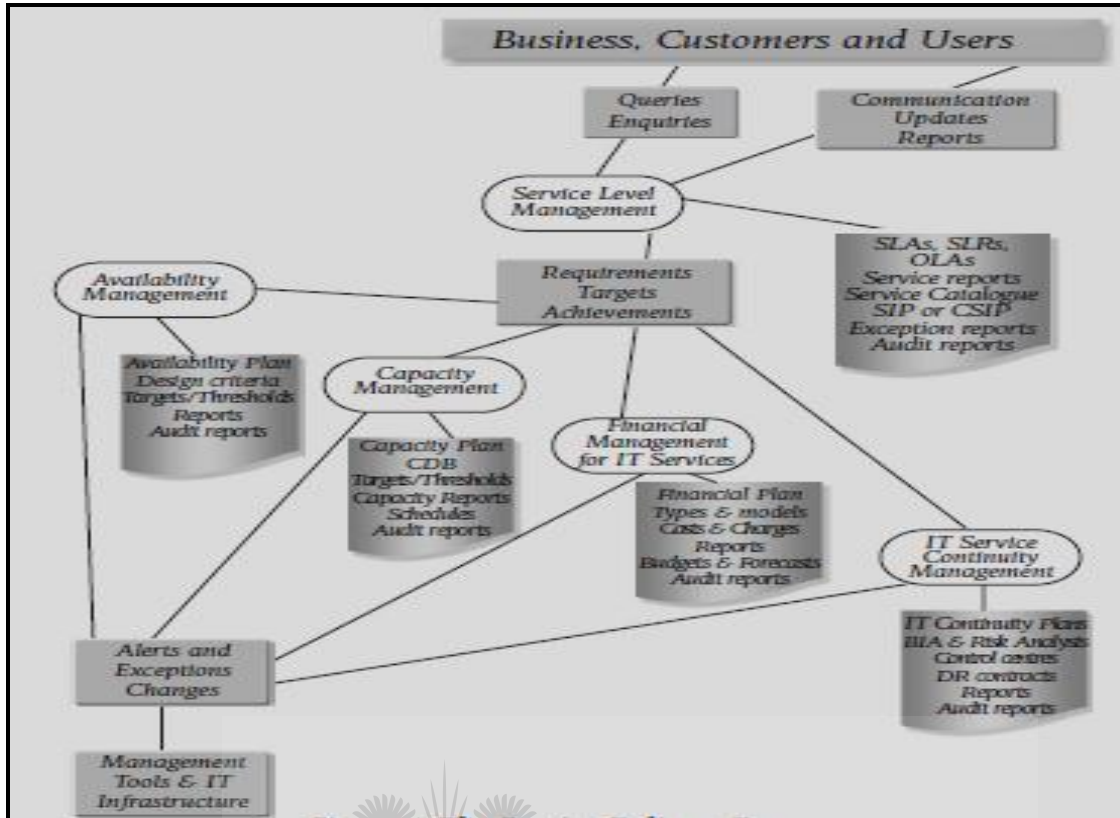


Figure 10: ITIL Framework (Rudd, 2004)

KING III

Since IT systems have become indispensable components of business, it is a prerequisite to have a framework that provides specific guidelines to ascertain effective IT governance, hence the establishment of King III (IT Online, 2009). KING III, which is an improvement of KING II designed to include IT governance issues, enables directors to effectively implement IT governance within their organization while at the same time ensuring proper alignment with organization objectives as well as ensuring that IT risks are properly managed (IT Online, 2009; IT Web Johannesburg, 2009). Additionally, risk and audit teams should be created to control IT risks, track financial risk and report

respectively for compliance purposes. The board is liable for administering proper management of the organization's compliance through enforcement of external and internal laws, rules, codes, standards so as to ascertain proper governance (IT Governance Network, 2010a, IT Governance Network, 2010b). **Figure 11** demonstrates the main focus areas of the King III, IT Governance Framework. Directors should be able to evaluate the significance of IT investments and expenditures as well as delegate the tasks and responsibilities of operational management for accountability and transparency purposes (PWC, 2009). KPMG (2011) acknowledges that KING III alone does not only guarantee the successful implementation of IT governance; it is the responsibility of the board to understand and deploy the best governance practices and principles in order to derive positive results.

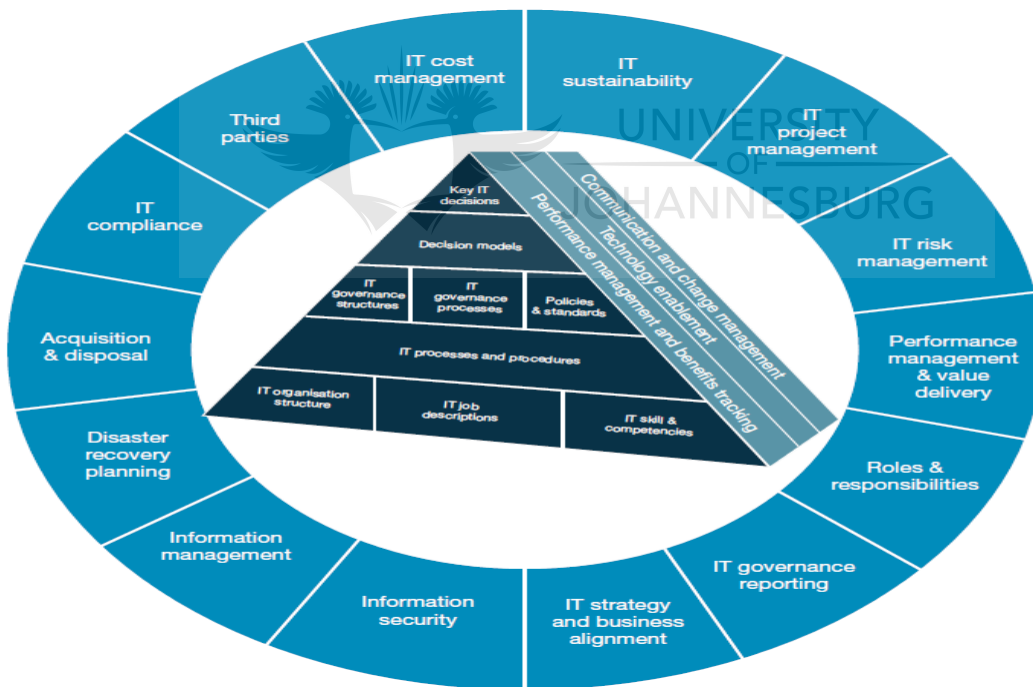


Figure 11: Key IT governance Issues Addressed by King III Framework (PWC, 2010)

In addition, Figure 11 depicts a comprehensive framework that reflects key IT decisions that needed to be considered to convince the board that IT governance will be properly implemented to derive value from IT investment. This framework also highlights that IT leadership needs to be aware of internal and external environment within which IT governance is executed in order to meet the requirements of relevant stakeholders (PWC, 2010).

2.10 Chapter Conclusion

This chapter focused on highlighting the vitality and significance of IT governance in organizations. The chapter revealed that there remains a remarkable consensus between IT governance practitioners and scholars of IT governance that both are integral to corporate governance (van Grembergen, 2004). The chapter has highlighted on how IT governance has evolved over the years and its importance increased in organizations. The present perception is that IT governance is no longer regarded as a separate function playing a supporting role but integrated into business missions and goals in order to realize the expected value from IT investments. IT governance underlies accountability, transparency and responsiveness in conducting business procedures and processes, thus improving decision-making based on adequate and timely information which in turn leads to improved streamlining of IT governance processes. Each of the widely-used IT governance frameworks focusing on each essential aspect of IT governance has been discussed. Since IT governance has become a crucial component of business, there are underlying factors emanating from inside or outside organizational environment within social contexts that drive or inhibit IT governance implementation (Lee *et al.*, 2008). This includes corporate values, legal regulation and compliance, availability of skilled staff, and political /economic environment to mention but a few (Lee *et al.*, (2008). Conclusively, the literature on IT governance confirms that IT is fundamental to business success, that it should be implemented effectively. As such the subsequent chapter (chapter 3, the second part of

literature review) highlights the BEE scorecard as a tool for good governance that affects every business aspect including the ICT sector (IT governance). Thus this chapter lays a starting point for the subsequent chapters especially chapter 3 and chapter 4 which look at the fusion between BEE and IT governance.



Chapter 3 (BEE)

This chapter focuses on the BEE scorecard, discussing the significance of its impact on economic sectors including the ICT sector, the value it brings to organizations and the challenges associated with it as well as lessons from other countries that have experienced transformation issues. The chapter concludes by showing how the BEE scorecard is deemed to be a key factor in promoting diversity in human capital in the workplace, and how this may result in positive outcomes in organizations' business areas.



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3.1 Introduction

This chapter focuses on the literature on BEE policy and the resulting BEE metrics which form the basis for comparison with IT governance implementation in this study. The insights drawn from BEE and IT governance will inform the operationalization of the constructs during formulation of the conceptual model which in turn informs questionnaire formulation. This delves into the dynamics of BEE and its general perceptions by various scholars. It starts by revisiting the BEE concept, followed by BEE legislation, BEE scorecard, lessons from other countries, and, lastly, Chapter conclusion.

3.2 Inspiration towards BEE and its Metrics

Nothing has been more pervasive around the world than economic disparity between different groups of populations which has stifled the economic progress of the affected countries (Scott, 1968). The apartheid regime in South Africa before 1994 left non-white racial groups marginalized; this included African, Asian and Colored (Nattrass, Nicoli and Seekings, 2000). These groups were denied access to privileged and influential positions in organizations on the grounds of racial discrimination (Hamann *et al.*, 2008; Madi, 1997). Consequently, talent remained unexploited thus limiting the economic prosperity of the country (Madi, 1997). Nieman and Bennett (2006) state that government and organizations therefore should work toward investing in their human resources and advocate for inclusive governance in order to remain competitive. To redress the imbalances of the past, transformational initiatives were deployed in South Africa to ensure resource accessibility by all citizens in all aspects of business contexts. The government formulated autonomous bodies charged with regulating and ensuring the meaningful participation of black people in the economy of the country (Denton and Vloeberghs, 2002). Ever since 1994, South African managers have been compelled to

gain knowledge faster in order to save local markets from competitors worldwide (Evans,2006).

However, the prime concern is whether the quality of knowledge was compromised in the fast learning process. What impact will it have on the effectiveness of South African managers in making informed decisions on governance in general? The South African government established a scorecard to monitor and measure the progress of its broad-based black economic empowerment strategy (Wooley, 2005; Roger and Roger, 2008).This BEE scorecard measures BEE compliance levels of enterprises. Moreover, the government decentralized resources to promote BEE and this was accelerated through full participation of local and provincial government.

BEE can be regarded as an external factor that impacts either negatively or positively on any entity that aims to carry out business in South Africa (Nieman and Bennett 2006). As with any external factor, all enterprises must align their policies and processes to BEE in order to remain competitive in the local and international market (Esser and Dekker, 2008). BEE influences companies directly or indirectly, and depending on how it is handled, it may create opportunities and risks for an organization. BEE is now known as broad-based black economic empowerment (BBBEE) to emphasize the fact this policy is not meant to benefit only the elite minority of blacks (Ramaphosa *et al.*, 2009; Roger and Roger 2008). However, the term BEE will be used through the study.

3.3 BEE Legislation

In response to the systematic and purposeful restriction of the majority of South Africans to participate meaningfully in all economic sectors, in 1994, the ANC government made great strides in addressing the unequal governance system through legislation that is central to democratic values to accomplish the radical transformation of South African society (Grace and Simon 2008, Roger and Roger, 2008).This includes the Labour

Relations Act of 1995, the Employment Act 75 of 1995, the Employment Equity Act 55 of 1998, the Skill Development Act 31 of 2003, the Preferential Procurement Policy Framework Act of 2000 and the Broad-Based Black Economic Empowerment Act of 2003. The formulation of all these acts was inspired by the Reconstruction and Development Programme (RDP) which lay down a foundation for transformation and BEE policy implementation and summed up the visions and values of BEE (Ramaphosa *et al.*, 2009). Mparadzi and Okorafor (2009) affirm that BBEE Act not only reinforces the other equality acts, but it also offers incentives to organizations that demonstrate commitment to upliftment of previously disadvantaged people and meet broader socio economic objectives. All of these acts seek to correct the inequalities which were deterrent to economic growth since much talent was left untapped from all South African citizens. To expedite the progress of the BEE policy in order to create equal opportunity to all, the government executed its mission through industry specific charters (e.g. ICT charter), unions (e.g. COSATU) and independent bodies such as DTI, BEE COM, BEE Institute, and BFM to mention a few (Nieman and Bennett 2006). However, only the ICT Charter, COSATU, DTI AND BEE COM, are briefly discussed in terms of compliance.

Information Communication Technology Charter

The ICT Charter steering committee, which comprises representatives from authority bodies such as the IT, Electronic, Telecommunication and Broadcasting industries, Government, Labour, ICASA, Community and ICT Working Group, demonstrates a solid commitment to the accomplishment of BEE objectives and goals in the ICT sector (BEE ICT Charter 2005). It works together with the Department of Trade and Industry to harmonize the general BEE codes of good practice with those drafted for the ICT Charter. Evan (2006) states that it remains a top priority of the charter to stimulate and encourage meaningful participation of the vast majority of black people, including women, in the CT industry for the prosperity of the country. The charter is committed to ensuring fairness, transparency and consistency in matters concerning fostering and advancing BEE objectives in ICT sector. This also is driven in part by the overwhelming

growth of the ICT sector as a main contributor toward the global economy, which demands skilled human capital to be able manage and monitor ICT usage (BEE ICT Charter 2005).

Congress of South African Trade Unions

This is the biggest trade union in the South Africa, representing all employees and responsible for eradicating any form of discrimination, oppression and exploitation of employees in the workplace across all economic sectors including manufacturing companies, mining and finance (Buhlungu, 2006). It also encourages solidarity and union between different trade unions to be under one leadership of COSATU. In addition to supporting democratic practices in the workplaces, COSATU constantly evaluates the effectiveness of BEE policies that are established by government and therefore, by virtue of its being the most powerful trade union, can influence the decisions made by the government (COSATU, 2010). Gumede (2007) and Nshingila (2010) state that the COSATU leadership perceives BEE as having proved futile in addressing issues of equalities and redressing of past imbalances, and therefore new economic strategies must be put in place. Gomez and Jomo (1999) warn that arguments against BEE are purely ideological, and that the Malaysian government had to be patient for long time before they started reaping the benefits of their program similar to BEE, and that many challenges emerged and had to be combated during the initial stages of BEE implementation.

Department of Trade and Industry

The Department of Trade and Industry (DTI) is the government body charged with promoting and accelerating shared economic growth acting as catalyst for economic transformation that is inclusive of all citizens. It is responsible for creating a competitive environment that encourages investment and trade by setting up policies and procedures that compel organizations to be socially responsible and adhere to the requirements of broad-based black economic empowerment. Ensuring employment and

equity as well as the broader participation of all citizens in the mainstream economy is central to the establishment of DTI (DTI, 2006).

Black Economic Empowerment Commission

The Black Economic Empowerment Commission's new BEE paradigm is founded on the principle that a considerable proliferation of black participation in mainstream economy of South Africa underlies the general growth of South Africa (Ramaphosa *et al.*, 2009; BEE COM, 2001). It extends the definition of black empowerment by advocating the advancement of the black majority into all aspects of black economy empowerment which is now known as Broad-Based Black Economic empowerment (BBBEE). BBBEE is an improvement on deficiencies underlying the original notion of BEE by spanning a broader participation of black into all sectors fundamental to economic boom of the country (BEE COM, 2001). The BEE commission reveals an imperative requirement for a complete and inclusive BEE strategy since the previous version of BEE initiatives did not succeed in bringing about meaningful and equal distribution of wealth through its ownership policies, thus deepening poverty that is already entrenched and pervasive in black societies due to the racially discriminatory political system of apartheid era (Madi, 1997; Nattrass, Nicoli and Seekings, 2000). It therefore becomes the mission of BEE commission to ensure the dismantling of such racial discrimination which acts as social hindrances in workplaces across all sectors, as well as to bring an end to the marginalization of black people. Among its numerous objectives the Commission includes setting measurable and specific targets for BEE elements in term percentage for certain period of time, clearly explaining what constitutes black empowered enterprise and promotes the far reaching BEE strategy (BEE COM, 2001).

3.4 Debate over BEE

Generally, the rapidly growing economies like that of China epitomize societies, in which individual people and groups cooperate at a range of levels in different economic sectors, implying the importance of collective governance (Marangos, 2005). As such, DTI (2006) asserts that the BEE scorecard seeks to achieve meaningful participation of the population in the mainstream economy. Laker (2007) adds that it is only through establishing such BEE policies that black advancement can be achieved and entrenched inequalities in the workplace can be eradicated. For South Africa to effectively promote its credibility with the broader mass of the population, it needs to set legitimate targets for a democratic government, thus allowing the country to achieve sustainable growth (Ramaphosa et al. 2009, Nieman and Bennett 2006). This is evident from constantly changing programs aimed at empowering various interest groups whose participation is central to overall country's economic development (DTI, 2004).

Ramaphosa *et al.* (2009) and Pusch (2007) assert that economic supremacy of the white minority has persisted for decades, and the continuing escalation of racial discrimination across all economic sectors accounts for the present instability of the BEE strategy. As with the previous Afrikaner Economic Empowerment (AEE) aimed at empowered marginalized Afrikaners by the economically dominating English during the British colonial era, for BEE to succeed, the post-apartheid government must ensure the success of BEE by promoting black entrepreneurial interests to eventually acquire a prominent place in the economic sectors (Ponte, Roberts and van Stitter, 2009). Hirsch (2005) contends that this raises a lot of concerns regarding the approach that it has to adopt.

The prime concerns is whether the contemporary BEE stratagem should entail the disempowerment of those who were previously empowered (white minority) under the apartheid era or whether it should be founded on the basis of including previously

disempowered black majority with those who were formerly empowered in order that a balanced and harmonious power sharing arrangement in which all groups will ultimately benefit irrespective color or race (Ponte, Roberts and van Stitter, 2009). Habib and Padayachee (2000) despise the idea of dispossessing the already existing domineering groups, many of whom possess the skills and adequate capital that are essential to the promotion of economic growth, thus avoiding a negative effect on the domestic economy. Since there is really no or little indication of advancement of BEE as a frame of reference for the government to improve on the deficiencies of previously institutionalized systems to promote socioeconomic equality, Pusch (2007) suggests that other innovative and effective approaches could be drafted and implemented. This is because previous forms of BEE policy enriched a few black people, leaving the majority of black still trapped in tremendous poverty (Ponte, Roberts and van Stitter 2009; Roger and Roger, 2008; Pusch, 2007). In response to such criticisms, the South African government intends to advocate broad-based BEE which is an improvement of BEE aimed at ensuring that the wealth of the country is equally spread among all citizens, rather than benefiting only the small number of the tremendously affluent black elite.

The development of black professionals and skilled people across the all aspects of society is the best approach to empower black individuals. According to DTI (2005) South Africa is experiencing a lack of crucial professional skills necessary to drive the economy towards growth. This has had a consequential effect on black representation across many sectors of the economy (Nieman and Bennett, 2006). It is therefore imperative for the government to invest significantly in education through ensuring every black person access to quality education as well as bursaries so as to increase number of black professional to meet the growing need for skilled labor by enterprises.

According to Roger and Roger (2008), even though the South African government has, in recent times, instigated various programs intended to promote economic prospects for black employee share ownership in the business domain, it has already overlooked a number of opportunities in this regard and these current initiatives may be considered

insufficient or regarded as being belated. It therefore lies with the government to create meaningful opportunities for black employees by allowing them to become shareholders in the broader BEE process (Hirsch, 2005).

3.5 BEE Balanced Scorecard

DTI is an organ of the government for facilitating and ensuring the success of BEE strategy through codes of good practice that emphasizes the strict application of such practices within businesses not only in public sector but also those in private sector. Thus the BEE scorecard was formulated to monitor BEE strategy progress in a measurable manner. In terms of the codes, BEE compliance is measured with reference to its overall score in respect of seven specific BEE elements, measured in accordance with a BEE balanced scorecard. It is important to note that every entity affected by the BEE balanced scorecard is required to have its compliance level verified by a verification agency and the overall performance is evaluated in terms of indicators of each element (DTI, 2004; Cloete, 2005). The following only discusses in details those elements (ownership, procurement, skill development, management and control) that are relevant to this study. Management and employment equity are treated as one. **Figure 12** illustrates the stipulated minimum scores expected of businesses.

Through legislation and a scorecard approach, BEE will be enacted as indicated below:

Areas	%	How this is measured
Equity Ownership	20%	Black empowered 25,1%; Black owned 50,1%; 51% based on the share of economic benefits of ownership.
Management	10%	Varying targets ranging from 10% to 51%. Refers to black people in executive management positions or executive board members .
Employment Equity	10%	Compliance with employment equity legislation – an equitable spread of staff at all levels of the organization. The racial, gender and disability mix of your employees should match that of the population profile of South Africa.
Skills Development	20%	1. Compliance with skills development legislation. 2. Considerable investment in the development of black staff, especially professional, technical and management staff. 3. Both percentage expenditure as a proportion of the total payroll AND the skills you do training in must be transformative.
Preferential Procurement	20%	This is the procurement of goods and services from black-owned or empowered companies as a proportion of total procurement. At least 20% of your company's total procurement budget should be spent in this way.
Enterprise Development	10%	How much does your company invest in the establishment and growth of black enterprise? This can be money, skills, equipment, access to markets. It is measured as the investment in black-owned or empowered organizations as a percentage of your total assets.
Social Development	10%	Any number of initiatives by your company to create jobs, improve skills, employ women, the disabled, or young people, or empower the community. These can include the use of labour-intensive production (to increase employment opportunities), rural investment, good employee benefit programmes, support to suppliers, community development, and others.
Total	100%	

Figure 12: Components of BEE scorecard (Cloete, 2005.)

Management and Control

The most important principle defined under this code of practice is that meaningful black participation in boards and other governing structures for decision making are not just adequately represented but are also decisive and active in the decision making process. This will ensure that organizations are transparent, alleviating widespread unscrupulous business practises such as fraud and the distorted release of corporate reports, thus ushering i the need for proper governance (Woolley, 2005). This statement outlines how black people are supposed to be represented in executive management and on board committees. In accordance with DTI (2004), the measurement of black management

control promotes equal representation of population demographics in the governing structure of organizations as well as adequate level of involvement in decision making .As a matter of fact, companies score high if there is significant number black woman at managerial positions (Ramaphosa *et al.*, 2009).

Skills Development

The constant evolution of technology does not only impedes the progress of black owned businesses, it also is proving be a major hurdle for black individuals to push their way into coveted managerial positions because of the need for in-depth skills and expertise required for such positions (Cloete, 2005). This is said to be attributable to the lack of effective training programs by public and private companies mainly because training is regarded as an expense to organizations rather than an investment in human resource targeted at uplifting previously marginalized groups. Nevertheless, in response to such challenges, the Department of Trade and Industry (DTI, 2004) passed a skill development act compelling organizations to adhere to certain measures that ensure the effectiveness of skill development training initiatives undertaken by companies. Some governing bodies such as SETA are charged with the responsibility of formally verifying and validating the quality of training and skills offered (Ramaphosa *et al.*, 2009).The diagram below illustrates the criteria that organizations must meet in order to improve the compliance status in this crucial element of BEE.

Preferential Procurement

Preferential procurement deals are processes by which businesses obtain goods and services essential for their sustenance. They ensure that businesses are sourcing from empowered enterprises. According to Woolley (2005), preferential procurement processes should include policies mirroring how a specific organization is going to carry out its sourcing practices ways that are BEE compliant. Bolton (2006) affirms that organizations are slowly adopting the strategy of preferring suppliers with higher

compliance in order to maximize the level of procurement recognition in order to succeed in South African business environment. **Figure 12** demonstrates criteria to be met by organizations.

Ownership

Black participation in ownership is proven to be the most effective way to redress economic imbalances (Ramaphosa *et al*, 2009) The overemphasis of this aspect of the government's current BEE policy has turned out to be a divisive issue as it has led to the escalation of a small capital elite that has amassed personal fortunes at the expense of the majority of black citizens (Hamann *et al.*, 2008). However, Hirsch (2005) agrees that black ownership is a crucial prerequisite for the balance of the economic power that was built up by white people under the apartheid system. In this way, the government's current policy of compelling all essential economic sectors to develop a viable charter themselves, charges businesses with the responsibility of ensuring that each charter fulfils BEE objectives pertaining to the ownership aspect and all other aspects. However, in an attempt to counter condemnation of this BEE aspect, Roger and Roger (2008) assert that future initiatives ensure that black ownership is spread more broadly among black society, not just restricted to the elite. The rapid growth of the South African economy has induced the government to take steps fostering entrepreneurship activities through financial aid and by providing freedom by eliminating unnecessary regulations that impede blacks from setting up their own businesses and even buying shares in big companies (Wooley, 2005).

3.6 Lessons learned from other countries

There are a lot of challenges such as those experienced in Malaysia as a result of BEE policies which should not be repeated in the South Africa context. Whatever irregularities were experienced by different countries, there are still common patterns

which were met with similar reactions and outcomes in South Africa. Ramaphosa *et al.*, (2009) also affirms that BEE constraints and incentives are similar in countries regardless of widely disparate circumstances where they are transpiring. In many instances, the promotion of group preferences has resulted in unanticipated consequences e.g. the racial strife such as occurred in Malaysia (Gomez and Jomo, 1999). The false impression of recompense for disadvantage people neglects the reality that those individuals most eligible for compensation are still marginalized. In the USA, Malaysia and Namibia, it is reported that only politically connected people enjoyed benefits, showing that transformation programs were erroneously planned and implemented; BEE as a necessary strategy for ensuring equality is regarded as an illusion (Gomez and Jomo, 1999). Similar instances are rampant in South Africa (Ponte, Roberts and van Stitter, 2009). Additionally, the progress of BEE is blocked by too ambitious black people who lack skills, experience, or other capabilities yet aspire to take over the leadership position instead of investing the necessary time in training and skill development.

However, Guinness (1992) believes that the appeal of one policy depends on the common understanding of the concept of BEE since performance differences and favouritism practises have significant impacts on the effectiveness of BEE. Value and shifting meanings of words concerning BEE have severe consequences on country stability (Madi, 1997). Although there is no best way to ensure equality, many scholars in the existing literature acknowledge that an inclusive approach toward empowerment and the embracing of diversity and human development in which all citizens and individuals being judged according to their own merits not according group preferences will help foster BEE effectiveness (Pusch, 2007). Since the inception of black economic empowerment in Malaysia, considerable improvements in all economic sectors have been witnessed. The ability of people to handle their own economic activities for their own benefit and for the country as whole, regardless of their ethnic group, color or race is a true manifestation of empowerment (Bowie and Unger, 1997; Guinness, 1992; Gomez and Jomo, 1999). Improved standards of living, quality education, good health

services and sanitation and other essential commodities characterize the Malaysia economic state (Guinness, 1992).

Scott (1968) affirms that the Malaysian government is shifting focus from ethnic group representations to individual capabilities and expertise in employment policies as well as in other critical areas where Black Economic Empowerment aspects come into play. Furthermore, though racial prejudice still lingers within the USA, it is no longer the major impediment to opportunities for African Americans (Green and Wilson, 1989). This is attributable to cooperation between individuals, families, unions and government whose mission centres on improving the quality of life for everyone by enhancing educational and economic opportunities for all citizens, thus promoting patriotism and utilizing the talents of all citizens for the benefit of the country (Bush, 1999). Ramaphosa *et al.*, (2009) support that white people should be given adequate incentives to provide on-the-job training, thus strengthening national unity as opposed to disempowering them.

3.7 Chapter Conclusion



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This chapter delved into the BEE concept and the resulting BEE scorecard as well its envisioned value toward the economic performance of organizations and the country as whole. As such, the objective of this chapter was achieved. It was discovered that a country's competitiveness in the global market depends upon its ability to utilize its human resources optimally. This is made more imperative by the intensity and sophistication of local and international competition which requires innovation and collaborative governance to become prerequisites for world governments, encouraging the formulation of binding policies and strategies to ensure the individual talent of all citizens for economic gain at the individual as well as the national level to alleviate poverty. As such, the South African government developed and institutionalised BEE legislation to promote the inclusion of previously side-lined individuals into the mainstream economy in all economic sectors including ICT sector. Malaysia is one of

the countries that made a great success of BEE policy, bringing forth positive outcomes in terms of balancing wealth sharing and skill acquisition. This chapter also shed light on the unstable nature of BEE in the South Africa context and how other countries dealt with challenges associated with BEE. The subsequent chapter attempts to integrate chapter 2 and chapter 3, being IT governance and BEE, leading to the creation of a conceptual model underlying this study.



Chapter 4 (Fusion of BEE and IT governance)

The previous chapters have reinforced and highlighted the importance of the BEE scorecard and IT governances as antecedent to good corporate governance for improved organization performance. In this chapter, complementary theories in the social context provide the basis for the fusion of BEE and IT governance, resulting in a creation of conceptual model that aid in the identification and operationalization variables under study, providing a point of reference for the achievement of research objectives as outlined in Chapter 1.



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4.1 Introduction

The purpose of this chapter is to provide a conceptual model. Creswell (2003) supports that theoretical lenses are necessary for guiding and validating the resulting conceptual framework which set the basis for questionnaire formulation and data collection. As such, this chapter starts by delineating the legitimacy of conceptualizing BEE and IT governance drawing on relevant theories and facts that are generally accepted and featured in the plethora of scholarly work. This is followed by a discussion of IT governance and BEE which lead to the creation of the conceptual framework that is based on the literature. The components of the framework are discussed and substantiated for inclusion in the framework, and lastly the conclusion.

4.2 Theoretical Approach

This section articulates the theoretical premises of major concepts introduced in this study. Theoretical Foundations of BEE Formulation and Theoretical Foundations for IT Governance are highlighted.

4.2.1 Theoretical Foundations of BEE Formulation

The following discusses BEE and how it relates to social closure theories and diversity theories.

Linking BEE Foundations to Social Closure Theory

Social closure theory originated with Weber (1978) as an attempt to develop a general framework for understanding all forms of exclusion within society. Codes of social closure are, thus, defined broadly as the formal and informal rules governing the practice of monopoly and exclusion on any basis, whether it is race, ethnicity, gender, religion, citizenship, property, education or other credentials such as professional licensing.

The historical development of capitalism has been accompanied by a progressive transition from modes of social closure based on collectivist criterion (such as caste, family lineage, race, ethnicity, and gender) to closure based on individualist criterion (such as education and credentials). Moreover, while collectivist criteria of exclusion are ascribed, individualist criteria are often viewed as achieved; therefore, exclusion based on individualist criteria is deemed more acceptable or morally superior. Murphy's (1988) writings on the structure of closure challenge the notion that modern capitalist societies are meritocratic in the sense that social closure is based on merit and achievement, rather than ascribed traits. To the contrary, according to Murphy's reading of Weber and neo-Weberian theorists (Collins, 1979; Parkins, 1979) analyses of the processes of social closure can demystify the notion of meritocracy and "*lead us to be wary of hasty assumptions of moral progress*" when interpreting historical transitions from "*aristocratic domination or ethnic and racial stratification to bourgeois individualistic liberal domination based on property in the market and credentials*" (Murphy, 1988, p. 167).

Human Capital, diversity and inclusivity theories

Yeo (2007) defines human capital as improving the quality of the labor force, advancement of employee skill through continuous training. The commitment of organizations to human capital not only contributes to the economic growth of the country but it also ensures the quality of services (Trauth *et al.*, 2008). Additionally, sufficient investment in human capital also results in increased employment prospects (Berryand and Glaeser, 2005). Becker (1993) supports that human capital represents the collective knowledge, skills and abilities of the employees, enabling organizations to sustain their competitive edge. Yeo (2007) also adds that the concept of human capital forms the basis for the modern functioning of knowledge-based economies. This concept, according to Florida, Mellander and Stolarick (2007), was overtly emphasized by the American leadership and therefore has played a major role in the economic success of USA.

Moreover, diversity is an equally important concept pervading social science research studies addressing management issues in organizations. Trauth *et al.*, (2008) assert that diversity should be incorporated in organizations' missions and be continually reinforced through policies to improve organizational performance and success. The underlying principle for diversity management is to uphold morals, ethics, dignity and fairness for the optimization of the diverse skills and capacities of the workforce in the workplace. Diversity management entails complying with laws and regulation set by the government. However, Nieman and Bennett (2006) argue that many organizations are still battling to embed diversity initiatives within their organizations' daily operations, practices and procedures. Furthermore, diversity promotes inclusivity which implies empowerment and equal treatment of the previously marginalized individuals because of historical government systems and policies. Contemporary literature affirms that the advantages of making diversity a priority in organizations includes enhancement of creativity, excellent utilization of talent, better understanding in the leadership positions, promotion of quality team problem solving, ad increased market understanding (McLeod., and Stephen 1992, Trauth *et al.*, 2008). Drawing from the advantages, it is evident that concepts of human capital diversity and inclusivity in the IT workforce are crucial to the economic growth of an organization as well as that of the country as whole (Trauth, Huang, Morgan, Quesenberry and Yeo, 2006).

Another important concept that is relevant to this study is technology capability building which denotes the creation of policy and legal frameworks aimed at human resource development so that organizations and countries can sustain their survival in global market (NHS, OGC, CPP, WLGA and CIPS, 2007). This study encourages indigenous IT capability building with more emphasis on addressing IT governance issues.

4.2.2 Theoretical Foundations for IT Governance

The following discusses IT Governance and how it relates to Social system Theory and Actor network Theory.

How Social system Theory has influenced IT Governance

Ask *et al.*, (2007), in their extension of the seminal work by Luhmann (1995) on Social Systems Theory, have looked at organizational complexities relating to organizing logic, authority patterns and capabilities in governance. Luhmann's (1995) work tries to link organizations and structure and is a theoretical attempt to solve problems related to 'dualistic differentiations' such as subjectivity/objectivity, agent/structure, and macro/micro. This approach is similar to that of Giddens' (1984) work on structures of society using Structuration Theory. While there remains a strong interest within current social-organizational theory to use Luhmann's seminal work (Seidl and Becker, 2005), on organizations, research on governance and applications in IT has been limited.

With this realization, it is only recently that Ask *et al.* (2007) have looked at such limitations and gaps and extended further usage of Luhmann's (1995) Social Systems Theory within IT governance related research. They have applied Luhmann's (1995) concepts of 'paradox and deparadoxization' as a starting point for looking at IT governance within large organizations.

Actor Network Theory

Actors Network Theory reveals the existence of obscure and complex relationships and interactions between human and non-human entities within business settings (Latour, 2005). This theory has been used in a lot studies for data collection and data analysis by different scholars in different fields (Dave, Karen and Morag 2009). However, Law (2006) acknowledges that ANT is used by different studies taking varying directions in terms of areas of focus and the purpose of the research. In this study, ANT is used to support the notion that effective deployment of technology (non- human) is dependent on the skill sets of people (human-actors) who are using it for sustaining business operations. Nagm and Cecez-Kecmanovi (2008) also adopted ANT as a theoretical lens to understand actors in IS involved in the project evaluation process. Heeks (2002) regards using technology with a mainly technical focus as a flawed approach which overlooks other essential various factors pertaining to people such as organization

structure and associated change that affect the employees' behaviour. Rhodes (2009) used ANT to better demonstrate the importance of including previously disadvantaged in South African rural areas in use of ICT as way to empower them.

Similarly, this study investigates the need for the inclusion of black people in highly valued emerging IT concepts such as IT governance. Even though IT governance can enhance business efficiency by resolving pervasive information gaps and improving and reinforcing decision making, its benefits can only be realized if the people (actors) involved are qualified and knowledgeable enough about IT principles and standards and the context in which they should be applied on daily IT governance practices (Dedrick, Gurbaxani, and Kraemer, 2003), thus bringing inclusivity and executive capability into play. **Figure13** demonstrates the summary of what is discussed above. A diverse IT workforce forming human capital assets carries out IT governance duties and responsibilities to add value to the overall growth of an organization.

4.3 IT Governance and BEE



According to Pearlson and Saunders (2009), good IT governance involves making informed decisions on all activities outlined by Boatright (2000) such as the adaptation and management of information. Weill and Ross (2004) assert that effective IT governance necessitates fastidious analysis about the credibility of those who make decisions and transparency in the decision making process within essential IT decisions domains. Mcnutt and Batho (2005) emphasize that the continuing economic market tragedies and the dynamic global economic situation necessitates improving the governance of organizations and, in actual fact, enhancing and clarifying of employees' responsibilities. Therefore this study endeavours to authenticate and present the model that will form the basis for identification of BEE concepts that may have impact on universally appreciated IT governance frameworks. Similarly Evans (2006) acknowledges that ICT executive positions have only come into being recently and this has led to the most challenging and unstable roles in the business environment.

Furthermore, Benedict (2006) raises the concern that a lot of IT executives in South Africa are not aware of the factors that can be ascribed to the failure of projects. This may be due to the failure to take a holistic view on IT related company transformation and growth. It therefore lies at the core of this study to discover if BEE is responsible for these issues, since leadership is also about decision making and decision making is central to IT governance. Coghlan and Hurlley (1996) insist that currently enterprises are exceedingly political in nature and IT leaders have to be prepared to cope with the various conditions they face.

Esser and Dekker (2008) explored the effect of BEE on good corporate governance, and Brow and Grant (2005) affirm that IT governance is an integral part of corporate governance. As such, narrowing the focus on BEE and IT governance in the South African context is worthwhile. Furthermore, in accordance with the Information Communication Technology (ICT) charter, The Information Communication Technology sector has been acknowledged by the South African government as being of tactical significance in the coming future's escalation and prosperity of the country's economy, since it is one of the top value-adding sectors in terms of its contribution to South African 'Gross Domestic product (GDP) (Benedict, 2006). The implication of this is that more efficient IT governance patterns within the organizations will enhance economic growth from the organization level up to the national level. Integral to South Africa's ICT Charter goals is the need to amplify the degree to which black women, previously disadvantaged, communities, disabled individuals, and young persons partake significantly in all domains of the IT sector (Evans ,2006). Looking at the group in which the South Africa ITC charter demonstrates interest, the list is indicative of BEE's targeted group. Meyer and Allen (1991) assert that job selection favouritism (race, ethnic, gender, and age), bias or paying no heed to the collection of workers may aggravate problems with the magnitude, structure and composition of the workforce. In this regard, the IT workforce is not an exemption. Once more, this reflects a need for more research to establish the role of BEE on IT governance in South African enterprises since IT governance is one the most crucial constituents of the IT/ ICT sector.

Skills development is one of the crucial essentials in rectifying social disparities in South African enterprises initiated by Black Economic Empowerment (Nattrass, Nicoli, and Seekings, 2001; ICT Empowerment Charter fourth working draft , 2004). Likewise, IT governance frameworks execution entails capability and aptitude which could be attained through continuous employee training (ITGI and OGC, 2005). This is driven by technology transformations that have resulted in changes in work-related content as well as performance requirements, thus demanding ceaseless skill development. IT governance frameworks such as COBIT are responsible for technology change monitoring and performance measurement to ascertain the effective running of business processes (Simonsson and Johnson, 2000; von Solms, 2005). ITIL entails as its main tasks the implementation of ICT Infrastructure management (ITGI and OGC, 2005). It is a prevailing assumption that enterprises can only expedite good IT governance through skill development and training (Peterson, 2003). Therefore this study endeavours to authenticate and present the model that will form the basis for identification of BEE concepts that may have impact on universally appreciated IT governance frameworks. With BEE being a political movement (Roger and Roger, 2008) and IT leadership forming part of IT governance (Brown and Yarberrry, 2009), as such it is worth investigating how these two concepts influence each other within South African enterprise context.

4.4 Conceptual framework

While the previous sections have discussed BEE as a political movement (Roger and Roger, 2008) and IT leadership forming part of IT governance (Brown and Yarberrry, 2009), the researcher believes that these two elements should be seen as integral to good corporate governance and are worthy of empirical research. It remains of much benefit and value to investigate how these two concepts influence each other within the South African enterprise context. The researcher proposes considering IT governance

and BEE holistically, drawing insights from the social closure, social system theory and Actor Network theory as denoted by **Figure13**.

Figure 13 shows an inherent relationship and coherence between BEE and IT governance. The figure indicated the various BEE perspective and metrics for consideration in line with IT governance frameworks.

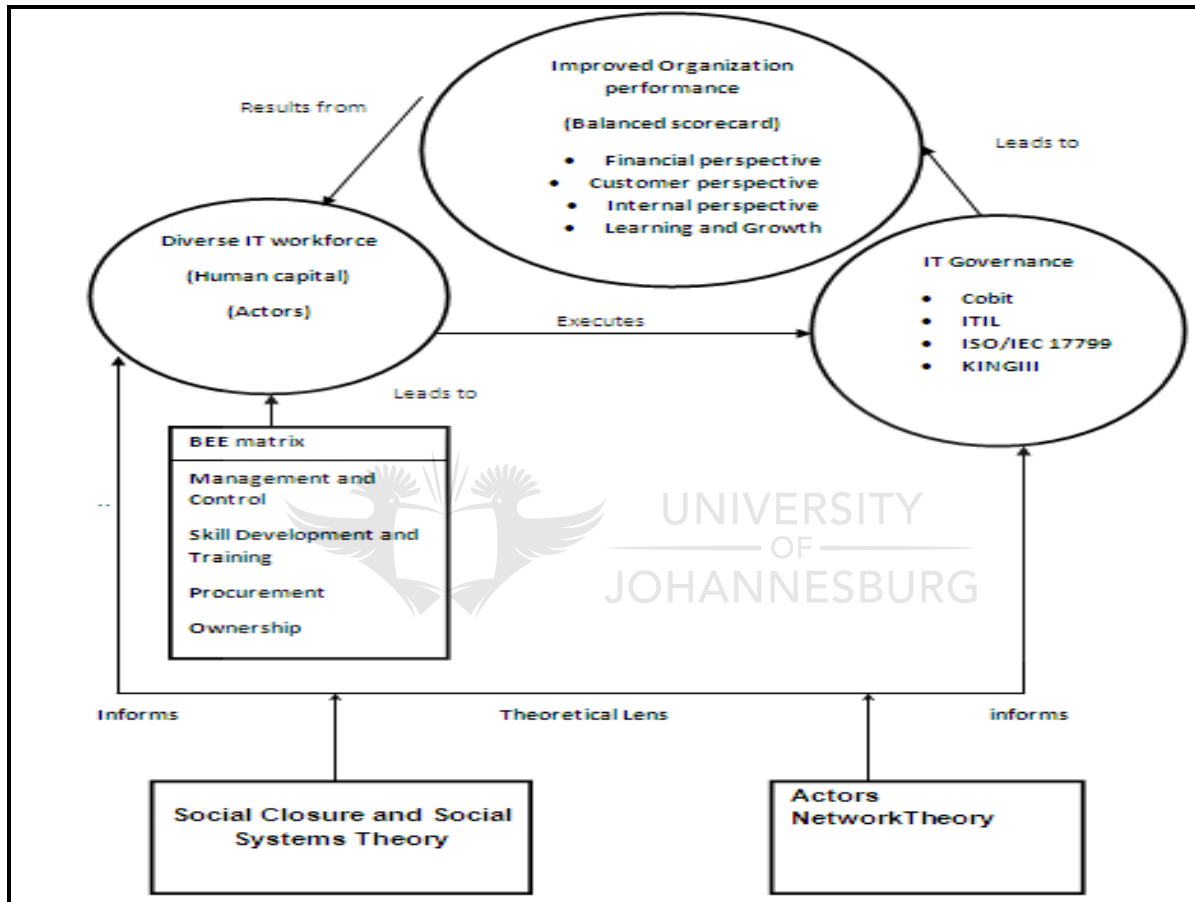


Figure 13: IT governance framework, BEE Aspects and Balanced Scorecard

Figure 13 also denotes the idea that the research emphasis will be on four IT governance frameworks namely, King III, COBIT, ITIL and ISO/IEC 17799. What will be required in the research in BEE aspects is mapped and compared against stated IT

governance frameworks for select organizations. Different scorecard perspectives will reflect the impact of BEE and IT governance on organization performance.

Figure 13 can be interpreted as follows: positive responses of measures of each perspective implies high compliance of specific BEE aspects for a specific organization and effective implementation of IT governance. The BEE aspects will be combined and assessed according to how efficiently IT governance frameworks should be executed (literature review will be used), this will be performed for all BEE aspects for each IT governance framework mentioned above. As a result it will be easy to establish whether indeed there is any explicit relationship between the IT governance and the BEE scorecard in order to validate a claim that one of the two concepts (**IT governance and BEE**) may influence the other or they influence each other, hence the use of the double arrow.

The IT governance maturity of an organization will be established on the basis of how effectively organizations implement the above IT governance frameworks, and the BEE effectiveness on organization performance in value generation will be established on the basis of balanced scorecard measures (profit making, customer satisfaction, business process improvement and employee skills and training) of the different perspectives for all selected BEE aspects. BEE effectiveness will be established based on whether good BEE compliance implies high IT governance maturity. This will assist in answering unanswered questions such as does ranking high on BEE scorecard necessarily imply black effective implementation of IT governance in the South African context within ICT Sector? If the answer is affirmative, then to what extent? If the answer is negative, then do any implicit or hidden relationships exist? Answers to these questions will attract the interest of other researchers to delve deeper into these two concepts.

Organizational performance is defined as success indicators that are demonstrative of accomplishing an organization's overarching mission objectives and goals (Cartin, 1999, Carton and Hofer, 2006). The paucity of traditional financial performance measures in the contemporary business arena led to the introduction of the Balanced

Scorecard by Kaplan and Norton (1992) in the early 1990's. The Balanced Scorecard is a multi-faceted performance measurement tool attempting to assess the organizational progress from different perspectives as shown in **figure13**.



Balanced scorecard as tool for measuring Organization Performance

The balanced scorecard entails both financial and non-financial measures that are drawn from strategies adopted by an organization to achieve its objectives. Kaplan and Norton (1992, 1993, and 2001) suggest four performance perspectives: customer perspective, internal business process perspective, learning and growth perspective and financial perspective. Without undermining the importance of a single one of the four measurement dimensions, Kaplan and Norton (1993, 1996) emphasize that the fundamental goal of instigating the balanced scorecard in organizations is the attainment of enduring financial (financial perspective) outcomes necessary for sustaining the organization's survival. Chan & Ho (2000) confirm that the balanced scorecard has not only gained popularity in organizations as a management tool, but has become a centre of discussion for academics and practitioners since its introduction as a performance measurement tool. According to Ittner & Larker (2003), a lot of organizations in the USA and Europe implement balanced scorecards to take advantage of its benefits.

Additionally, Hoque & James (2000) reiterates that both private and public organizations have integrated into businesses the balanced scorecard in order to enhance performance. However, the concept of the balanced scorecard is interpreted differently by different organizations (Chan & Ho, 2000). Niven (2006) also supports that a varied interpretation of BSC is evident in scholarly studies. Kaplan and Norton (2001) assert that BSC extends beyond just being a performance measurement tool but is also an essential ingredient of strategic management. Many organizations consider it as a performance measurement system (Chan & Ho, 2000). As such, in this study BSC serves as a guide to help determine if BEE compliant companies are indicating positive performance outcomes as diversity (racial composition) is being progressively accommodated in organizations. Patterns observed from BSC coupled with IT governance maturity indicators will give a clue as to the general performance of an organization currently, and BEE indicators will demonstrate the extent to which the BEE

program is embraced and implemented in specific organizations. Thus BEE compliancy could be correlated with successful IT governance implementation which underlies good organization performance. It is important to substantiate the postulation that effective IT governance implies good organization performance.

IT Governance and firm performance

According to Dedrick *et al.*, (2003), Information Technology is not merely an instrument for automating the existing organizational processes and procedures; more essentially, it acts as an enabler of organizational transformation that brings about further augmentation in productivity. From the business perspective, the contemporary literature within the information systems domain affirms that major benefits arising from IT are mostly the end result of technology supporting the organizational mission and goals (Pearlson and Saunders, 2009; Weill and Ross, 2004; Brown and Grant, 2005). A wide range of modern technological advances have initiated innovative and dynamic business oriented applications, such as e-commerce, which have had significant impact on organizational success in terms of customer relations management, effective service delivery, marketing and organization profitability (Misuraca, 2006; Morisawa and Kurosaki, 2003). All the aforementioned benefits of IT application demonstrate good organization performance given that IT is well governed in a specific organization.

4.5 Chapter Conclusion

This chapter highlighted complementary theories in the social context that underpin the importance of inclusive governance which advocates the mobilization of diverse skill sets and innovations that enhance economic growth, if well practiced across all business sectors, with more emphasis on the ICT sector whose success depends on effective IT governance. The arguments in this study are premised on the fact that effective IT governance is subject to many factors in social settings hence the use of social closure and social systems. BEE is meant to impact all business sectors

positively. Therefore it is correlated with IT governance to determine if there is any relationship between them. Drawing from the previous chapters, it was discovered that both the BEE scorecard and IT governance emphasise the need for the development of human capital as people form the most important intellectual asset of an organization. They also have implications on organization performance which is a good indicator of economic growth. The conceptual framework will form the basis for data collection and analysis in the forthcoming chapters. The framework generally hypothesizes that there is a relationship between IT governance and the BEE scorecard and these two concepts are hypothesized to have an impact on the overall organizational performance (a dependable variable).



Chapter 5 (Methodology)

This chapter draws on the insights from the previous chapters. It states problem statement and hypotheses as derived from the conceptual model and is informed by the problem statement. The research methodology is clearly explained, ensuring consistency between data collection methods and data analysis techniques used to achieve the research objectives.



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5.1 Introduction

This chapter clearly delineates the research methodology chosen for this study. It starts by outlining the research problem and hypotheses that will assist in both questionnaire formulation and data analysis so as to accomplish the envisioned objectives of this study. Essential research tenets such as ontology, epistemology, research strategy and approach to theory are discussed. This research incorporates extensive use of opinion polls through self-administered questionnaires. The geographical location for this study is the Gauteng province of the Republic of South Africa. By observing themes and patterns coming out of this study, new evidence that contradicts or affirms the assumed correlation between BEE and IT governance is anticipated to surface. Therefore the gathered data provided insightful information that made a significant contribution toward the already existing knowledge base within the IT domain, particularly to studies addressing issues pertaining to factors impacting on successful implementation of IT governance in social contexts. In particular, the chapter places more emphasis on the adopted research design and its appropriateness in conducting this study. Study population and sample, instrument verification, structure of questionnaires, data collection, data analysis, ethical considerations, and validity and reliability are addressed in this chapter. And lastly follows a brief conclusion.

5.2 Problem Statement

By revisiting the problem statement highlighted in **section 1.1**, the study notes that the BEE scorecard and IT governance are essential ingredients of good governance. These variables are said to lead to improved organization performance (third variable) if they are well implemented. The inherent implications are that these three variables are essential drivers of economic growth for organizations and that of South Africa as

whole. Ramaphosa *et al.*, (2009) affirms that BEE is an imperative legislative framework that impacts on business domains for economic growth. However, despite the increased attention on both BEE and IT governance these have been viewed as mutually independent and in isolation. There still remains a problem regarding clarity on exactly how the BEE balanced score card results in positive consequences in all business areas. There is a general belief that adherence to BEE scorecard is necessary for business success in South Africa but exactly how and particularly from an IT Governance perspective remains a problem. Therefore, it is this lack of empirical studies in conceptualizing BEE scorecard and IT governance together and their respective impact on organization performance that forms basis for this study. The main question in this study is —*Does BEE scorecard play role in effective implementation of IT governance.* Thus the following hypotheses were derived from the proposed conceptual model.

5.3 Research Hypotheses



Hypothesis 1

Alternative hypothesis (H1): There is a significant relationship between BEE and IT governance

Null hypothesis (H0₁): There is no significant relationship Between BEE and IT governance

Hypothesis 2

Alternative hypothesis (H2): There is a significant relationship between IT governance and organization performance

Null hypothesis (H0₂): There is no significant Between IT governance and organization performance

Hypothesis 3

Alternative hypothesis (H3): There is a significant relationship between BEE and organization performance

Null hypothesis (H0₃): There is no significant relationship Between BEE and organization performance

5.4 Research frameworks and Research methods

Table 1 illustrates steps that have been followed when conducting research, showing a consistent roadmap to be followed depending on the nature of the research study, relevant epistemology, theoretical perspective, methodology and methods for this study are highlighted in red circle to ensure methodology consistency.

Table1: Research Roadmap

Epistemology	Theoretical perspective	Methodology	Methods
Objectivism Constructionism Subjectivism (and their variants)	Positivism (and post-positivism) Interpretivism • Symbolic interactionism • Phenomenology • Hermeneutics Critical inquiry Feminism Postmodernism etc.	Experimental research Survey research Ethnography Phenomenological research Grounded theory Heuristic inquiry Action research Discourse analysis Feminist standpoint research etc.	Sampling Measurement and scaling Questionnaire Observation • participant • non-participant Interview Focus group Case study Life history Narrative Visual ethnographic methods Statistical analysis Data reduction Theme identification Comparative analysis Cognitive mapping Interpretative methods Document analysis Content analysis Conversation analysis etc.

Source: Crotty (1998)

5.5 Ontology

Before discussing the epistemology followed in this study, it is essential to elucidate its counterpart, ontology. According to Cruickshank (2003), ontology is a philosophical concept that emphasizes the study of the nature of objects, what they are made of and their relationships in a specific context. Blaikie (2010) supports that realism normally assumes an objectivism standpoint, which follows deductive reasoning. On the contrary, idealism is associated with inductive reasoning. The meanings attached to these ontological concepts by researchers in various fields differ greatly. Nonetheless, ontological approaches to knowledge building helps to model objects and uncover the underlying relationships between them, thus bringing forth a new theoretical model that can be empirically tested for general acceptance (Cruickshank, 2003; Blaikie, 2010). For instance, in the realms of artificial intelligence, the ontological analogies are developed before developing programs for automation purposes (Lopel, Melendez, Radeva and Vitria, 2005), while in scholarly studies the ontological approach is used to establish relationships between variables (Cruickshank, 2003; Blaikie, 2010).

As such, this study is built on the premise that organizations comprise individuals of diverse races coming from diverse socioeconomic, cultural, political background working together in different business settings (e.g. IT department) aimed at achieving the organization missions and goals. Drawing from the concept of ontology, it is evident that complex relationships exist between an organization's constituents (e.g. business functions and activities, regulatory policies etc.). However, this study is delegated to specifically discerning the correlation between BEE and IT governance adopting a positivist orientation to attain factual knowledge. As such, this study assumes a realism ontology which supports that facts should be studied objectively.

5.6 Epistemology

In philosophy, epistemology is described as the study of knowledge and ways in which knowledge is attained (Furmerton, 2004, Johnson and Duberley, 2000). Similarly, a plethora of academics and researchers define epistemology as justifiable possible methods that could be used to analyse and draw conclusions on the undertaken studies resulting in the creation of a new knowledge (Johnson and Duberley, 2000). It is about what is known to be true as opposed to what is believed to be true (doxology). Crotty (1998) states that epistemology informs the theoretical perspective which forms a basis for research methodology that was adopted in this study. The following are the major epistemological approaches as identified by Crotty (1998).

Objectivism: in this case, knowledge is absolute and exists irrespective of human interpretations and opinions. Researchers supporting this approach seek to find a correlation between variables, establish cause-effect relationships, test theories and hypothesis, explain and predict events. It implies a positivist orientation as a theoretical perspective (Johnson and Duberley, 2000). As such, this epistemology served as a point of reference for accomplishing the research objectives of this study, which is to test the hypotheses that have been outlined.

Subjectivism and Constructionism; in this instance, individuals create their own unique realities as well as attaching different meanings to their surroundings. Constructionism, under this epistemology is social phenomena that are observed in a specific context, the realities of individuals may change as they interact and are placed in different contexts. Crotty (1998) states that the two epistemologies contend that there is no absolute truth as opposed to objectivism. However, these approaches are not suitable for this study and have been discussed to explain the reason why this study followed objectivism epistemology.

5.7 Approach to Research

According to Teddie and Tashakkori (2009), confirmatory research is where the researchers are fully informed about what the research study entails and have already conceived assumptions about the theory that forms the basis for the research hypothesis. On the contrary, exploratory research is focused on discovering the underlying structures of broader concepts and constructs in order to formulate a hypothesis or theory that can be empirically tested. Ray (2009) and Babbie (2007) confirm that exploratory studies are normally conducted using grounded theory while confirmatory studies are investigated using survey designs. Confirmatory first propose a relationships and interrelations between variables, followed by the use of valid and reliable measurements to confirm the research suppositions (Teddie and Tashakkori, 2009). Due to the prior formulation of the hypothesis, this study assumed a confirmatory approach since the strength of correlation between the identified variables was confirmed using statistical methods.



5.8 Approach to Theory

According to Babbie (2007), there are two forms of arguments for researchers to support their arguments: inductive and deductive reasoning. In Inductive reasoning, arguments are based on observations and experiences on limited situations, and generalization is made on the large set of members sharing attributes of limited cases originally observed. Contrarily, deductive reasoning follows logic and facts (generally accepted rules and standards theories) to focus on specific aspects of those facts. Miller, Vandome and McBrewster (2009) accentuate that the validity and reliability of premises underlying deductive reasoning play pivotal roles in drawing correct conclusions because arguing from false premises leads to wrong conclusions. Similarly, this study is inspired by popular theories such as Actors Network Theory and inclusivity,

diversity and human capital investment theories affirming the importance of people as intellectual assets of organizations and the diverse talent and contribution that bring about improved organization performance for economic growth. It is therefore evident that this study takes the position of deductive reasoning principles to test the hypothesis using quantitative methods which, according to Mitchell, Welman and Kruger (2005), are best at investigating arguments premised from generally held facts and rules.

5.9 Research Design

Due to nature of this study, the non-experimental research approach was adopted to establish the degree of the correlative relationship between BEE and IT governance implementation. The main reason for making use of non-experimental research is that many of the variables in social research cannot be subjected to any form of manipulation as is the case in experimental research in which normally some units of study are manipulated to test cause-effect hypotheses (Creswell, 2009; Balnaves and Caputi, 2001). According to Huysamen (2001) there are two types of relationship research investigations: cause and effect relationship and one without cause and effect. He further describes the former as a research design in which one variable is claimed to be responsible for the observed changes in the other variable, the latter requires plain descriptive research observing the pattern of relationship among the variables without clearly identifying which one of the variables involved causes the other. Creswell (2003) adds that such a study as the latter lends itself to correlation design if the researcher wants to establish concurrent changes in variables being correlated. As such, this study bears a resemblance to the latter because it is intended to address the tentative supposition that there is a correlation between BEE compliance and IT governance which is missing from the current literature. The research is planned to make use of self-administered questionnaires to gather primary data from multiples companies, mainly targeting IT executives and managers.

Swanton and Holton (2005) substantiate that the quantitative research approach encompasses hypothesis development, descriptive statistical testing and meticulous data analysis in order draw an informed conclusion. Additionally, Neuman (2006) supports that quantitative study in social research usually embodies experimental and non-experimental methods to measure and discover some facts about the people's attitudes and their daily actions. Unlike experimental research which strictly underlie the positivist approach in natural sciences (Huysamen, 2001), this study adopts non-experimental methods because the units of analysis are not subjected to any form of intervention, there are no pre- tests and post- tests, and there is no random sampling involved (Babbie, Mouton, Vorster and Prozesky, 2001). This research is based purely on opinion polls which according to Huysamen (2001) is the best way to measure the opinions and attitudes of research participants. Huysamen (2001) adds that non-experimental is more appropriate for demonstrating relationships between two or more variables as opposed to determining which variable is certainly responsible for changes in other variable it is associated with.

5.10 Appropriateness of Design

This is cross sectional research design whereby attitudes and opinions are measured at one point in time (Neuman, 2006). Though still falling under quantitative methodology, longitudinal research design was not feasible for this study because, according to Huysamen (2001), it is appropriate for measuring variable trends over a specific time frame, implying that attitudes and opinions are measured at different points in time. It could still be appropriate for this study to use longitudinal research design to try to measure organization performance progressively overtime, for instance before and after implementation of BEE and IT governance within organizations to assess performance trends. However, Swanton and Holton (2005) argue that even though longitudinal can be reliable; it is very expensive and time consuming. Therefore it is from this premise

that cross sectional design was used to achieve objectives of this research study due to time constraints and costs.

5.11 Population and Sample

The most crucial part of social research is decision making regarding units of analysis which are objects being studied such as institutions, organizations, individuals, interactions, behaviours and events (Huysamen, 2001; Swanton and Holton, 2005). Nonetheless, generalization can only be made based on a few representative samples drawn from the relevant population (Mitchell, Welman and Kruger, 2005). In this study, IT professionals around Johannesburg that use IT to carry out their processes and recognize BEE requirements formed the targeted research population from a sample drawn. The questionnaires were distributed to IT professionals at executive and management level with sufficient knowledge of business and technology management and other various disciplines within IT domain. The current literature strongly affirms that BEE has been so institutionalized in recent years within South African organizations not only because of benefits associated with being BEE compliant, but it is enforceable by law for public and private organizations doing business South Africa (Ramaphosa *et al.*, 2009). This is proved by fast emerging companies intended to assist other organization to improve BEE status e.g. Empowerdex.

Creswell (2003) points out that most researchers find it impossible to make use of random sampling of the entire targeted populations as a consequence of time and cost constraints, and, as result, they settle for non-probability sampling techniques. However, Neuman (2006) contends that it is not about commitment to a specific sampling technique but the nature of the study that influences the choice of sampling technique. Probability sampling ensures that all subjects being studied have an equal chance of being selected to participate in the study. According to Ray (2009), it is suitable for experimental research designs where control is maintained on all the factors that might affect the outcomes of the experiment. In the case of non-probability sampling, there is

no random assignment of units of analysis. However it does not mean that probability techniques are superior and more representative of the population than non-probability techniques, rather they just based on different theories (Creswell, 2003, Mitchell *et al.*, 2005). Probability techniques (simple random sampling, stratified random sampling, systematic sampling and cluster) are normally adopted in non-experimental research designs. While in probability techniques a given element stands an equal chance might be included in the sample, in non-probability sampling certain elements may have not a chance of being selected at all. Non-probabilities include accidental sampling, purposive samples, quota sampling, snowball, and judgemental sampling. Since this study uses a non-experimental design, a targeted sampling was used for the selection of the representative sample. Watters and Biernacki (2009) support that targeted sampling is desirable when a researcher seeks to purposefully and systematically find specified populations in geographic area to develop adequate research sample. In this study, the researcher was looking for general responses from IT professionals in the management position about their knowledge and experience of BEE scorecard and IT Governance in their respective organizations located in Gauteng Province. Therefore, with prolific usage IT governance and BEE framework, the research participants were able give informed feedback about the concepts outlined in this research. Some researchers consider judgemental and targeted sampling the same, and the terms are considered the same in this study.

According to Huysamen (2001), judgmental sampling is a generally accepted non-probability method which is based on the judgment of the researcher. For instance, researchers may select a population from a specific geographic even though the population many include other geographic. In this study, only IT professionals in Gauteng across different sectors were assessed, meaning those outside Gauteng were disregarded.

5.12 Instrument Verification

This study makes use of questionnaires as the major instrument for collecting primary data. Questionnaires form the basis of any research adopting the quantitative research approach (Huysamen, 2001; Gogard, 2001; Balnaves and Caputi, 2001). Gogard (2001) stresses more effort and time is required to offset some of the inherent limitations of survey studies such as the elicitation of irrelevant information that may provide any insight in answering research questions as outlined in chapter 1 of this study. The following are some of the many advantages outlined by Swanton and Holton (2005)

- They are relatively cost effective as compared to interviews
- They keep a researcher focused on what is being investigated
- They reduce bias that is common in interviews
- They make the analysis process easier when they are developed.

Generally accepted measurement tools such as the Likert scale will be incorporated in this study to measure the level of implementation of BEE aspects and IT governance, thus rating strength of attitudes against all related aspects of the research respectively.

The Likert scale is referred to as a summative scale that combines a set of items measuring the same attitude or concept in order to draw conclusions based on the aggregated score (Bertram, 2011; Trochim, 2006, Al-Juhiam(2008). In light of the above definition, the Likert scale data may be regarded and treated as interval data on which parametric tests such as Pearson correlation test and ANOVA test could be performed (Bertram, 2011). *“A sample of 30 or more elements is considered large enough for the central limit theorem to take effect”* (Aczel, 2005: 177 cited by Al-Juhiam, 2008). Therefore this supports the idea that parametric analysis can be used on Likert scale average scores of ordinal data because of Central Limit of Theorem (Al-Juhiam, 2008).

On other hand, Bertram (2011) contends that if one question is used in the Likert scale, the responses should be treated as ordinal data and therefore non-parametric test should be adopted. Grace-Markin (2008) argues that if the results of non-parametric and parametric tests lead to the same conclusions Likert data can still be as treated continuous. Knapp (1990) was cited by Jamieso (2004) maintaining what is important is what certain scores means to the researcher and if the researcher can justify why the Likert scale data can be used as interval. Jamieso (2004) acknowledges that there is still no agreement among highly respected scholars as to when to apply parametric tests and non-parametric tests on Likert scale data ” *Treating ordinal scales as interval has long been controversial*”.

Nonetheless, in this study, groups of items are used to measure one aspect (e.g. skilled development acceptance level will be measured using a number of related items) and their scores will reveal general perceptions identified in the proposed conceptual models, implying that major conclusions are based on average scores which qualifies the use of parametric tests to conclude on the findings in this study,



5.13 Structure of Questionnaire

Before all the questionnaires were sent out, a few questionnaires were sent to test for a feedback from organizations, thus the proliferation of BEE And IT governance awareness was affirmed. Section A contains biographical details of the research participants. Section B will include IT governance maturity, section C includes the BEE scorecard and BEE combined IT governance and section D will include organization performance, human capital investment and diversity practices within organizations. The details about the questionnaire will be discussed in the analysis chapter after reliability tests have been performed; details of all the closed questions in all sections will be analysed.

Moreover, adhering to Creswell's (2003) prescription for quantitative approach, the questionnaire is predominantly comprised of closed ended questions to make it easy to identify relationships between the variables. Before questionnaires were sent out for data collection, they passed through the sufficient scrutiny of the Supervisor and Statistic Consulting Service for the University of Johannesburg (Statskon). In order to avoid ambiguity and grammatical errors, they were tested on a few individuals from the targeted population before being sent to the entire research sample. The respondents were given a guarantee that they would remain anonymous after the completing of the questionnaire.

5.14 Data Collection

Oliver (2009) states that questionnaires ascertain the standard gathering of data in a more structured way as compared to interviews and are more appropriate for establishing the degree of correlation between variables in an objective way (Huysamen 2001) thus giving little room for subjectivity in the research outcomes. Due to time constraints, a lot of the questions were self-administered, and some were distributed through email to prospective research participants. The questionnaire was sent together with a letter delineating the purpose and value of the research. However, the potential challenge facing this study is that targeted participants are people at managerial positions who might be too busy travelling, engaging in endless meetings or on vacation at the time of distribution, or, worse, may give superficial answers just to get rid of the questionnaires. All collected data was captured in SPSS for statistical analysis.

5.15 Measuring Instrument

In this study, the Likert scale was used extensively to assess the opinions of the participants regarding the implementation of IT governance and BEE as well as the overall performance of the organization from the four perspectives as indicated by Kaplan's balanced scorecard. Other information (organization type, qualifications and biographical information) are included in section A. There were 98 items excluding section A. The essential groups of variables measuring the highlighted constructs to achieve research objectives are discussed in section B, C, D respectively.

In section B, IT governance was operationalized in terms of its frameworks (COBIT, ITIL, ISO/IEC 17799, and King III) which were further operationalized into groups of related items that measure the overall maturity level of a specific framework in a particular organization. The chosen items were informed by the literature in IT governance using the maturity level scale ranging from 0 to 5, with 0 denoting the lowest possible IT governance maturity level and 5 denoting the highest maturity level.


BEE was operationalized in terms of its four essential elements (Skill development, Management and Control, Procurement, and Ownership) which were further operationalized into a group of related items indicating the level of BEE compliance in respect to specific BEE elements in a particular organization using different Likert scale points: Strongly disagree or to no extent denoting lowest possible scores, and strongly agree or to great extent denoting highest possible scores. The items were also drawn from the literature about BEE and from surveys conducted before this study.

A third section of the questionnaire combines IT governance and BEE, directly measuring the extent to which BEE goals, especially in the ICT sector, address IT governance issues. The blending process of these two concepts was guided by the literature from both BEE policy and IT governance, and thus questions were meticulously formulated to assess the degree to which organizations invest in

previously disadvantaged people in terms of management and technical skills, capacities, contribution and the involvement people in IT governance.

The last section discusses organizational performance measurement and organization maturity in terms of promoting diversity and human capital investment in the composition of the board while encouraging skills and good qualification for management positions. Kaplan and Norton's balanced scorecard was used for performance measurement. As such, numerous insightful correlations could be run between BEE and organization performance, diversity initiatives and organizational performance, IT governance and organizational performance. Lastly, organizations were assessed regarding transparency in the manner in which they communicate performance measurement systems.

5.16 Procedure



The questionnaire was distributed in the form of both hardcopy and electronic copy and disseminated mostly in person but some were emailed, with all ethical issues addressed as required from any empirical research endeavour (Welman and Kruger, 2005; Creswell, 2003). The cover letter of the questionnaire elucidated essential information such as the purpose of the study, the full details of the researcher as well as how the entire questionnaire was presented. Participants could respond anonymously and the entire completed questionnaire was treated with maximum confidentiality. Distribution took about two weeks and it took another three to four weeks to get the completed questionnaires returned.

5.17 Data Analysis

After the data was collected from the research participants and accordingly captured in SPSS, statistical descriptive techniques were applied in the form of tables, graphs for data presentation using the mean as well as mode and standard deviation, useful as measures of the centre of centrality for drawing conclusion. Measures of association like the Pearson correlation test were used to the determine level of association between measured variables for most part as this is a purely correlation study (Creswell, 2003). Other hypothesis testing techniques such T-test and ANOVA test were performed on data to determine underlying relationships that unfolded during analysis. **Figure14** shows the type of test used depending on the number of independent variables. This study focused on testing relationships between variables involved and therefore independent t-test and one ANOVA test were used. The results of the various tests helped determine the statistical significance which implied rejecting or acceptance of the null hypothesis (Huysamen, 2001). Moreover, procedures followed in correlating variables provided insightful patterns highlighting the degree of association between BEE compliance and successful IT governance implementation and their respective relationship with organization performance.

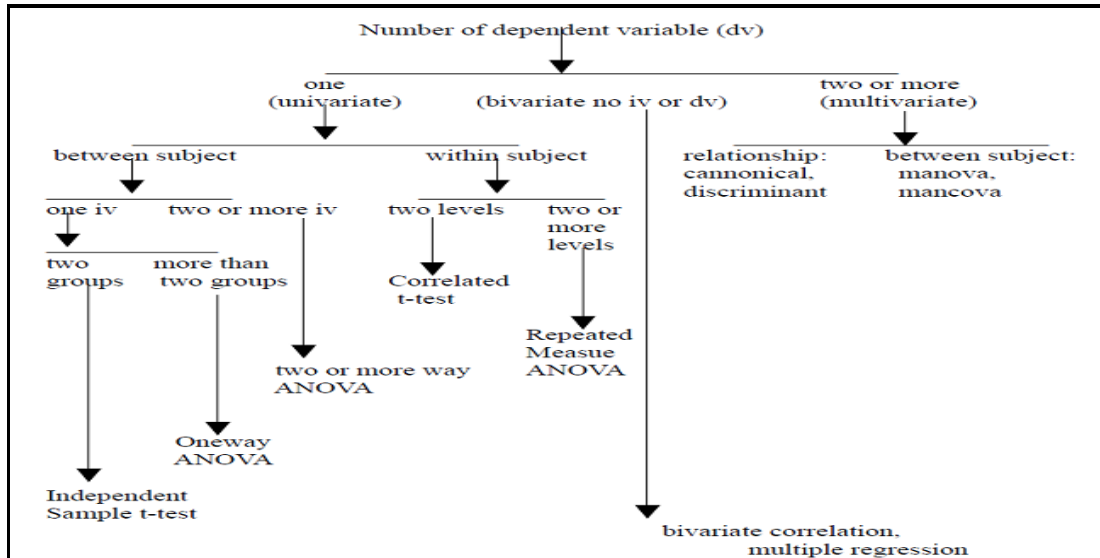


Figure 14: Statistical hypothesis test techniques (Ismail, 2005)

5.18 Ethical Considerations



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Gogard (2001) emphasizes a fundamental principle underlying ethical research that research participants are made aware of why they are completing the questionnaires as well as the value of their contribution toward the survey. Oliver (2009) adds that participants should be informed that their participation is purely voluntary, that there is no obligation on their part to complete it. In this study, the participants had been assured privacy, confidentiality, absolute anonymity (names, religion, sexual orientation etc.), and organizations' names were not taken. Additionally, Mitchell, Welman and Kruger (2005) and Creswell (2003) state that research participants must be highly respected and be provided with adequate information(e.g. even potential risks involved if there are any) upon which they can base their decisions to participate In the study. Another crucial aspect of ethical research as advocated by Babbie *et al.* (2001), in this study, is that the participants be notified that the findings will be made public for their easy access on completion of the study.

5.19 Validity and Reliability

As acknowledged by many researchers, not all studies undertaken are elaborate and clear about what is to be measured and the legitimacy of making generalizations based on what has discovered usually is questionable (Creswell, 2003; Babbie *et al.*, 2001). As such, Swanson & Holton (2005) state that in order to avoid extraneous generalization caused by irrelevant results which are derived from unstructured data, the concept validity and reliability must be taken into account throughout the research process. However, Huysamen (2001) contends that regardless of how well particular research is handled and controlled, it is inevitable that the research will not be complete without something going wrong; thus any research inherently carries potential flaws. Creswell (2003) maintains that mistakes rampant in a lot of studies could be traced back to how the data was gathered. Therefore, validity and reliability play crucial roles in alleviating such errors occurring. Singh (2007) claims the concepts in question may mean different things to different researchers. However, Neuman (2006) maintains that validity addresses the question of whether data gathering is consistent with the goals of the research; that is, the questions must measure the variables that are under investigation. Reliability is concerned with consistency of results; that is, the results must be able to be replicated if carried out by another research to test the same problem. Similarly, this study adhered to the requirements stipulated by concepts of validity and reliability so as to ensure that qualified conclusions are made. The following are only a few examples of types of reliability and validity briefly discussed by (Huysamen, 2001) that will be taken into consideration in this study.

Reliability

- Test-Rest test reliability: Ensures that outcomes of the test are independent on situations so that generalization can be made on other subjects irrespective of the situation they are tested in.

- Alternate form reliability: Usage of different wording to measure the same attributes to ensure reliability.
- Internal Consistency reliability: To measure whether proposed items measuring a construct are giving the same result.
- Interrater reliability: Mistakes on the part of those administering the questions may affect the test outcomes in which the researcher or individuals administering the test decide the scores of the research participants.

Validity

- Face validity: This implies that at face value it is possible to determine whether a particular test can measure what it is supposed to.
- Content validity: This measures the extent to which the measurement applies to all behaviour members of the sample to ensure the validity of the test.
- Criterion validity: This implies the degree to which the test measures relevant criterion which is variable upon being measured.
- Construct validity: This measures the extent to which the test measure represents theoretical concepts to ensure proper operationalization of constructs as they appear in a specific theory.

5.20 Chapter Conclusion

Maintaining consistency throughout the research methodology is one of the crucial cornerstones of a good research project. This chapter delineated the methodology suitable for addressing the research questions as outlined in chapter 1 as well as in the research hypotheses. Moreover, statistical techniques for data analysis and

interpretation, and the reasons for their adoption in this study have been accounted for. It lays the foundation for the next chapter in which it is anticipated that assumptions will be either confirmed or rejected. This study presents an opportunity for researchers, especially in the IT arena and human capital investment fields, to modify and expand on the proposed model or to look at the research question from a totally different perspective. Furthermore, new and anticipated findings will be revealed regarding the strength of the relationship between BEE and IT governance and their respective implications on overall organization performance.



Chapter 6 (Data Analysis)

This chapter presents the findings of this study obtained from primary data. It explains how data was analysed and how reliability and validity were ensured. The answers to the research questions are presented and briefly discussed, leaving in-depth analysis and implications for subsequent chapters. As such, findings in this study set a stage for discussions and interpretation in chapter 7.



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6.1 Introduction

The quantitative paradigm was adopted in this study using a non-random survey to gather the primary data in order to explore interrelationships between different variables in the dataset representing each one of the major variables (BEE and IT governance) to address the objectives of this study as outlined in the previous chapter.

6.2 Sampling

This study targeted IT professionals in management who are knowledgeable about BEE policy as a legal framework enforceable by law and a good governance practice. A targeted sampling was adopted towards IT professionals in organizations located in Gauteng. 135 questionnaires were sent out and a response rate of 56% was achieved from 23 organizations. A majority of the respondents were Africans (71%) followed by Whites (16%), colored (7%), and Asians and Indians (6%). Most of the respondents were males (67%) and a smaller group were female (33%). The largest proportion of respondents was from banks and financial services (51%) and IT companies (33%). The majority of companies were large (82%). Most of these companies were privately owned (80%).

6.3 Analysis of the results

The collected data in this study was captured and analyzed using SPSS, a software package for analyzing data. I performed in-depth analysis ensuring that the originally envisioned research objectives are addressed as well as testing research hypothesis through running correlations between variables.

6.4 Reliability and Validity

Cronbach's alpha coefficient measures a statistical reliability and internal consistency of multi-item Likert scale measuring a construct (Gliem and Gliem 2003). Since the instrument was divided into sections, Cronbach's alpha coefficients for all the constructs in sections B, C, and D were calculated. The alpha score for all items was above 0.8 for all items, the majority of which had a score greater than 0.9 (**Table 2**) and this shows a good reliability of the items that constitute the instrument, meaning that the items of the questionnaire were consistently measuring IT governance maturity and BEE compliance in a particular organization. Santos (1999) confirms that an alpha score of 0.7 is acceptable for a research project. As for Validity, formulation of questions was informed by literature and through discussions with my supervisor.. Another way to test validity would be to use the instrument on the same population to determine if the same results could be obtained. However, this would not be feasible considering the limited timeframe allocated for the completion of the project.

Table 2: Reliability Test Results

Question Number	Scale	Cronbach's Alpha	Number of Items
B2	Implementation status of IT frameworks	0.81	4
B3	COBIT	0.97	9
B4	ITIL	0.96	7
B5	ISO/IEC17799	0.98	11
B6	KINGIII	0.98	7
C2	Implementation status of BEE Elements frameworks	0.93	4
C3	Management and	0.88	4

Control				
C4	Skill development		0.95	9
C5	Procurement		0.93	5
C6	Ownership		0.89	6
C7	General perception and acceptance	BEE and	0.94	6
C9	Black IT professionals contribution		0.96	13
C10	Racial Composition of IT Top Management		0.93	5
C11	Black IT expertise and skillsets		0.86	5
C14	IT professionals capabilities in IT governance frameworks execution		0.98	10
D2	Organization performance		0.86	9
D3	Human investment initiatives in IT workforce (organization maturity)		0.91	5

6.5 Analysis Based on High Reliability and Computation of Means

The high reliability of test scores and correlations between set of related variables measuring similar concepts demonstrates a strong relationship between them, and therefore this shows that loaded factors created are representative of what the items are measuring and visa versa. For instance, in this study, each IT governance framework had a set of items measuring it, all of which loaded in one factor. This was done so that comparisons could be performed between major constructs (COBIT, ITIL, ISO/IEC 17799 and KING III). The same procedure was performed for BEE elements, and throughout the questionnaire, with the exemption of Kaplan and Norton's balanced scorecard in which four factors were created, each factor represented each performance perspective because the indicators are different for each perspective.

Finally, during the analysis process, aimed at addressing the research objectives, the average scores of IT governance frameworks were combined to create one average score of IT governance maturity for a particular organization as a whole, and one score of overall BEE compliance was computed from BEE elements. Consequently, the correlation between two major factors (IT governance and BEE) and other auxiliary variables was performed. The following shows how the data were reduced to aid proper analysis.

$$M_{avg} = \frac{\sum Items}{N_{items}}$$

N_{items}

Where M_{avg} = average score of a construct representing a factor

$Items$ = group of variables measuring a construct

N_{items} = Total number of group of variables measuring a construct

For instance, **Table 3** shows 13 respondents, two did not respond completely, there were 9 items for COBIT, the average maturity of COBIT for each respondent is shown

under F2(average for COBIT). The data was exported from spss file into excel sheet and average score computed.

Table 3: An Example of calculation of average score for cobit

AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA
B3.1	B3.2	B3.3	B3.4	B3.5	B3.6	B3.7	B3.8	B3.9	F2.1
5	4	5	5	4	5	5	5	5	5
5	5	4	5	5	5	4	4	5	5
4	4	5	5	5	4	5	3	4	4
4	4	3	4	5	4	5	4	5	4
1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4
4	3	4	3	4	5	5	3	2	4
3	3	3	2	3	2	2	3	3	3
3	3	3	3	3	3	3	3	3	3
5	4	4	4	5	5	4	4	5	4
4	3	3	4	3	2	3	2	4	3
5	4	4	3	4	4	4	4	4	4

=AVERAGE(AR17:AZ17)

6.6 Background of data and Overview of Results

Descriptive statistics for the first part of the questionnaire (e.g. frequencies) will be presented, followed by addressing the four research objectives and testing the identified research hypothesis using section B, C, D of the questionnaire. IT governance maturity status, the extent to which organization encourage diversity and human capital development, the effectiveness of BEE in addressing IT governance issues, and followed by testing identified hypothesis: correlation between IT governance and BEE, correlation between IT and organization performance, correlation between BEE and organization performance. The following acronyms will used; n= means the number of cases, m=mean value, SD=standard deviation, p=significance level, r= the strength of the correlation.

6.7 Description of Sample

Most responses came from banks and financial services (51%) and IT/Telecommunications (34%) organizations, while a few responses came from manufacturing and trading and automobile and Transport (3%). These results in **Figure 15** reveal that banks and IT companies demonstrate more awareness of the strategic importance of Information technology. ResearchAndMarket (2009) reports that 33% of IT budget for Top Ten IT Spending South African Retail Banks is accounted for internal IT expenditure, confirming a broad use of IT within organizations providing IT and financial services. Nevertheless, other organizations do recognize IT as a crucial business component yet not to same degree as banks and IT companies in this study.

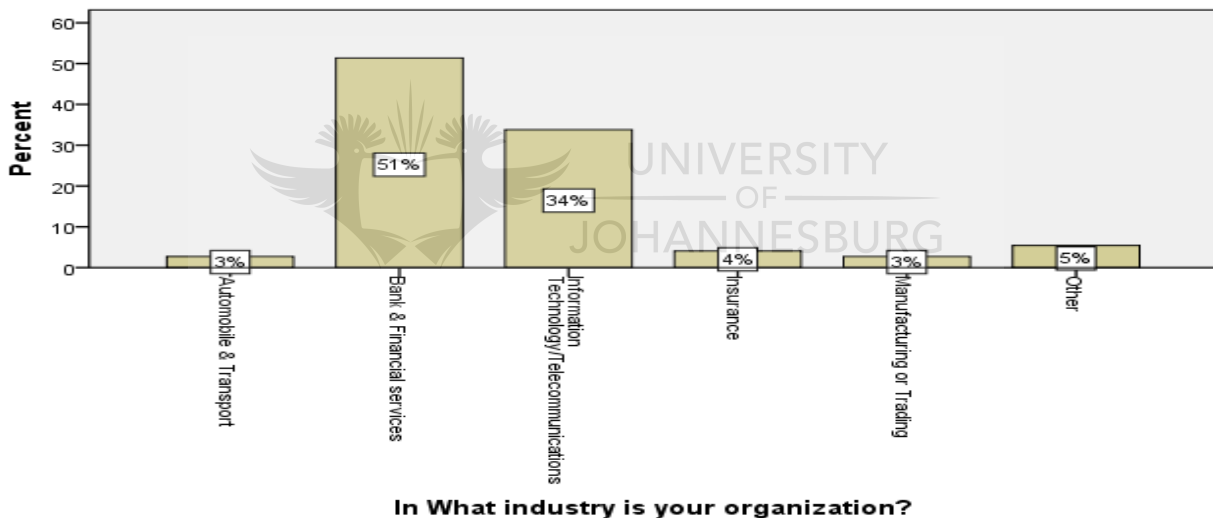


Figure 15: Percentage of response by industry (n=74)

Most responses were from large organizations (82%) while a small percentage (4%) was from small organizations. The literature suggests that the adoption of IT in small-medium sized organizations is limited by a number of factors such as the lack of resources (e.g. financial, human and technological resources), IT expertise and knowledge as compared to their counterparts (i.e. large organizations) (SystemCraft,

2010). This general, uneven IT acceptance within large and small-medium sized organizations is reinforced by results of this study in **Figure16**.

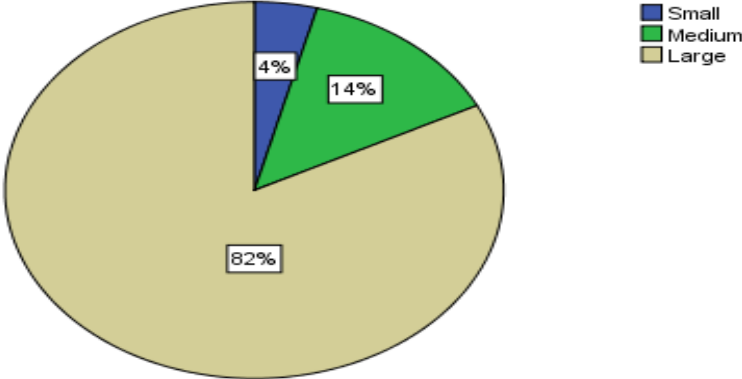


Figure 16: Percentage of response by Organization size (n=74)

Indicate size of an organization?

A large proportion of responses came from private organizations (80%) as compared to public sector (20%). Shelley Leibowitz, the CIO of World Bank Group, reinforces the idea that private companies invest a lot of effort to leverage IT costs to derive expected value from IT (McKinsey&Company, 2010). It is therefore evident that IT governance is embraced more in the private sector than the public sector. This might serve to explain huge differences in the response rate obtained in **Figure 17**.

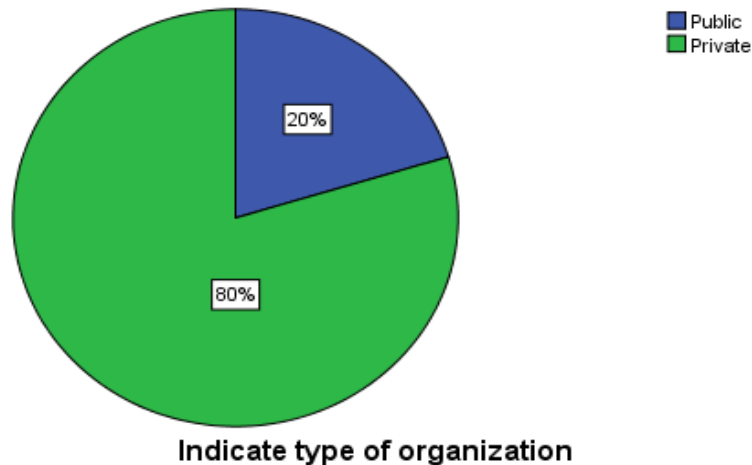


Figure 17: Percentage of response rate by Organization type (n=74)

Most of the respondents were employed by a company or the government (88%) while a few of them are self-employed (4%). Although recent studies show that there is a steady increase in self-employment and consulting globally (Careers- in –Consulting, 2011), SA Good News (2007) cited Mike Schussler, the economist, arguing that “As far as workers were concerned, the number of black men working for someone else had increased from 35 % to 40 % between 2002 and 2006.” **Figure 18** shows a persisting high number of employed IT professionals. Nonetheless, with the advent of knowledge-based economy and globalization which encourages diversity, the business environment has become conducive for consulting and self-employment (Careers- in – Consulting, 2011).

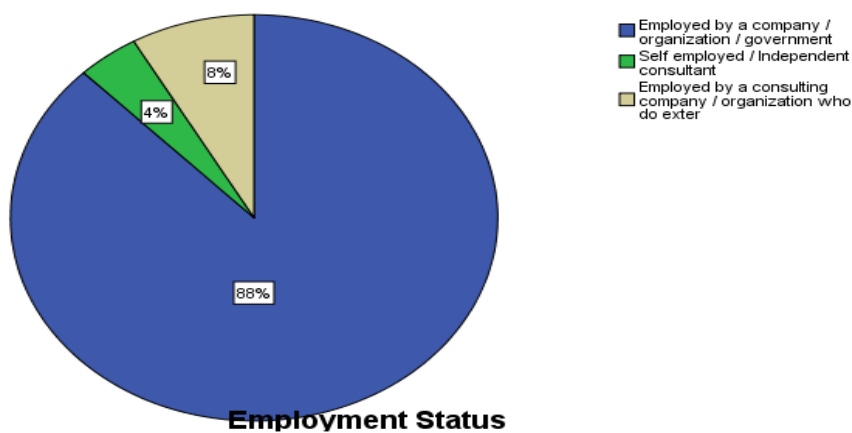
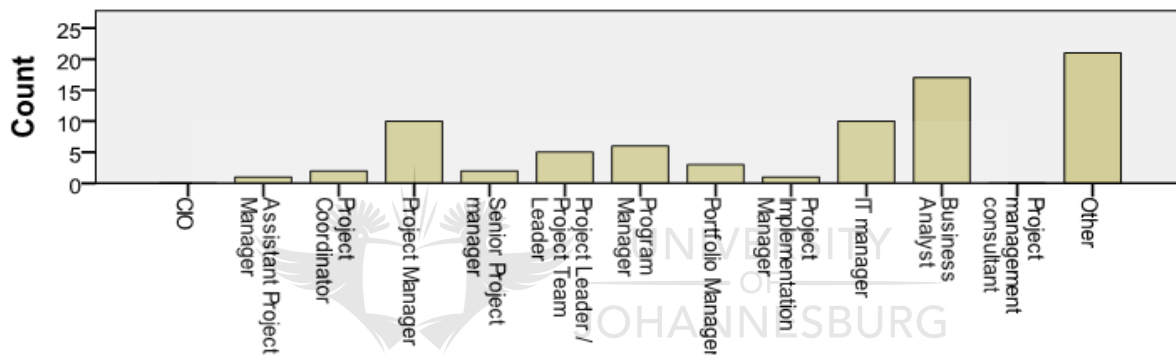


Figure 18: Percentage of response by Employment status (n=73)

Most of the participants have job titles that are not listed (n=21) in the questionnaire; this might be due to the fact that there is such a wide range of job titles in the IT industry that different organizations give different titles to different IT job positions (Kennerson, nd). Nevertheless, there seems to be a larger number of business analysts (n=17) or IT managers (n=10). Fleisher and Bensoussan (2003) assert there is a growing need for business analysts in the IT industry to ensure proper implementation IT systems in organizations. Therefore the results indicated in **Figure 19** show a positive progress in meeting this demand.



Job Title of Participants

Figure 19: Number of responses by Job Title (n=75)

Most respondents have a diploma (n=24) and bachelor's degree (n=20) and a very few have a doctoral degree (n=4). This is consistent with the real world situation as there are many more people at low levels of education as compared to higher level of education as indicated in **Figure 20**, exacerbating the higher skills shortage in the country (Letseka and Maile, 2008).

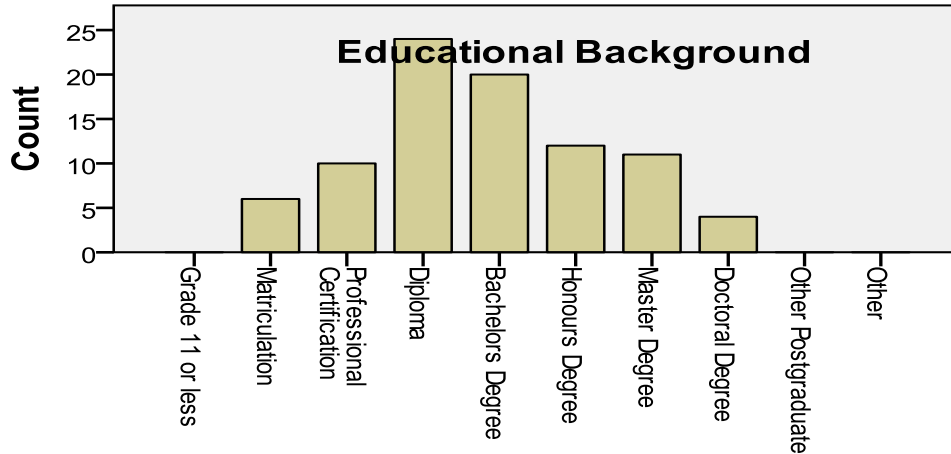


Figure 20 Number of responses by education background (n=75)

48% of the respondents claim that they do not have any IT certificate other than their formal academic certificate, however 12% have PMP from PMI, 9% have IT project from CompTIA in IT governance, 5% claim to be certified in risk and information security control and 6% (other) claim to have ITIL certificate, ITBL, Information security, and Business analysis. More than half of the respondents (52%) claim to be in a possession of universally recognized certificates in the IT arena, implying that South African IT professionals are to update with the rest the world in terms of expertise and knowledge within the IT domain. This is in agreement with the general belief that Certification in IT governance is crucial for proper IT governance. Results are shown in **Figure 21**. A Fairfield Research survey in 2006 cited by Training Camp (2010) affirms that 75% of the managers consider certification crucial for team performance.

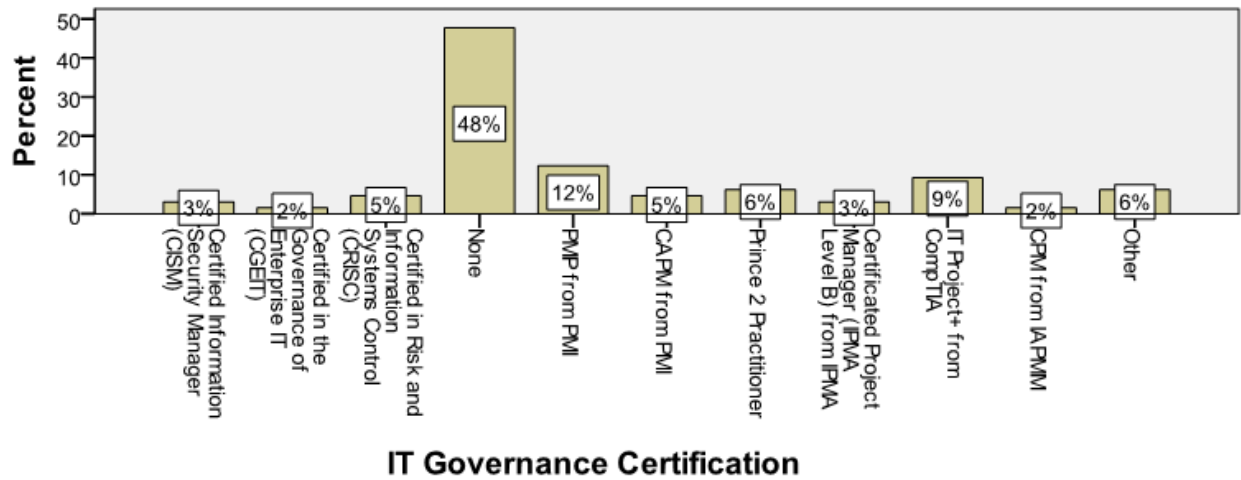


Figure 21: Percentage of responses by IT Certification (n=65)

There were more men (67%) than women (33%). This is consistent with the general view that the IT industry is dominated by men (James *et al.*, 2006; Evans, 2006). Additionally, Bowers (2008) claims that statistics affirm that the number of women entering the IT industry has dropped by 70% from 2000 to 2005, thus perpetuating the scarcity of women in the IT industry.

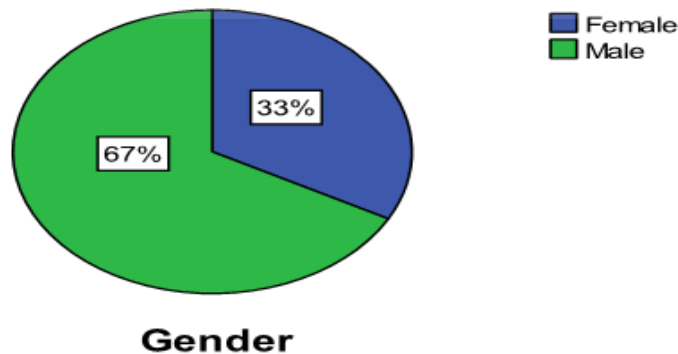


Figure 22: Percentage of responses by Gender (n=67)

Most respondents' age ranged between 21 and 29 (46%) followed by the age group of 30 to 39 (38%), there were few people aged between 50-59(4%). This means industries are empowering young people in IT industries, a goal that underlies BEE policy in ICT Sector (Evans, 2006). Results are shown in **Figure 23**.

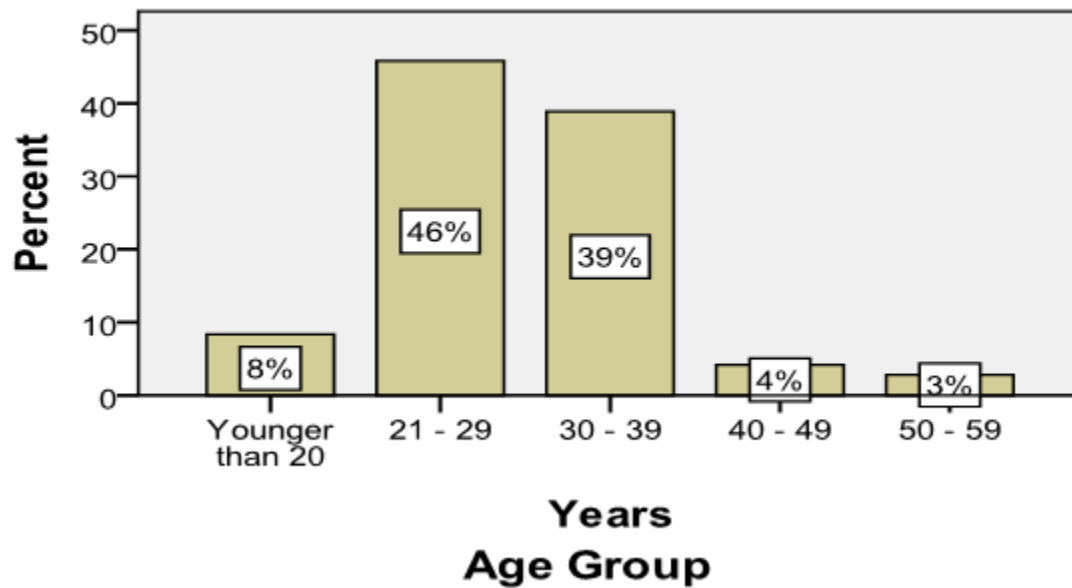


Figure 23: Percentage of responses by Age Group (n=72)

Most respondents were Africans (71%), followed by whites (16%) with a small response from Indians (7%) and Asians (6%), although this might be a true reflection of the South African population with proportionally higher numbers of Africans as compared to other race groups (South Africa. Info, 2011), Evans (2006) maintains that previously disadvantaged people are still less represented in the ICT industry especially in the management positions. Nevertheless, according to Ramaphosa *et al.*, (2009), with the advent of empowerment programs and diversity initiatives in organizations, there has been a steady increase of the previously disadvantaged in all economic sectors. This is affirmed by Kloppers (2010) reporting that according to Solidarity Research (2010) “Information technology graduates in the information technology industry increased by 727,4% between 1996 and 2005. Black graduates (Africans, Colored South Africans and Indians) increased by 507, 6%, while white graduates in this industry increased by only 34, 4%”. The same trend was observed during unfolding phases of BEE policy in almost all economic sectors in Malaysia after the intervention of the government in

trying to redress the imbalances between native Malays and the white minority (Bowie and Unger, 1997). The results are shown in **Figure 24**.

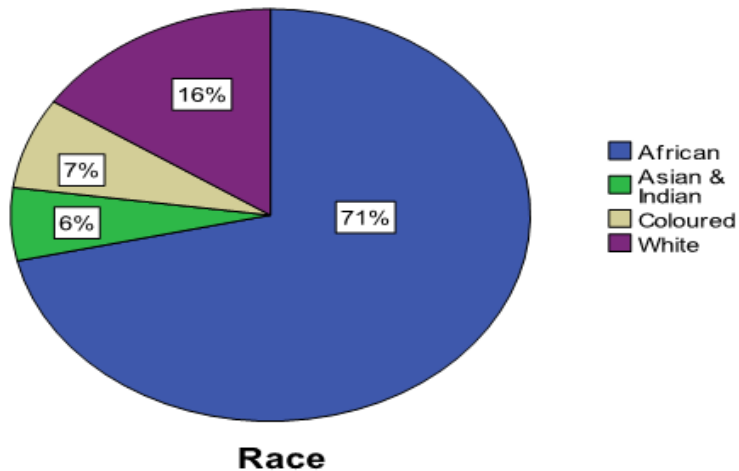


Figure 24: Percentage of responses by race (n=70)

6.8 IT governance maturity status (Research Objective1)

Regarding this first objective of the study, the following current IT governance status was discovered:

- 1) The current IT governance maturity is at level 4 (well managed), denoting IT governance processes are monitored and measured, and processes are under continuous improvement and provide good practice with limited automation and tools.
- 2) A second important finding was the significant relationship between IT governance frameworks addressing different IT governance issues showing that they are complementary and therefore could produce fruitful results if implemented together. KING III received a low appreciation (level 3) as it is newly introduced in organizations.

3) The T-test results show that IT governance maturity depends on organization size: larger organization show high maturity as compared to small-medium organizations. The above finding was arrived at by breaking this section as follows:

- Perceived IT Governance Maturity
- Actual IT Governance Maturity
- Comparisons between perceived and actual IT Governance Maturity

6.8.1 Perceived IT Governance Maturity

Research respondents were asked to express their estimate of the overall IT governance maturity level using the IT governance scale indicated in the questionnaire attached in the appendix. Similarly, the respondents were also asked to estimate the IT governance maturity level in terms of each IT Governance Framework.

The highest proportion of the respondents (40%) claim that IT governance maturity in their organization is at level 4 which denotes IT governance processes are well managed and a fair proportion of respondents (21%) report that it is at level 3, meaning IT governance processes are well defined. A few people believe IT governance processes are non-existent (6%) but, on average, IT governance maturity is perceived to be either well defined or approaching a well-managed stage ($m=3.42$). However, perceived and actual maturity will be tested later. Results are shown in **Figure 25**.

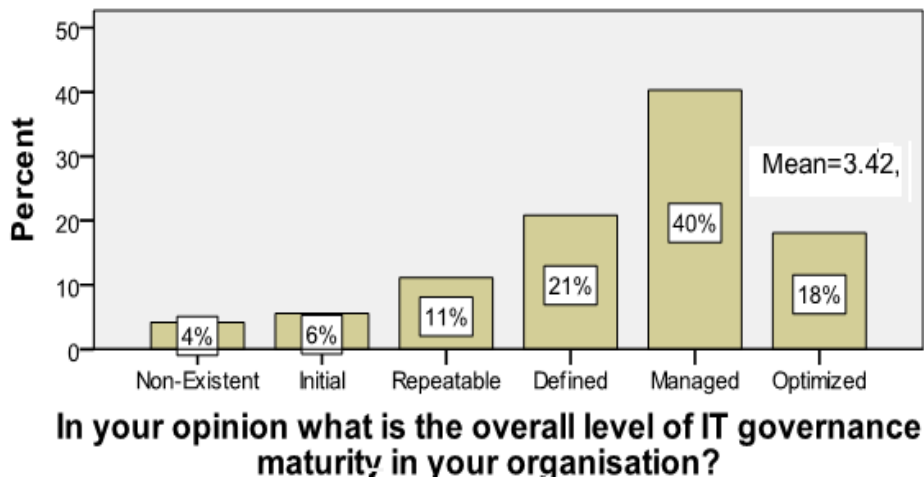


Figure 25: Percentage of responses by IT governance maturity (n=72)

The participants were asked their judgment of IT governance framework's implementation status in their own organization regarding all four frameworks (COBIT, ITIL, ISO/IEC17799, and KING III) using the four point Likert scale. The mean value for all frameworks is three, meaning that most people believe that these frameworks are recognized and are in the process of being implemented in South African organizations. More certainty is demonstrated with regard to the implementation status of ITIL with a mean a little above three (m=3.3) denoting it has long been implemented. The small value for standard- deviation (SD=0.8) implies greater homogeneity in the responses regarding ITIL implementation status. Generally, this is consistent with the findings that South African organizations are as competitive as other countries in the IT industry (South African. Info, 2009), and therefore the IT governance concept is familiar to the organizations' IT leadership. Results are shown in **Figure 26**.

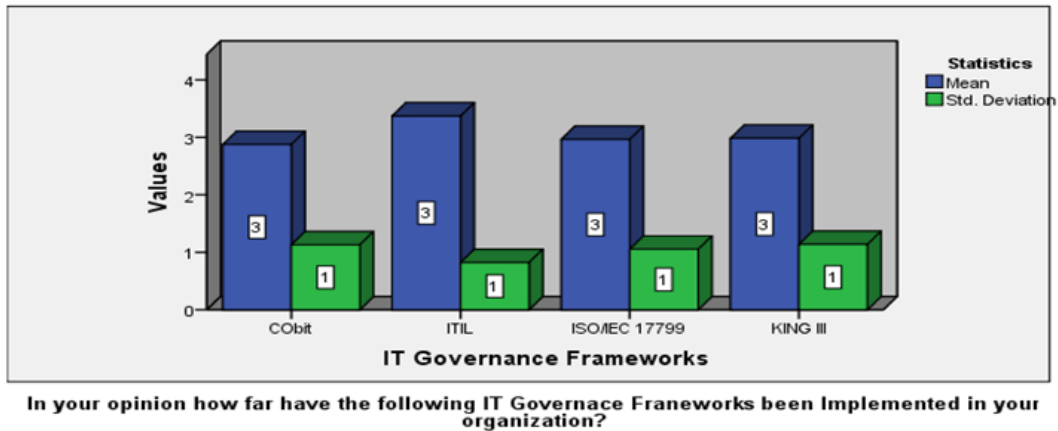


Figure 26: mean and std.Deviation scores by IT governance Frameworks

Correlations between Perceived IT Governance frameworks Maturity

The four framework variables are highly correlated ($r > 0.5$, $p < 0.05$) with the exception of KINGIII and ITIL ($r = 0.267$, $p = 0.51$). Generally this means there is a strong positive correlation between the IT frameworks, but the same cannot be said about ITIL and KINGIII which do not share a relatively significant correlation. Results are shown in **Table 4**.

Table 4: Correlation between IT Frameworks

Correlations					
		B2.1 COBIT	B2.2 ITIL	B2.3 ISO/IEC 17799	B2.4 KING III
B2.1 COBIT	Pearson Correlation	1	.513	.552	.631
	Sig. (2-tailed)		.000	.000	.000
B2.2 ITIL	Pearson		1	.501	.267

		Correlation			
		Sig. (2-tailed)		.000	.051
B2.3 ISO/IEC 17799		Pearson Correlation		1	.630
		Sig. (2-tailed)			.000
B2.4 KING III		Pearson Correlation			1
		Sig. (2-tailed)			

6.8.2 Actual IT Governance Maturity

The actual maturity level was determined by combining scores of the items defining a specific IT Governance Framework into one aggregated average score for each organization based on strong reliability. For instance, COBIT has ten items, all items scored into one mean that I called a factor, thus total scores were obtained for all frameworks, and the same logic was followed throughout the analysis. Calculations were performed in Excel and new variables introduced in SPSS using the same data set an example were shown **Table 5**. The **Table3** shows an example of how the data was labelled and mapped.

Table5: Data Labelling

IT Framework	Governance	Variable name in Excel and SPSS	Variable Label in SPSS
COBIT		F2	Actual COBIT
ITIL		F3	Actual ITIL
ISO/IEC 17799		F4	Actual ISO
KINGIII		F5	Actual KINGIII

It is important take note of the fact this was performed to reduce data, since each framework had many items defining it. Therefore this will form the basis for comparison throughout the analysis.

Looking at results shown in **Table 6**, on average, South African organizations are between level 3 and 4 in maturity, as affirmed by the mean. This means the IT governance processes are either well defined or well managed. Most organizations believe that their IT governance is closer to level 4 (well managed) with respect to ISO/IEC 17799, ITIL and COBIT with KING III being at Level 3. This is consistent with findings with von Solms (2005) stating ISO/IEC 17799, ITIL and COBIT are commonly implemented together. However, KING III is still in the early stages of implementation as it was only published officially in 2009 (Wynyard, and Peter SA Hendricks, 2010). Therefore KING III is not as generally recognized in organizations as compared to other frameworks.

Table 6: *The Actual Implementation status of IT Governance*

Statistics			
	Number of Responses	Mean	Std. Deviation
Actual COBIT score	66	3.50	1.12
Actual ITIL score	68	3.62	1.25
Actual ISO/IEC 17799	62	3.76	1.24
Actual KINGGIII	61	3.44	1.40

Looking at the correlation in **Table 7**, the IT Governance frameworks are highly correlated with $r < 0.05$ implying a good significance. ITIL and ISO/IEC 17799 showing a strong relationship with a correlation of $r = 0.729$. These findings are in agreement with ITGI and OGC (2005) as they can produce fruitful results if they are implemented together. Though still significant, ITIL and KING III show a relatively lower correlation of $r = 0.53$ as compared to other the frameworks.

Table 7: *Correlations Between actual scores of IT governance Frameworks*

Correlations						
			Actual COBIT score	Actual ITIL score	Actual ISO/IEC 17799	Actual KINGII I
Actual score	COBIT	Pearson Correlation	1	.632**	.691**	.622**
		Sig. (2-tailed)		.000	.000	.000

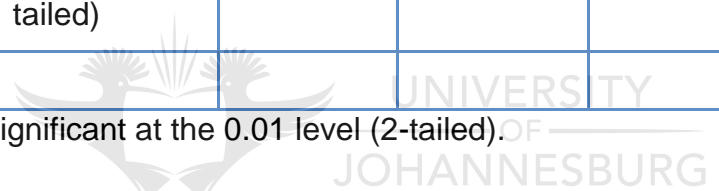
Actual ITIL score	Pearson Correlation		1	.729**	.590**
	Sig. (2-tailed)			.000	.000
Actual ISO/IEC 17799	Pearson Correlation			1	.547**
	Sig. (2-tailed)				.000
Actual KINGIII	Pearson Correlation				1
	Sig. (2-tailed)				
 <p>** . Correlation is significant at the 0.01 level (2-tailed).</p>					

Table 8 shows the actual overall IT Governance Maturity that confirms the results obtained from individual frameworks proving that overall IT governance maturity is between either well defined or well managed.

Table 8: Overall Actual IT governance Implementation

Statistics		
Number of cases	Mean	Std. Deviation
75	3.76	.91

6.8.3 IT governance Maturity and Organization Size

The literature suggests that small-medium organizations are more challenged when it comes managing IT activities, implying a high possibility of finding a difference in IT governance maturity between small-medium and large organizations. Independent t-test was used to determine how likely IT governance maturity will be different in small – medium and large organization. Perceived IT governance maturity show no significant difference between small-medium (m=9.77, SD=2.52) and large organization (m=10.44) **Table 9a**, correspondingly, in **Table 9b** p value for Perceived IT governance maturity was (p=0.49), meaning that null hypothesis is accepted that IT governance maturity is the same for all organizations irrespective of organization the size. Contrarily, the Actual IT governance, which form basis for conclusion and more reliable for this study, indicate $p < 0.05$ for actual IT governance maturity frameworks meaning the null hypothesis is rejected, indicating a higher maturity for large organizations, with the exception of COBIT with p value slightly above the accepted significance level (p=0.065). On the whole, based on Actual IT governance, small-medium have a lower IT governance maturity than large organization, supporting the general literature regarding a lack of proper management of IT activities in small-medium organizations as compared to large organizations.

Table 9a: Independent T-test for organizations

	Group Statistics					
	ra2 Recoded size	N	Mean	Std. Deviation	Std. Error Mean	
F1 Perceived IT governance framework	Small or medium	13	9.77	2.522	.699	
	Large	56	10.41	4.479	.599	
F2 Actual cobit score	Small or medium	11	2.91	1.044	.315	
	Large	55	3.62	1.163	.157	
F3 Actual ITIL score	Small or medium	11	2.73	1.272	.384	
	Large	57	3.79	1.176	.156	
F4 Actual ISO/IEC 17799	Small or medium	12	3.00	1.348	.389	
	Large	49	3.92	1.152	.165	
F5 Actual KinGIII	Small or medium	12	2.50	1.446	.417	
	Large	48	3.67	1.310	.189	

Table 9b: Independent T-test for organization

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
F1 Perceived IT governance framework	Equal variances assumed	8.930	.004	-.497	67	.621	-.641	1.292	-3.220	1.937
	Equal variances not assumed			-.697	32.244	.491	-.641	.921	-2.516	1.233
F2 Actual cobit score	Equal variances assumed	1.249	.268	-1.875	64	.065	-.709	.378	-1.465	.046
	Equal variances not assumed			-2.016	15.394	.062	-.709	.352	-1.457	.039
F3 Actual ITIL score	Equal variances assumed	.023	.881	-2.708	66	.009	-1.062	.392	-1.845	-.279
	Equal variances not assumed			-2.566	13.506	.023	-1.062	.414	-1.953	-.171
F4 Actual ISO/IEC 17799	Equal variances assumed	.503	.481	-2.394	59	.020	-.918	.384	-1.686	-.151
	Equal variances not assumed			-2.173	15.171	.046	-.918	.423	-1.818	-.019
F5 Actual KinGIII	Equal variances assumed	.393	.533	-2.704	58	.009	-1.167	.431	-2.030	-.303
	Equal variances not assumed			-2.546	15.822	.022	-1.167	.458	-2.139	-.194

Perceived and Actual IT governance comparisons



Perceived IT governance and actual IT Governance show a strong correlation $r=0.53$, with the p value <0.05 , denoting a strong relationship , and therefore it can still be maintained that the respondents' estimate of the perceived IT governance in comparison and actual IT governance can be relied upon, meaning they were consistent in their estimate for their IT governance maturity. The correlation results are shown in **Table 10**.

Table 10: Perceived IT Governance and Actual IT Governance

Correlations				
	In your opinion what is the overall level of IT governance maturity in your organization?		Actual IT governance	
	Pearson Correlation	Sig. (2-tailed)	Pearson Correlation	Sig. (2-tailed)
In your opinion what is the overall level of IT governance maturity in your organization?	1		.531**	.000
Actual IT governance			1	

** . Correlation is significant at the 0.01 level (2-tailed).



6.8.4 Summary (Research Objective 1)

On the whole, the IT governance process in South African organizations is well managed (at maturity level 4), which is acceptable and up to an internationally appreciated maturity level. With the exception of the KINGIII still which is still at early development (well defined stage), presumably because of being new in the market. The other frameworks have been in place for longer and it is evident that they are well-recognized in the organizations. The higher maturity levels are observed in larger organizations as compared to smaller organizations.

6.9 The extent to which organizations invest in human capital and diversity in IT Workforce (Objective2)

As regards this objective, major findings were discovered as follows: 1) Investment in diverse IT work is either not successful or successful, showing that human capital and diversity in IT workforce is not sufficiently upheld in organizations. There was a significant relationship between investing in human capital and diversity in IT workforce, and organization performance, denoting organization performance can actually improve with sufficient emphasis on developing and promoting human capital and diversity in IT workforce. 2) There is a wide acceptance of the balanced scorecard as a performance tool, and there was significant correlation between the four performance measurement perspectives, showing that if there is strong relationship between them, a deficiency in one can affect the other perspectives. The above finding was arrived at by breaking this section as follows:

- Outcomes of selected human capital investment indicators in IT workforce
- Human capital investment in IT workforce and organization performance

6.9.1 Research outcomes on selected human capital Investment Indicators in IT Workforce

The improvement of knowledge and skills of managers is not only a requirement in the IT arena, it is also an empowerment initiative necessary for the growth of an organization (Trauth *et al.*, 2006, Yeo, 2007, and Trauth, 2001). Cheryl, Lixin and Susan (2009) report that according to the Bureau of Labor Statistics, there will be an increase of 16% in IT jobs vacancies from 2006 to 2016 demanding in-depth skill sets and knowledge to manage IT activities. Statistics South Africa reports a shortage of higher skills in IT industry implying a need for innovative policies and programs to address to these issues. Looking at **Figure 27**, South African organizations appear to be successfully implementing empowerment programs in respect of the indicator in

question. More than half the respondents (70%) believe that the skills and knowledge at management and board level is successfully implemented, only a fair proportion (approximately 30%) believe this initiative is not successfully implemented.

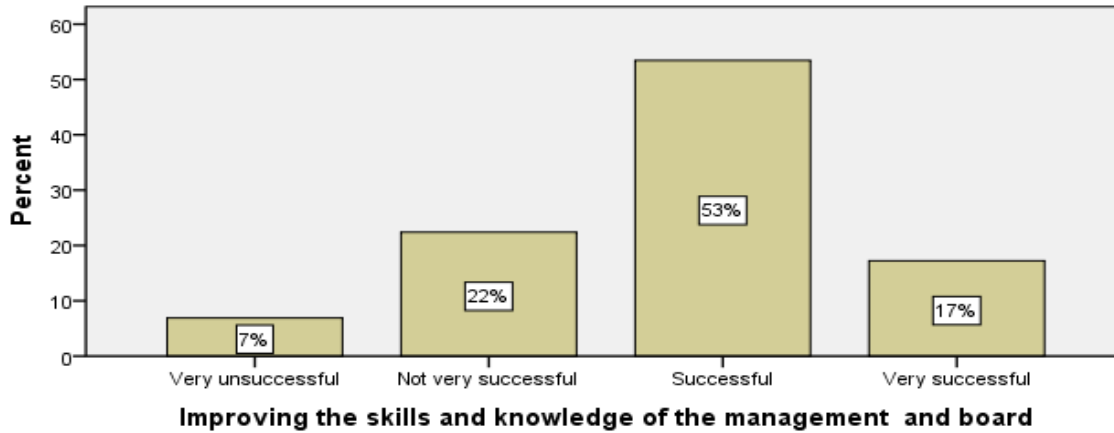


Figure 27: Percentage of responses by Knowledge and skills of IT board (n=58)

Economic and organizational theories support that balancing the composition of the board is an essential aspect of good governance as well as a fundamental ingredient of empowerment programs and organization maturity indicator, thus allowing diverse skills and talent into the work place to improve organizational performance. More than half of the respondents (60%) believe that the composition of management in their organization is successful and two-thirds of the respondents (40%) are negative about the success of this initiative. Results are shown in **Figure 28**.

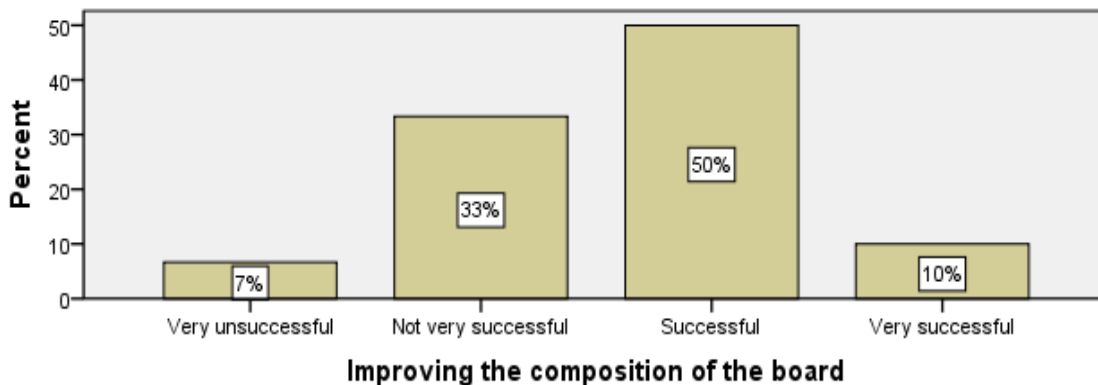


Figure 28: Percentage of responses by improving diversity of IT board (n=60)

One of the concerns of inclusivity programs are the fact that skills and qualifications might be compromised. In addition, Lee *et al.*, (2008) state the lack of skills is a major contributor to the impediment in successful IT governance implementation. On the contrary, the results in **Figure 29** show that organizations are incessantly evaluating their leadership skills and qualifications to ensure the good performance of the organization. More than half the respondents (67%) believe that this diversity aspect is successfully implemented in their organizations, with a fair number of respondents (33%) disagreeing with the successful implementation of this aspect.

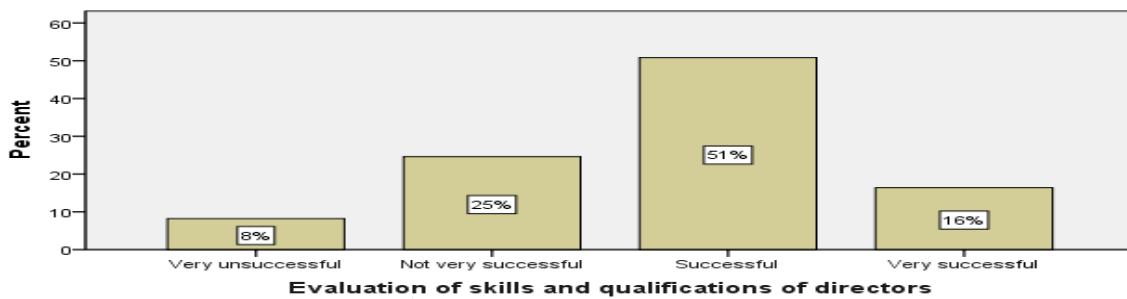


Figure 29: Percentage of responses by skills and qualification of IT board (n=61)

Virtually three quarter of the respondents (74%) believe that training programs are successfully executed, and only few people (26%) deny the availability of training programs in their organizations. As compared to other indicators in the human capital area, the respondents demonstrate more satisfaction with organizations' commitment to training programs for the continuous enhancement of management competencies. Results are shown in **Figure 30**.

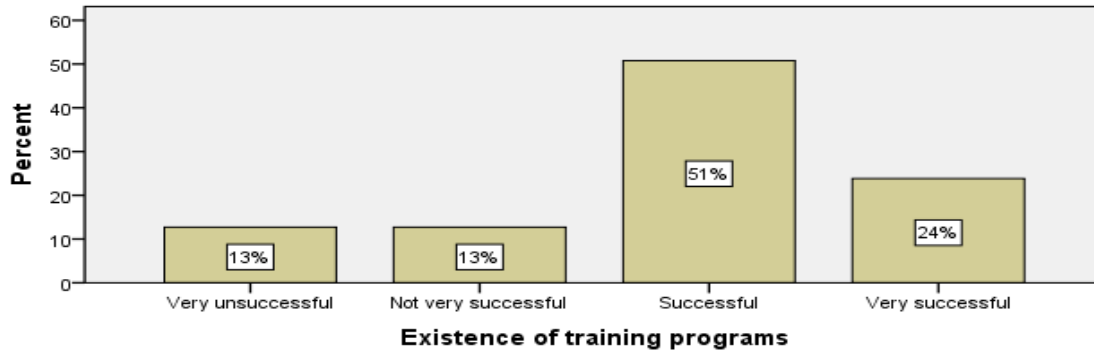


Figure 30: Percentage of responses by Training programs existence (n=63)

Table 11: Human capital implementation and investment in IT workforce

On average , Empowerment and human investment in IT workforce appears to be either not very successful and successful (m=2.20,SD=1.162), with mean so close to not successful it means that organizations are not so adequately put measures in place to ensure human capital development in IT workforce .This is in line with the general view South Africa is in running short of rudimentary skills and expertise, calling for more innovative ways to encourage and support human development in IT for proper execution of IT governance.

Statistics

Organizational commitment to human capital and diversity indicators

N	Mean	Std. Deviation
75	2.20	1.162

6.9.2 Human capital investment in IT workforce and Organization performance

Yeo (2007) and Trauth (2001) believe that a knowledgeable IT workforce leads to increased firm performance. This is also congruent with a plethora of literature supporting that investment in human capital results in improved performance. The following describes how this conclusion was reached regarding the testing of the relationship between human capital and organization performance using Kaplan and Norton's balanced scorecard performance indicator.

- Four perspectives are represented as v1, v2, v3, v4 in spss file, denoting customer perspective, internal perspective, financial perspective, and learning & group perspective respectively.
- One score for human capital, labelled commitment to diversity in SPSS file, was computed from its indicators and one score (described as overall performance in SPSS) for organization performance was created from the four perspectives.

Most respondents (65%) believe they are using Kaplan and Norton's balanced scorecard to measure their organizational performance. The results in **Figure 31** are consistent with findings that the balanced scorecard is a widely accepted as a value generation measurement tool for organizations' on-going financial and no financial activities (Richard *et al.*'2009).

Do you think your performance measurement system is a Balanced Scorecard?

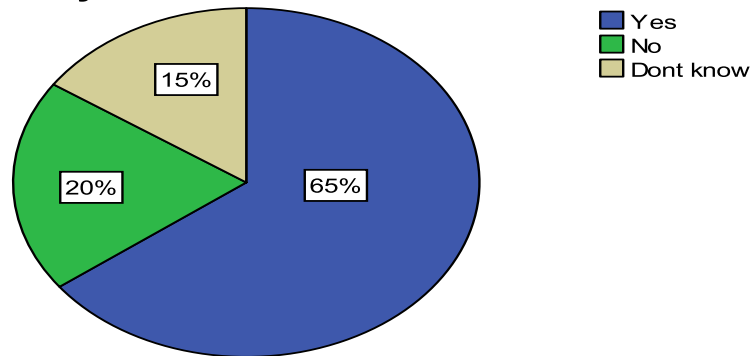


Figure 31: Percentage of responses by use of balanced scorecard (n=72)

Looking at Table11, most people believe that their organization shows average performance in terms of the four perspectives. However, better performance is noticeable in the customer perspective (m=2.34, SD =0.88). On the whole, organizations still need to work towards performing beyond average.

Table12: Organization performance statistics: four perspectives

		Statistics			
		Customer perspective	Financial perspective	Internal per perspective	Learning & perspective
N		75	75	75	75
Mean		2.37	2.19	2.16	2.24
Std. Deviation		.882	1.023	.959	.898

The correlation in Table12 shows that the perspectives are strongly related to each other due with $r>0.5$ and $p<0.05$. The highest correlation is between financial perspective and learning growth perspective ($r=0.74$, $p<0.05$). This shows that these four perspectives were designed to complement one another, which affirms their credibility as performance measurement tools. The strong relation between the four perspectives is

consistent with the study conducted by Richard *et al.*, (2009).

Table 13: organization performance correlations: Four perspectives

Correlations					
		Customer perceptive	Financial perceptiv e	Learning & Group perceptiv e	Internal perceptiv e
Customer perceptive		1	.731**	.773**	.695**
			.000	.000	.000
Financial perceptive			1	.745**	.686**
				.000	.000
Learning & Group perceptive				1	.708**
					.000
Internal perceptive					1
**. Correlation is significant at the 0.01 level (2-tailed).					

Correlation between Human capital investment in IT workforce and Overall performance

Table 14 shows that there is high positive correlation between human capital investment and overall performance $r=548$, $p<0.5$, implying a high and significant correlation between overall organization maturity and performance, meaning that organizations that demonstrate commitment to empowerment practices are more likely to experience better performance, and visa versus.

Table 14: Organization performance and diverse human capital in IT arena

Correlations			
		Organizational commitment to diversity indicators	Overall performance
Organizational commitment to diversity indicators		1	.548**
			.000
Overall performance			1
**. Correlation is significant at the 0.01 level (2-tailed).			

6.9.3 Summary (Objective2)



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On the basis on the results above, it can be deduced that South African organizations do not demonstrate adequate commitment in empowering their IT workforce and this seems to have a diminishing effect on the overall business performance of organizations. The strong relationship between human development and organization performance affirmed by the high correlations in this (**Table 14**) is also supported by a wide range of literature using different methods and approaches (Yeo, 2007; Trauth, 2001). The IT workforce is knowledgeable, skilled and diversified. The IT governance execution will also improve, and this will lead to improved organizational performance. The findings demonstrate inadequate implementation of effective policies and program aimed promoting human capital, inclusivity and diversity in the work place and this may therefore impact on effective IT governance implementation.

6.10 The degree to which metrics in the BEE Scorecard influenced IT governance (Objective3)

As regards this objective, major findings were discovered as follows: 1) BEE compliance is practiced to a medium extent, the BEE metrics as defined in the elements are also observed to a medium extent with skill development receiving higher appropriation and ownership lowest appreciation. 2) ANOVA Test results show that there is no relationship between the sectors a particular organization is in and BEE compliance levels. T-test results also show that BEE compliance does not depend on the type of organization (private and public) as there was no significant relationship. 3) The goals of BEE metrics in ICT chatter are accomplished to a medium extent in the IT governance arena with women and people with disabilities showing little contribution towards IT governance success. Generally this evidence in insufficient the involvement of black IT professionals in executing IT governance processes, regardless of improving maturity of IT governance denoting white males still donate IT leadership. 4) Another interesting finding is the lack of relationship between observing BEE metrics in ICT and IT governance success. In summary, BEE metrics have influenced IT governance to a small extent. The above finding was arrived at by breaking this section as follows:

- Perceived BEE Compliance
- Actual BEE Compliance
- BEE compliance in Different Sectors(Bank and finances, IT and Other sectors)
- BEE and IT governance

6.10.1 Perceived BEE Compliance

Research respondents were asked to express their estimate of the overall BEE compliance. Similarly, the respondents were asked also to give an estimate of overall BEE compliance acceptance in terms of each BEE element.

A majority of respondents indicate a great awareness of BEE compliance in their organizations, demonstrating infiltration of BEE policy in organizations. Only 14% of respondents claim not to comply with BEE policy. Generally BEE is perceived to be either approved, not fully accepted (38%) or fully approved (49%) as indicated in **Figure 32**. This is consistent with the BEE study conducted by KPMG (2009) that a high percentage (85%) of the respondents in their BEE survey claim that their organization adheres to BEE requirements as set out by DTI.

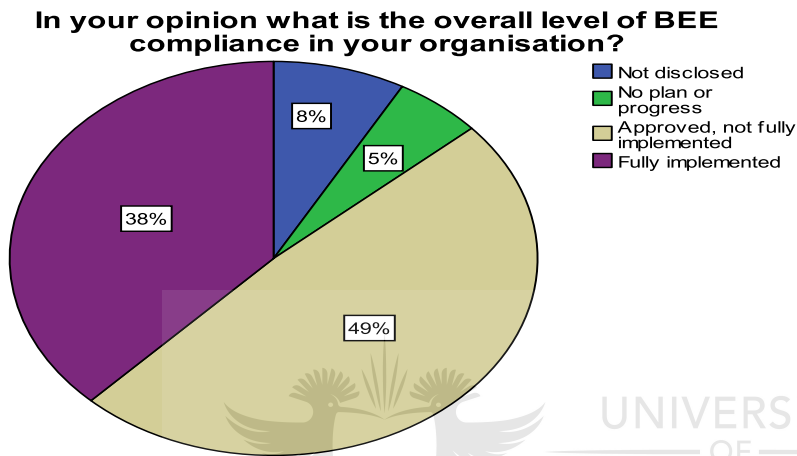


Figure 32: Percentage of responses by Perceived BEE (n=72)

According to EconoBEE (2010), the Ministry of Trade and Industry reported that according to baseline study conducted in 2008-2009 75% of companies in private sector do not comply with BEE policy. As such, in this study, T-test was performed to determine BEE compliance differences in private and public sector. There was no significant difference ($p > 0.052$, $p = 237$) in BEE compliance in public and private companies. Though the findings of this study contradict the implications of baseline study that there might be a big gap between compliance status between public and private, many factors may be responsible for this contradiction e.g. sample size. Results are shown in **Table 15**.

Table 15: BEE and Organization in Private and Public sector

Group Statistics					
A3 Indicate type of organization		N	Mean	Std. Deviation	Std. Error Mean
F6 Perceived BEE aspects	Public	15	3.67	.816	.211
	Private	57	3.35	1.026	.136

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
F6 Perceived BEE aspects	Equal variances assumed	2.327	.132	1.102	70	.274	.316	.287	-.256	.888
	Equal variances not assumed			1.259	26.899	.219	.316	.251	-.199	.831

6.10.2 Actual BEE Compliance

The Actual BEE Compliance was determined by combining scores of the items defining a specific BEE element into one aggregated average score for each organization based on strong reliability of groups of variables measuring BEE aspects.

Table 16 below shows the average score of each BEE element after combining their respective indicators, results are virtually the same as perceived BEE with skill development showing more positive and promising progress in comparison to other elements. On the whole, respondents believe that Management Control is implemented either to a little or medium extent (m=2.62). In the case of skill development, respondents virtually agree (m=3.75) that skill development is practised and coordinated as set out by BEE legislation. The respondents express neutrality in their judgment of successful implementation procurement and ownership (m=3.43, m=3.32, respectively), implying that there is slow BEE progress being made with regard to Procurement and Ownership.

Likewise, though based on average percentage, the BEE survey results conducted by KPMG (2009) follow more or less the similar pattern as the results of this study; Management Control had a 6% decrease in 2009 after performing well in the previous average of 77% in 2007, hence the respondents in this study rate it at either little or medium extent. Skill development made a good performance with a 38% increase in 2009. In this study, respondents perceived it as being adequately implemented in their organizations. Ownership had a limited increase of 9% and procurement a 27% increase 2009, up from 43% in 2008. In this study, respondents were more inclined to appreciate the implementation of accurate procurement policy compared to the ownership aspect. On the whole, the results show the instability of BEE compliance within organizations.

Table 16: *Actual BEE elements Statistics*

		Statistics			
		Actual Management and Control	Actual skill Development	Actual Procurement	Actual Ownership
N		74	73	72	71
Mean		2.64	3.75	3.43	3.32
Std. Deviation		.885	.969	.947	1.039

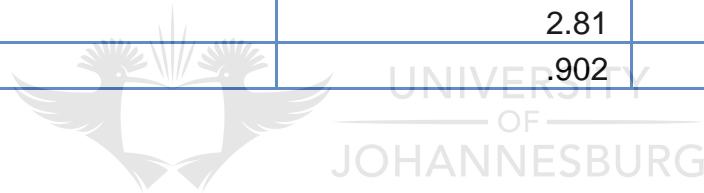
6.10.3 Holistic Actual BEE implementation

On average, as shown in **Table 17**, the perception of respondents towards BEE as a positive strategy embraced to address the currently persisting inequalities of the past is rated at either a little or medium extend (m=2.8). This implies a lot still needs to done to address the BEE challenges. Holistically, BEE compliance has infiltrated organizations

but its progress has not reached a satisfactory point, hence neutrality ($m=3.29$) as demonstrated by respondents regarding the overall degree of BEE compliance levels in their organization which denotes that has no certainty of successful implementation BEE in their organization. This may be attributable to the unstable nature of BEE coupled with the current hot debate between professionals, academics, government and unions about the appropriateness of BEE as a good stratagem for transformation. This is witnessed by constant adjustments to its Code of Practices, which only adds to impede its progress.

Table 17: *General BEE Acceptance statistics*

Statistics			
		General BEE Perception	Overall B.E.E. compliance
N		74	75
Mean		2.81	3.29
Std. Deviation		.902	.802



6.10.4 BEE Status in different Industries

BEE is legislation enforced by the government; it is therefore worth investigating if there is any difference between different sectors in BEE compliance. ANOVA test performed to explore differences BEE compliance within organizations in different industries, that is IT industries $m=3.24$, $SD=1.01$, Banks and Finance ($m=3.88$, $SD=0.90$), Other industries ($m=3.42$, $SD=1.00$) with the results showing $F(2,69)=4.52$, and $p=0.14$. This implies that there is a statistically significant difference at $p<0.05$ only for Perceived BEE, however the actual BEE compliance, which is regarded as more reliable in this study, shows no distinct differences of BEE compliance in different industries which leads me to accept the null hypothesis that BEE compliance is the same for all organizations irrespective the sector they are in. The results are shown in **Table 18a**

and **Table 18b**. As highlighted by (KMPG 2009), BEE compliance changes each year for all organization and therefore it is difficult to establish its relationship with the industry type a particular organization is in.

Table 18a: BEE Status in different sectors

		Descriptives							
		N	Mean	Std. Deviation		Lower Bound	Upper Bound		
F6 Perceived BEE aspects	Bank and finance	37	3.24	1.011	.166	2.91	3.58	1	5
	IT	24	3.88	.850	.174	3.52	4.23	2	5
	Other	11	3.00	.894	.270	2.40	3.60	2	4
	Total	72	3.42	.989	.117	3.18	3.65	1	5
F7 Actual Mannagemnt and Control	Bank and finance	37	2.57	.867	.143	2.28	2.86	1	4
	IT	25	2.84	.898	.180	2.47	3.21	1	4
	Other	11	2.36	.924	.279	1.74	2.98	1	4
	Total	73	2.63	.890	.104	2.42	2.84	1	4
F8 Actual skill Development	Bank and finance	36	3.72	1.003	.167	3.38	4.06	2	5
	IT	25	4.00	1.000	.200	3.59	4.41	1	5
	Other	11	3.36	.674	.203	2.91	3.82	2	4
	Total	72	3.76	.971	.114	3.54	3.99	1	5
F9 Actual Procurement	Bank and finance	35	3.43	1.037	.175	3.07	3.78	1	5
	IT	25	3.56	.961	.192	3.16	3.96	1	5
	Other	11	3.18	.603	.182	2.78	3.59	2	4
	Total	71	3.44	.952	.113	3.21	3.66	1	5
F10 Actual Ownership	Bank and finance	36	3.28	.944	.157	2.96	3.60	1	5
	IT	25	3.60	1.118	.224	3.14	4.06	1	5
	Other	10	2.80	1.033	.327	2.06	3.54	1	4
	Total	71	3.32	1.039	.123	3.08	3.57	1	5
F11 General BEE	Bank and finance	38	2.74	.891	.145	2.44	3.03	1	4
	IT	25	3.00	.913	.183	2.62	3.38	1	4
	Other	11	2.64	.924	.279	2.02	3.26	1	4
	Total	74	2.81	.902	.105	2.60	3.02	1	4

Table 18b tests the level of significance with which organization in different sectors varies in terms of BEE compliance.

Table 18b: *BEE Status in different sectors*

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
F6 Perceived BEE aspects	Between Groups	8.064	2	4.032	4.529	.014
	Within Groups	61.436	69	.890		
	Total	69.500	71			
F7 Actual Mannagemnt and Control	Between Groups	2.027	2	1.014	1.290	.282
	Within Groups	54.987	70	.786		
	Total	57.014	72			
F8 Actual skill Development	Between Groups	3.218	2	1.609	1.741	.183
	Within Groups	63.768	69	.924		
	Total	66.986	71			
F9 Actual Procurement	Between Groups	1.097	2	.548	.598	.553
	Within Groups	62.368	68	.917		
	Total	63.465	70			
F10 Actual Ownership	Between Groups	4.727	2	2.364	2.269	.111
	Within Groups	70.822	68	1.042		
	Total	75.549	70			
F11 General BEE	Between Groups	1.437	2	.719	.881	.419
	Within Groups	57.914	71	.816		
	Total	59.351	73			

6.10.5 BEE and IT governance



The BEE ICT goals and general IT aspects which are indicative and definitive of IT governance form the basis for this section. According to ICT draft 2004, it lies at the heart of BEE ICT Draft that previously disadvantaged people should be prioritized in the ICT sector. This is echoed by Evans (2006) who advocates the advancement of previously disadvantaged people in the IT sector for the economic growth of individuals and the country as a whole. African Proactive Initiatives Research (2010) adds that “*Empowering professionals involved in IT, Governance, Risk and Compliance activities to make more effective and positive contributions to the overall business as well as attain the recognition and importance that they deserve*”. Looking at **Figure 33** the highest proportion of respondents (39%) believes that prioritization of disadvantaged groups is moderately observed indicating that development of indigenous talent in IT industry is still inadequate.

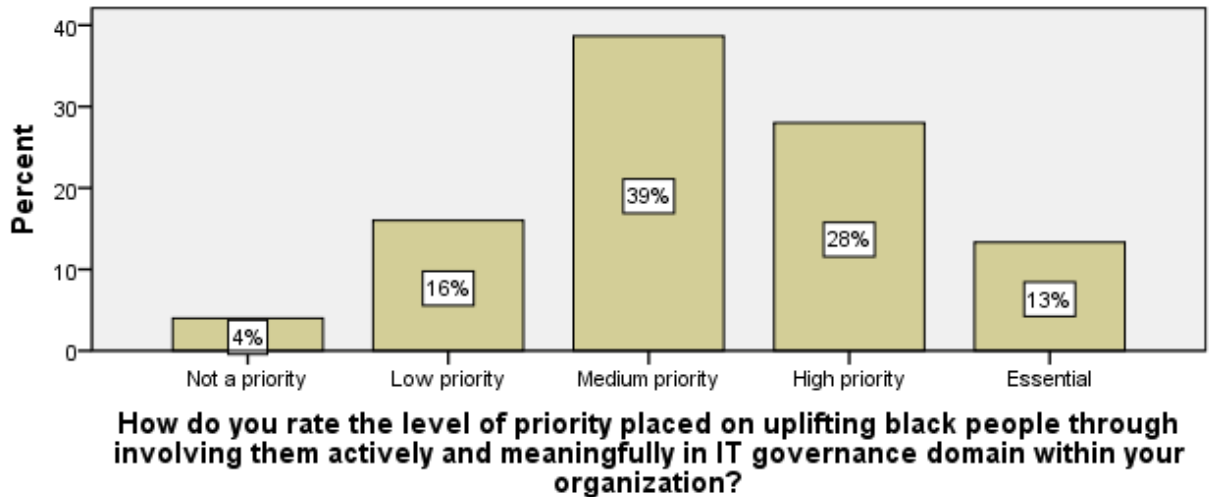


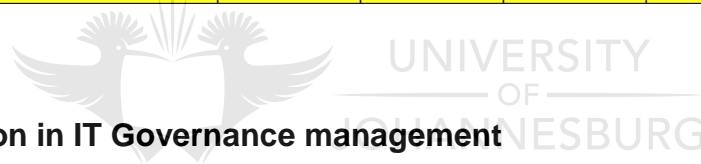
Figure 33: Percentage of responses by priority on black people on IT governance (n=72)

Black contribution in IT governance arena

The essential aspect of IT governance is proper execution of its processes by skills personnel. Significance of previously disadvantaged people's contribution in ensuring the proper IT governance implementation in their organization appears to be moderate (40%, $m=2.98$) in **Table 19** and **Table 23** respectively. This implies that previously disadvantaged people are left behind, unable to participate meaningfully in IT governance. The results attest the assumption there is still a long way to go for South African organizations to improve knowledge discrepancies amongst population demographics in the organizations. This is congruent with the general findings about BEE status (KPMG, 2009).

Table 19: Black contribution towards IT governance success

		Black competency				
		No contribution	Minor contribution	Moderate contribution	Major contribution	Total
Alignment of Business goals and IT	Count	4	19	28	21	72
	%	5.6%	26.4%	38.9%	29.2%	100.0%
Development of important IT policies that apply throughout the institution	Count	3	18	30	21	72
	%	4.2%	25.0%	41.7%	29.2%	100.0%
Efficient formulation and measurement of IT goals	Count	5	18	28	21	72
	%	6.9%	25.0%	38.9%	29.2%	100.0%
Cost-effective use of IT	Count	3	21	30	19	73
	%	4.1%	28.8%	41.1%	26.0%	100.0%
Effective use of IT to enhance teaching and learning	Count	5	20	26	21	72
	%	6.9%	27.8%	36.1%	29.2%	100.0%
Effective use of IT to enhance administrative processes	Count	6	16	32	19	73
	%	8.2%	21.9%	43.8%	26.0%	100.0%
Building support for IT through inclusion of all employees	Count	4	18	25	24	71
	%	5.6%	25.4%	35.2%	33.8%	100.0%
Making informed and timely IT decisions.	Count	2	19	30	22	73
	%	2.7%	26.0%	41.1%	30.1%	100.0%
Achieving transparency in	Count	4	18	30	20	72
	%	5.6%	25.0%	41.7%	27.8%	100.0%
Ensuring IT risk management	Count	4	17	27	24	72
	%	5.6%	23.6%	37.5%	33.3%	100.0%
Ensuring IT performance management	Count	2	20	27	23	72
	%	2.8%	27.8%	37.5%	31.9%	100.0%
Ensuring Strategic alignment.	Count	4	18	28	22	72
	%	5.6%	25.0%	38.9%	30.6%	100.0%
Ensuring IT Resource Management	Count	4	15	31	22	72
	%	5.6%	20.8%	43.1%	30.6%	100.0%
Average Percentange		5.3%	25.2%	39.7%	29.8%	100.0%



Racial composition in IT Governance management

The effectiveness of IT governance ensured by good management with expertise and ability to execute IT governance. ICT draft 2004 states previously disadvantaged people should be seen occupying such positions. This includes blacks, women, and people with disabilities. Generally a larger proportion of respondents (30%, of m=2.93) in **Table 20** and **Table 23** respectively indicate that there is moderate progress being made to develop the indigenous IT workforce in IT governance. Most respondents (44%) indicate people with disabilities are not given an opportunity to be in management positions in the IT sector. Women’s empowerment in the IT sector show average progress (31%) as a majority indicate a neutral compliance with regard to racial composition of IT Top management.

Table 20: Meaningful participation of previous disadvantaged people in IT leadership

		Racial profile					
		Very incorrect	Incorrect	Neutral	Correct	Very correct	Total
Sufficient participation of a black people at IT steering committees, at executive management level and at board level	Count	12	17	14	21	8	72
	%	16.7%	23.6%	19.4%	29.2%	11.1%	100.0%
There is significant increase in number of IT senior black employees in your business	Count	8	15	25	16	7	71
	%	11.3%	21.1%	35.2%	22.5%	9.9%	100.0%
There is significant increase in number IT senior black WOMEN at executive management level and at board level	Count	15	14	22	14	7	72
	%	20.8%	19.4%	30.6%	19.4%	9.7%	100.0%
People living with disabilities are allowed occupy IT executive management positions	Count	11	8	32	16	5	72
	%	15.3%	11.1%	44.4%	22.2%	6.9%	100.0%
IT work force as whole (from technical level to management) is well balanced in racial terms	Count	11	18	15	16	12	72
	%	15.3%	25.0%	20.8%	22.2%	16.7%	100.0%
Average percentage		15.9%	20.1%	30.1%	23.1%	10.9%	100.0%

Empowerment initiatives of Black professionals in IT sector

Since Hirsch (2005) supports that BEE should not to compromise quality and qualifications, together with Weill and Woodham (2002) advocating a need for expertise IT governance for proper execution, the results below in **Table 21** and **Table 23** show inadequate commitment of organizations in ensuring that the previously disadvantaged people (38%, $m=2.92$ are equipped with necessary expertise to effectively deploy IT governance.

Table 21: Black knowledge and Expertise in IT arena

		Competency - skills				
		Not at all	To a little extent	To medium extent	To a great extent	Total
The organization commits a lot of effort in IT staff training	Count	6	5	30	31	72
	%	8.3%	6.9%	41.7%	43.1%	100.0%
The organization ensures acquiring skills, and managerial skills and access appropriate technology by previously	Count	4	13	26	29	72
	%	5.6%	18.1%	36.1%	40.3%	100.0%
Black people are equipped with Rudimentary IT technical, managerial and business skills, leading to the success of the overall organization	Count	6	10	35	21	72
	%	8.3%	13.9%	48.6%	29.2%	100.0%
Black People are well prepared ,trained and qualified for IT leadership positions	Count	8	10	27	26	71
	%	11.3%	14.1%	38.0%	36.6%	100.0%
IT Black Directors, Executives, Managers demonstrates outstanding performance in all business areas	Count	10	12	18	28	68
	%	14.7%	17.6%	26.5%	41.2%	100.0%
Average Percetange		9.6%	14.1%	38.2%	38.1%	100.0%

Involvement and Capacity in Executing IT frameworks

On average, the involvement and capacity of black people in the execution of IT governance is quite good. **Table 22** and **Table 23** (28% m=2.93) respectively denote that there is more to be done get more people empowered. Again this result reflects the reality of the essential skills and knowledge that the IT industry is in the hands of white minority.

Table 22: Previously disadvantaged involvement in IT governance execution

		Competency black prof execution of IT gov frameworks					
		Poor	Fair	Good	Very Good	Excellent	Total
Rate black people: involvement to carry out Cobit processes	Count	8	15	20	12	7	62
	%	12.9%	24.2%	32.3%	19.4%	11.3%	100.0%
Rate black people: capacity to carry out cobit processes	Count	7	13	24	12	6	62
	%	11.3%	21.0%	38.7%	19.4%	9.7%	100.0%
Rate black people: involvement to carry out ISO/IEC 17799 processes	Count	7	14	14	17	6	58
	%	12.1%	24.1%	24.1%	29.3%	10.3%	100.0%
Rate black people: capacity to carry out ISO/IEC 17799 processes	Count	9	9	17	17	7	59
	%	15.3%	15.3%	28.8%	28.8%	11.9%	100.0%
Rate black people: involvement to carry out ITIL processes	Count	8	13	17	16	8	62
	%	12.9%	21.0%	27.4%	25.8%	12.9%	100.0%
Rate black people: capacity to carry out ITIL processes	Count	9	11	18	18	9	65
	%	13.8%	16.9%	27.7%	27.7%	13.8%	100.0%
Rate black people: involvement to carry out KING III processes?	Count	9	13	14	14	11	61
	%	14.8%	21.3%	23.0%	23.0%	18.0%	100.0%
Rate black people: capacity to carry out KING III processes?	Count	10	9	15	20	7	61
	%	16.4%	14.8%	24.6%	32.8%	11.5%	100.0%
Are black IT professionals Up-to-date with new versions of each one of the frameworks and learn them on continuous basis?	Count	8	13	20	15	8	64
	%	12.5%	20.3%	31.3%	23.4%	12.5%	100.0%
Are Black IT professionals a priority in acquisition of new skills related to the emerging versions the aforementioned frameworks?	Count	9	12	18	17	9	65
	%	13.8%	18.5%	27.7%	26.2%	13.8%	100.0%
Average Percentage		13.7%	19.3%	28.6%	25.9%	12.5%	100.0%

Table 23: Combination of IT governance and BEE Statistics

Statistics			
	N	Mean	Std. Deviation
Black contribution	75	2.93	.827
Racial composition	72	2.90	1.153
Upliftment indicators	75	2.89	1.021
Involvement and Capacity	71	2.90	1.084

Overall actual IT governance and Combination of IT and BEE

Overall actual IT governance maturity and blended IT governance (IT & BEE) and BEE show no significant correlation, meaning IT governance maturity has little or nothing to with the goals of BEE as outlined and advocated in ICT draft. Therefore, according to the findings of this study, the BEE program is not significantly effective in addressing IT governance issues. IT governance maturity is increasing irrespective of the extent to BEE requirements are practiced in organizations. The results are shown in **Table 24**.

Table 24: *Combination of IT and BEE, and IT governance Maturity Correlations*

		IT & BEE	IT governance
BEE& IT		1	.191
			.101
IT governance		.191	1
		.101	

The empirical correlation results are supported by assumptions of most respondents (54%) acknowledging that BEE does not play a role in successful implementation of IT governance. An even majority fall under category yes (46%) of three categories, higher proportion of respondents (No=25%, and don't know=29%) did not perceive any correlation between the BEE success and IT governance maturity. Therefore this confirms the good judgment of IT professionals who participated in this study. **Figure 34**.

Do you think BEE strategy plays a major role in ensuring successful implementation of IT governance?

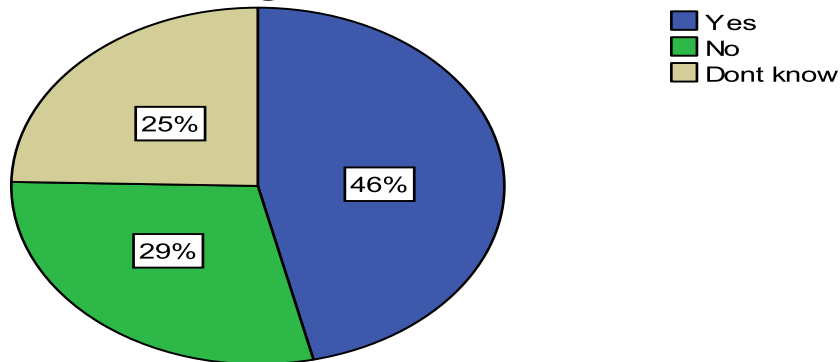


Figure 34: Percentage of responses by the role of BEE on IT governance (n=72)

6.10.6 Summary (Objective3)

BEE progress seems to be a making moderate progress in achieving its goals, and generally this demonstrates the instability of BEE policy in South African organizations and what is happening really in the world. There is still room for improvement to achieve its ambitions in the IT Sector; however, it was found that the success of IT governance cannot be mainly linked to the success of BEE initiatives within organizations as indicated by the ICT draft. Moreover, black IT professionals have a moderate understanding of what IT governance entails and are only empowered to medium levels in terms expertise, skills and involvement in IT governance, a problem that needs to be addressed to ensure proper governance that taps into the talent of all citizens, implying ICT management is still white dominated.

6.11 Hypothesis Testing. (The strength relationship exist BEE scorecard and IT governance (Objective4))

The literature suggests that BEE as a tool for proper governance leads to the success of organization performance. Since IT governance and BEE are both corporate governance issues, the researcher postulated that there is a relationship between the two concepts. Lee *et al.*, (2008) postulates that proper IT governance leads to improved firm performance, thus the following hypotheses were highlighted and tested empirically. The major findings are as follows: 1) There is a weak relation between IT governance and BEE. 2) There is a very weak relationship between IT and organization performance. 3) There is significant relationship BEE and organization performance.

Hypothesis1

Correlation between IT governance and BEE

Results in **Table 25** show that there is a weak relation between ITG and BEE($r=0.208$), which accepts the null hypothesis that there is no significant relationship between ITG and BEE ($p=0.073$).

Table 25: BEE and IT governance Maturity Correlations

Correlations		IT governance	B.E.E.
IT governance		1	.208
			.073
B.E.E.			1

Hypothesis2

Correlation between IT governance and organization performance

Results in **Table 26** show weak relation between ITG and organization performance ($r=0.114$), which accepts the null hypothesis that there is no significant relationship between ITG and organization performance ($p=0.332$), this contradicts there theoretical findings of Lee *et al.*, (2008).

Table 26: *IT governance and organization performance Correlations*

Correlations		Overall performance	IT governance
Overall performance		1	.114
			.332
IT governance			1

Hypothesis3

Correlation between BEE and Organization performance

Results in **Table 27** show a significant positive correlation relation between BEE and organization performance ($r=0.385$), which rejects the null hypothesis that there is no significant relationship between BEE and organization performance ($p=0.001$), meaning the more BEE is implemented the higher the performance of an organization. This is in agreement with the literature in support of the idea of BEE policy.

Table 27: BEE and organization performance

Correlations		B.E.E.	Overall performance
B.E.E.		1	.385**
			.001
Overall performance			1
**. Correlation is significant at the 0.01 level (2-tailed).			

6.12 Chapter Conclusion

In this chapter the following has been discovered: IT governance maturity is between well-defined and well-managed. There is a significant difference between the IT governance maturity level in small-medium and large organizations with large organizations showing high levels. Human capital investment in the IT workforce is implemented to either little or moderate extend; this seems to impact on performance organization as it is also appear to be average. There was a strong relationship between human capital investment in the IT workforce and organization performance. BEE compliance is also accepted to a moderate extent irrespective of sector (public or private) in which organizations are operating. Previously disadvantaged individuals are still lagging behind in the knowledge and expertise required in IT governance. BEE does not appear to be an effective tool in addressing IT governance, and this is supported by the lack of relationship between IT governance and BEE by empirical test (correlations). The significant correlation was observed between BEE and organization performance, weak relation low was between IT and BEE, and very weak relation IT governance between organization performance.

Chapter 7 (Research Discussions and Interpretation)

This chapter extends the data analysis of chapter 6 and provides insights on how the findings of this study compare with other findings of contemporary studies. It concludes by revisiting the conceptual to show how it has influenced the achievement of the research objectives and what major findings were highlighted .This will help inform implications to theory and practice.



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7.1 Introduction

This chapter focuses on how the findings of this study compares with assertions and other findings. It is outlined as follows: IT governance recognition and maturity status, Human Capital Investment in Diverse IT workforce, Implementation of BEE Scorecard, BEE and IT governance implementation, and lastly chapter summary and conclusion..

7.2 IT governance Maturity

The results of this study conducted in 2010 reveal that a higher proportion of respondents (39%) believe that the current IT governance Maturity is at level 4 (well managed). The results are reinforced by average of the actual score of IT governance maturity being above ($m= 3.5$) as indicated in section 6.10. This follows the general notion that IT governance is growing in importance with the passage of time and the assessment of IT governance maturity by the respondents in this study can be relied upon, regardless of the fact they might have overestimated their maturity levels to a certain extent. IT governance maturity is therefore advancing towards high levels as its awareness is infiltrated in the organizations as indicated in figure1. In 2008 ECAR Research study revealed that the majority of institutions reported that their IT governance maturity was at level 2 (non-repeatable) (ECAR Research study, 2008). In 2009, Milne and Bowels in their study which included South African experts for a survey revealed that most organizations' IT governance Maturity is at level 3 (well defined) (Milne and Bowels, 2009). Additionally, Gomes (2007) affirms that IT governance awareness is widespread in South Africa organizations. Organizations have noticed the importance of continuously assessing their IT governance practices in their organizations to match them with universally acceptable practices and standards, and this has resulted in a significant improvement in IT governance implementation each year (PWC and ITGI, 2006; PWC and ITGI, 2008).The emergence of IT governance

during the past 10 years has rendered it a prerequisite for businesses to derive sustainable value from IT. This has led it to forming an elementary part of corporate governance and business strategy, thus encouraging a cross-departmental view of organizational systems, meaning that IT is no longer viewed as a single functional unit but integrated in business missions and visions (Pearlson and Saunders, 2009; Weill and Ross, 2004). In addition, PWC and ITGI (2008) report that IT governance maturity is rising each year.

7.2.1 IT governance Frameworks

For the purpose of this study, COBIT, ITIL and ISO/IEC 17799 and KING III were used to determine IT governance maturity level. The first three frameworks are said to be complementary and normally implemented together for better results (von Solms, 2005; Symons, 2006), and they are also found to be highly correlated in this study. Generally, the majority of respondents demonstrate a high appreciation of these frameworks. Looking at international figures (**Table 28**) and the maturity levels of ITIL and ISO 17799 in this study, the level of successful implementation of these frameworks internationally and their current implementation in South African is evident. COBIT is still highly appreciated in organizations (39%) as it has long been established but most respondents show that generous appreciation of ITIL (55%) and ISO 17799 (41%).

Even though 44% of the respondents' perceive King III to have been already implemented, the actual scores still demonstrate that it is a newly implemented IT governance framework and its appreciation within organizations has not been as noticeable ($m=3.44$); the respondents' judgment of its maturity was less homogenous ($SD= 1.136$) as compared to other frameworks, meaning they were not certain about implementation status of KING III. Additionally, even though the results of this study prove that large organizations experience higher maturity levels than small-medium organizations in Table 2 in chapter 6, KING III shows a lot more significantly different maturity levels in small-medium organization ($m=2.5$) and in large organizations ($m=3.6$)

with $p=0.009$, which serves to prove it is still not as generally recognized in organizations. However, large organizations demonstrate a moderate recognition of KINGIII. This leaves a significant room for improvement with regard to raising awareness of KING III as well as its implementation in organizations. Similarly IT Online (2009) and IT Web Johannesburg (2009) confirm that KING III is only at its infant stage in organizations and its popularity is yet to be attained. Another interesting finding that is that King III correlates fairly well with other frameworks, implying that it is still relevant in IT governance arena.

IT governance is broad in scope and therefore its maturity can be brought about and measured through different frameworks, each focusing on different essential aspects of IT governance. The acceptance of these universal frameworks is supported by global statistics indicated in Table 29, including those that are not shown in Table 29 yet formed part of the statistics. According to PWC and ITGI (2006), there was an overall improvement of 17% regarding their successful implementation in organizations between 2003-2005. KING III was not included as it still localized in South African organizations. This still maintains that an enormous advancement of IT governance has been accomplished over the years. A good improvement is observed between ITIL and ISO 17799 with COBIT showing a slight decline in importance, this may be ascribable to the fact that it is more useful in strategic decision making, and more costs are incurred at technical levels where ITIL and ISO 17799 are mostly deployed. A similar pattern is repeated in this study where a good appreciation is demonstrated for ITIL ($m=3.62$) and ISO 17799 ($m=3.76$) as compared to COBIT ($m=3.50$). Literature supports that a larger portion of the IT budget is spent for operational IT costs therefore organizations put more focus on technical frameworks to save costs incurred daily. Salle (2004) affirms that Procter and Gamble save \$125 million as a result of adopting ITIL processes. And therefore this may serve attest wide acceptance of ITIL.

Table 28: Global acceptance IT governance Framework statistics 2003-2005 drawn from PWC and ITGI (2006)

Frameworks	Percentage	
	2003	2005
COBIT	11%	9%
ITIL	6%	13%
ISO17799	6%	9%
KINGIII	N/A	N/A

7.3 Human Capital Investment in Diverse IT workforce



The findings of this study, on average, reveal that more than half of the respondents acknowledge that human capital investment in a diverse IT workforce are perceived to be either not successful or successful, as a result it cannot be said with any degree of certainty that these measures have successfully been implemented looking the overall mean score of the implementation status of human capital investment ($m= 2.28$), denoting that it is only implemented to medium extent. The implication of these results is that there is still significant room for improvement for South African organizations to advance and promote diversity, knowledge and skill of the indigenous IT workforce. The findings of the study also confirm that there is a strong and significant relationship between human capital and overall organizational performance ($r=0.548$, $p=000$), supporting the compelling fact that a better way to accelerate economic growth is to embrace inclusive and transformation programs that advocate effective use of human

resources. Garner (2011) states that “*IT and HR must implement diversity programs to capitalize on IT workforce*”. It further stresses that adopting diversity in IT workforce management will help maintain organization competitive advantage, and hence it raises demand for innovation to sustain business competitiveness. Empirical studies in literature assumed technology to be fundamental for organization growth, and its proper use is associated with availability of highly knowledgeable and experienced workforce with higher educational level for effective IT governance implementation.

Furthermore, the promotion of diversity, knowledge acquisition are said to be vital indicators of IT capacity building in organizations (Trauth, 2001). However, Truth *et al.*, (2008) and Yeo (2006) assert that it is not sufficient to retain a diverse IT workforce, it is also crucial to ensure continuous empowerment of the workforce through rudimentary skills and expertise necessary in all business areas for organizational growth. According to the study conducted by Applied Research Unit at Wits University, 100% of the respondents in their survey revealed that availability of rudimentary skills and management capacity respectively are major challenges facing the ICT sector. Similarly Toner (2011) reports that 75% and 50% of the respondents in their survey revealed that the availability of rudimentary skills and management capacity respectively are major challenges facing the ICT sector. It further affirms that European countries are intensely addressing skill shortage issues through implementing internship programs to mitigate issues of inexperienced IT workforce. South Africa.Info (2009) reports that 41% of privately owned companies cited the lack of skills as the greatest impediment to business growth.

CAIPERS Study 2009 conducted in California substantively revealed that companies committed to diversity (gender and race) in the composition of the board demonstrate good financial performance as they effectively utilize diverse talent in their organizations. Additionally to Commissioner Aguitar cited by Deloitte (2010) saying “*I personally believe that companies that expand their search new board for more women and minorities will find a breath of talent that will serve to improve their performance and increase the wealth of investors*”.

Similarly James *et al.*, (2006) adds that, according to the recent ICT skill audit, there is a decline in the ICT workforce with formal degrees and diplomas despite positive progress towards ensuring that human resources in ICT sector reflect the demographics of the population. Consistent with the findings of this study, there is very sluggish progress being made considering the fast-paced technological change that affects the organization performance which requires a competent and highly skilled IT workforce. As affirmed by the study conducted by CAIPERS 2009, organizations demonstrating full commitment with respect to essential elements (e.g. well trained and qualified staff) embodied in human capital and diversity will experience improved performance (Deloitte, 2010).

7.4 Implementation of BEE Scorecard

While there is anecdotal evidence that the BEE scorecard continues to diversify the IT industry, the findings of the study reveal that discrepancies are perpetuated within the IT industry. The results of this study distinctly confirm that the highest average percentage of respondents (37%) perceive moderate BEE compliance ($m=3.35$) in their organizations; only moderate progress has been made giving an indication of more improvement being expected in future. Actual BEE compliance indicates moderate progress ($m=3.29$). On average; the majority of respondents (32%) were neutral about the success of ownership implementation, the 36% hold same opinion about Management and Control with low numbers of people with disabilities and women being represented in management positions. The 35% appreciate the good implementation skill development, 36% are neutral about procurement. However there was a small difference 1.1% between those showing a good appreciation (35%) about implementation of procurement, which implies respondents were more inclined to acknowledge the implementation of procurement in their organizations. The findings are consistent with BEE survey 2009 conducted by KPMG witnessing poor performance of ownership and management and control, better improvements in skill development and

procurement. However, KPMG included other BEE aspects beyond the scope of this study.

BEE is both a legislative framework and corporate governance issue in South Africa aimed at encouraging companies to develop black talent through advancement of their skills for the benefit of the overall economic growth of the country as a whole (Ramaphosa *et al.*, 2009). van Scheers (2010) affirms the importance of diversity in board of corporate governance for positive business outcomes. According to Koekemoer (2009), section four of the KING II Report emphasizes the need for companies to include empowerment progress as part of their annual report, since King II is widely accepted as a guideline for proper implementation of corporate governance, it is also good governance practice to adhere to the BEE scorecard requirements. Additionally, though BEE policy is still met with critics and scepticism, the literature suggests that it is imperative for businesses' success (Ramaphosa *et al.*, 2009; Nieman and Bennett, 2006).

The majority of South Africans believe only little progress has been achieved since the inception of BEE (Roger and Roger 2008, Nshingila, 2010). **Figure 35** demonstrates the uneven BEE progress, confirming the idea that it will take more time before BEE policy is widely accepted in organizations; this, according KPMG (2009), calls for more innovative mechanisms to accelerate transformation initiatives.

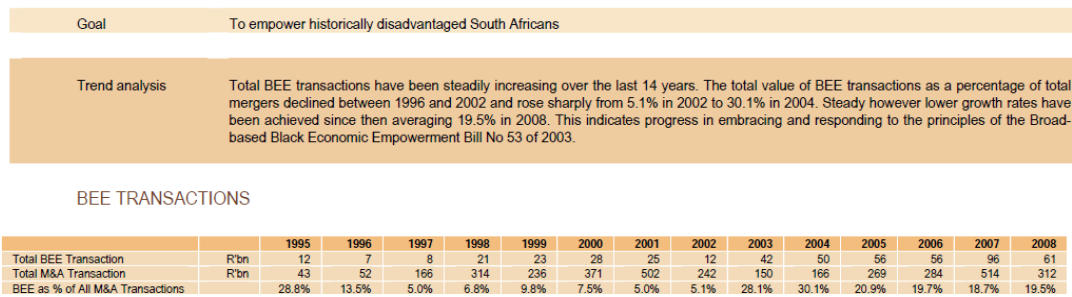


Figure 35: BEE progress (The Presidency of Republic of Africa)

. The reason behind uneven progress might be ascribable to the fact BEE has been put into practice only twelve years ago which is a short period as compared to Malaysia which has made good progress after many years of struggle to make BEE policy the success it is today. In support of the aforementioned assumption, Dunnigan, Fazaeli and Spies (n.d) state that "*Malaysia where 'positive discrimination' policies have been in place for 20 years success has occurred during growth, the impact of these policies has become stagnant and the policies have not come*". Scott (1968) affirms that during its infant stages, BEE policy was met with lot problems in Malaysia similar to those experienced by South Africa. KPMG (2009) advocates a need for an innovative approach toward the implementation of BEE policy in order to change the general perception of BEE which is revealed by the highest average percentage of respondents (33%) in this study to be moderate (m=2.8).

7.5 BEE and IT governance implementation

According to findings to this study, on average, a high proportion of respondents (40%) indicate that the contribution of black IT leaders in carrying out the most essential processes and activities in IT governance appears to be moderate despite the escalating IT governance maturity, implying full participation by black IT professions is still limited in IT governance. This calls for more innovative ways to ensure black professionals are not left behind as IT governance advances to a higher level of maturity. The same moderate progress is witnessed in both skills, representation in top management as well as involvement and ability black IT professionals in executing IT governance frameworks. The results of this study provide a true reflection of the inability to utilize its human resources to optimum level in the ICT sector, neglecting the invaluable talent of the majority of its population. The key point implied by the findings in this study is that BEE strategy is currently not effective in addressing IT governance issues hence the majority of previously people, with marginal contribution towards IT governance success, are inadequately represented and involved in IT governance

arena despite IT governance maturity levels escalating. This also affirms by weak correlation between BEE objectives through ICT charter being met and the overall maturity of IT governance. According to Raja and Raja (2008), Malaysia puts more emphases on human capital, competencies building and diversity in the IT workforce to rectify the imbalances of the past and therefore South Africa needs to follow suit as this is still lacking in this regard. A large percentage of respondents (38%) believe that involvement of black people in IT governance execution is moderately emphasized and practiced. Additionally, a fair proportion of respondents indicate that BEE procurement (36%) and ownership (27%) is less than 10%, implying the ICT industry is difficult for entry by black IT entrepreneurs. Furthermore, women and people with disabilities are the least represented and underdeveloped in IT governance management, undermining the value these groups can bring toward the success of IT governance. This is consistent with the real world situation in South Africa as affirmed by James *et al.*, (2006) that women and disabled people are not empowered in the ICT sector. Therefore there is a need for more effort to accomplish human resource development to achieve its goals.

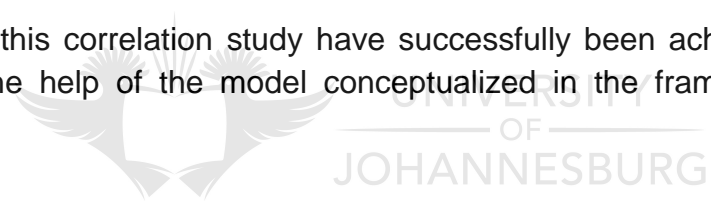
Lee *et al.*, (2008) points out that one of the major factors hampering proper implementation of IT governance is the lack of skill, knowledge and expertise. Yeo (2007) and Trauth *et.al* (2006) acknowledge that diversity in the workplace brings about collective knowledge and talent in addressing emerging problems in all business sectors including IT. James *et.al* (2006) reiterates that South African economic progress is impeded by the inability to utilize its human resources efficiently because of lingering inequalities created by the apartheid era.

The BEE scorecard, through ICT charter, aims to ensure meaningful participation of previously disadvantaged people in the IT sector .SAITIS (2010) and James *et al.*, (2006) assert full engagement and involvement black IT professionals in management positions and acquisitions of skills, knowledge, and capacity for the indigenous IT capability to increase the county's competitiveness in the IT sector, including women and youth. Therefore it is evident that increasing black management comes with a great

responsibility to execute and implement IT governance activities, requiring more training, engagement, and involvement in IT governance to build a required technology and business acumen for successful implementation of IT governance. Toni (2011) reported in ICT survey 2009 that the majority of respondents identified management skills (58%), problem solving skills (57%) and leadership (55%) as top challenges facing the ICT industry. Milne and Bowels (2009) assert that Top management is responsible and accountable for proper IT governance Implementation, and therefore they need to be well equipped in skills and experience. Owing to BEE ICT charter, the Department of Labour reports there has been an overall increase of 170.5% from 1996-2005 for all groups of demographics of South African population (SAT MONITOR, 2010), denoting a positive improvement in BEE strategy through ICT charter.

7.6 Revisiting Conceptual Model

The objectives of this correlation study have successfully been achieved as originally envisioned with the help of the model conceptualized in the framework depicted in **Figure 36** below.



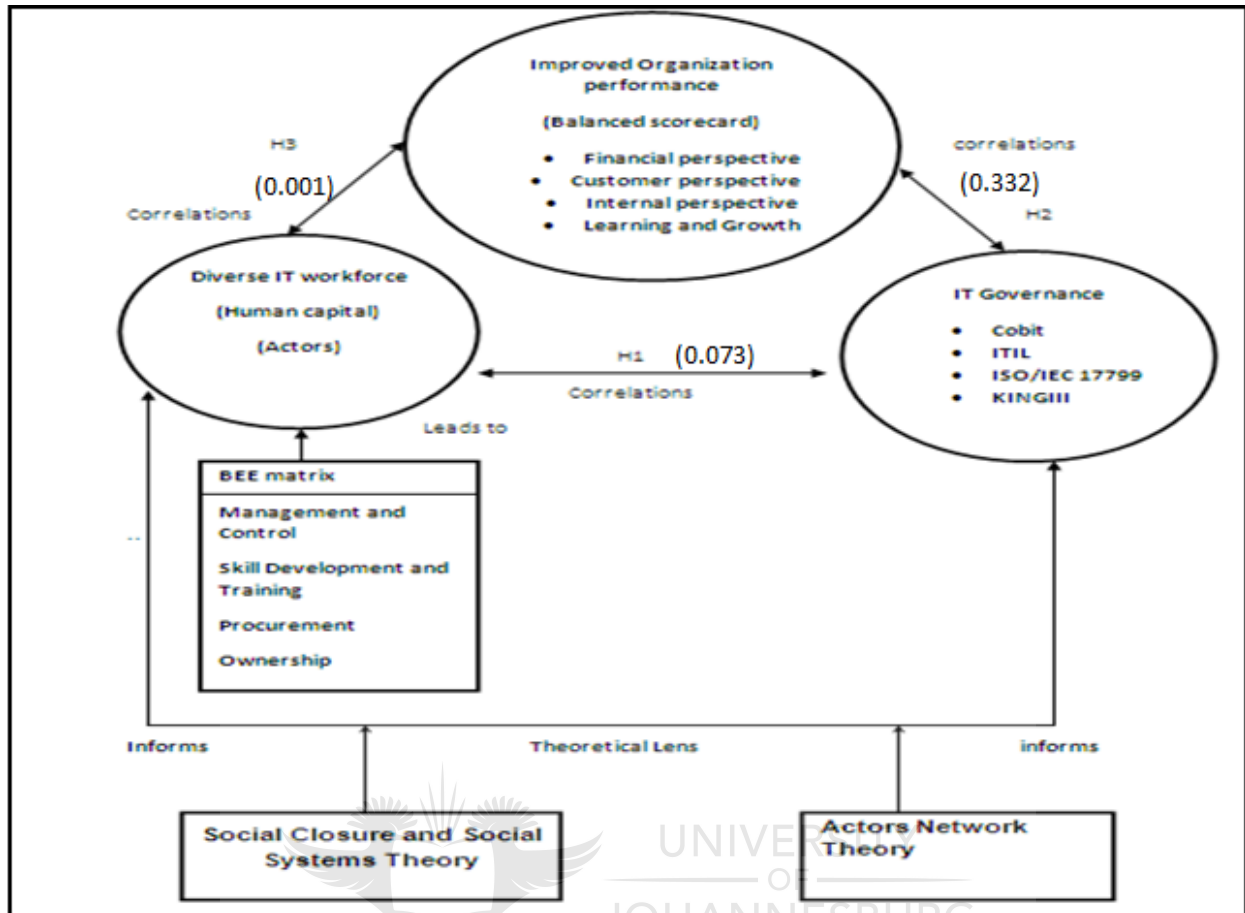


Figure 36: IT governance framework, BEE Aspects and Balanced Scorecard

BEE metrics encourages diversified of the IT workforce for the effective execution of IT governance in organizations, drawing on the insights from social closure theories and actor network theories for collaborative governance in order to improve performance based on perspectives of Kaplan and Norton (1993) balanced scorecard for measuring organizational performance.

This model helps operationalize major constructs underlying this study and ensures that objectives were quantifiable and measurable.

The model helps in the establishment of how the relationship between these constructs (BEE scorecard, IT governance and organization performance) could be measured and interpreted. These relationships as illustrated in **Figure 36** above are outlined as follows;

H1 -, There is a weak positive relationship between IT governance and BEE, showing that IT governance effectiveness does not depend on BEE scorecard adherence by organizations.

H2 -, There is a very weak positive relationship between IT governance and organization performance, showing that IT governance effective implementation in organizations does not necessarily imply improved performance, other factors might responsible for improved organization performance.

H3-, There is a strong positive relationship between BEE and organization performance. Implying the more diverse the workforce the more this contributes to organization performance.

IT governance maturity was studied using four IT frameworks: BEE metrics in ICT charter helped understand relevance of BEE scorecard in IT governance. As such, this model assisted in answering research questions and deriving the research hypothesis formulation and how to test them as well as the relevant data to collect to accomplish research. Consequently, in this study, as highlighted by Weber (1978) in social closure, dominant groups will always strive maintain monopolizing resources, resulting social inequality. BEE therefore seeks to advance the inclusion of strategies and demolish barriers hindering meaningful participation of majority black individuals. Social closure is still maintained in the IT sector, and IT marginalized groups are not major actors in the execution of IT governance showing that 'power and authority' in IT governance is still vested in the hands of dominating white minority. This denotes that white minority are still the main actors driving the ICT industry, and therefore demonstrates an insufficient

compliance to a fundamental principle of sound collective governance that is reflective of the broader population demographics and encourages meaningful involvement in the governance structures. Even though there seems to be a weak relationship between BEE and IT governance, IT governance maturity is improving regardless of slow BEE progress. In the foreseeable future, the growing importance of IT demands on experienced and skilled IT workforce will not be met, and may result in a skill shortage crisis which will severely handicap the effectiveness of IT governance implementation which requires expertise for proper execution. Another worrying factor that still persists in this study is the insufficient involvement of women and people with disabilities in IT governance domains, showing human capital and diversity in IT workforce is still undermined as a lot of talent is not used to a maximum level. These results tally the findings of the leading ICT researchers in South Africa (Brown and Brown, 2008; James *et al.*, 2006; Evans, 2006). Nonetheless, in the near future BEE might have to emphasize more skill development rather than risk placing an unqualified workforce in highly skill-intensive job positions just to increase number black representatives in organizations, thus promoting national unity in which individuals are judged only by merit, competencies and capabilities for job eligibility as opposed to group preferences.

7.7 Chapter Conclusion

This chapter highlights the unprecedented growth and recognition of IT governance in organizations and its underlying significance as business enabler as well as its invaluable contribution towards organizational survival in the ever changing competitive environment. It also reveals the importance of diversifying and developing the IT workforce which is a key player in designing and executing IT governance structural processes for positive business outcomes. The BEE scorecard as transformational tool is a prerequisite for the promotion of diversity and human capital investment to broaden the knowledge base and build indigenous IT capability across the majority of the population, a gap that was created by apartheid systems in the past and still persists in

the IT industry, showing that IT governance execution is dominated by the white minority with necessary skill and expertise. Other countries such as Malaysia have made great strides in ensuring successful implementation of transformation policies. The results of this study and contemporary literature confirm that the IT industry leadership is adequately experienced and is still white dominated, calling for more innovative ways to address such imbalances across the ICT sector. Therefore this chapter lays the foundation for suggestions and implications in the subsequent chapter.



Chapter 8 (Recommendations and Conclusions)

This chapter concludes and makes recommendations regarding the new knowledge covered in all the previous chapters of this dissertation, showing how the study has contributed to both theory and practice. The chapter emphasises the need to adopt a comprehensive approach to the study of underlying factors that may contribute toward IT governance effectiveness within the social context.



Chapter 8 (Recommendations and Conclusions)..... 173

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8.1 Introduction

The current chapter discusses implications for future studies, theory, and practice, as well as recommendations and conclusions based on the statistical findings outlined in the previous chapters. The main purpose of the correlation study was to assess the extent to which the BEE scorecard impacts on IT governance implementation, both of which are said to play a pivotal role in ensuring improved organisational performance. Other relationships and statistical tests between variables were explored, resulting in insightful discoveries that inform the recommendations in the present chapter.

8.2 Implications for future research

Even though results in this study affirm that moderate progress has been made in terms of BEE, overall IT governance has improved over the years, implying that white-dominated leadership has adequate and necessary knowledge and expertise to carry out IT governance processes, at the expense of recognising the need for previously disadvantaged people's vigorous inclusion in the IT governance arena. Considering the substantial contribution that has been made by ICT expertise to the economic growth of the whole of South Africa, the human aspect in information systems, as spelled out by the network actor's and inclusivity theories, calls for sufficient investment in those intellectual resources that underlie the centrality of people as main drivers in economic growth across all business domains, including the IT industry. A relatively large proportion of respondents pointed out that previously disadvantaged people are moderately involved in the industry, affirming that much still needs to be done to address the making of equal contributions by the wide diversity of employees to ensure the success of IT governance. Although there might be other factors inherent in or extraneous to the social context that affect the success of IT governance, there is, as

yet, a weak correlation between BEE and such governance. However, the current study lays the foundation for future studies of IT governance within social contexts.

Additionally, future studies may attempt to explore social parameters qualitatively by striving to gain in in-depth understanding of the conceptualisation of the role that the BEE scorecard has played in IT governance, in terms of the meaningful participation of the previously disadvantaged in the ICT sector, with a specific focus on IT governance. Such governance is currently regarded as being an indispensable aspect of leveraged IT usage aimed at deriving maximum returns from IT investments. If the same quantitative study were to be adopted, larger samples spanning the entire country as a whole, instead of just one province, should be used for purposes of generalisation. A longitudinal study would help to explain the measured progress of both IT governance and BEE, allowing for due consideration to be paid on their respective impact on organisational performance over a timeframe that was not feasible in the current study. Such a study would allow for an enriched understanding of the association between IT governance, BEE and organisational performance, and for an appreciation of the value of optimum utilisation of diverse human capital to address the emerging problems in the ICT sector, thus contributing towards a broader knowledge base in the given field of study. Future studies should also place greater emphasis on the human relations aspect of business within the IT arena, giving due recognition to the contribution that they make to the success of an organisation, as well as to its constituent elements, such as successful IT governance. Clearly, quantifiable metrics should be developed in order to measure such individual contributions, especially in the IT sector. In addition, such studies need to enhance suitable knowledge creation and transfer mechanisms, which would serve to encourage those who are privileged enough to be able to access knowledge and gain extensive experience that they are able to transmit to the previously disadvantaged, so as to create a broader knowledge base within the IT workforce. Furthermore, KINGIII, as an emerging framework, requires thorough study in order to gain an understanding of the extent to which it addresses IT governance issues, as well as of how it relates to other existing IT governance frameworks.

Moreover, the challenges faced by small to medium organisations in implementing IT governance require in-depth investigation.

8.3 Implications for theory

The current study contributed toward the construction of a broader knowledge base for the role played by social dimensions in the study of IT governance. The theoretical advances made in the study promote the study of IT governance in the light of multidimensional theories that have the potential to shed light on the underlying contributing factors that may either enable or thwart the progress of IT governance in the foreseeable future. The study highlights the fact that IT governance operates within constantly changing contexts that have deep implications for its effectiveness. In the light of the heavy reliance on IT management tools, best practices and frameworks for effective governance are inadequate by themselves. Drawing on the insights of social closure and social systems, the findings of the study, as depicted in **Figure 36**, imply that a dominant group (the white minority) form the major actors and leaders in the execution of IT governance, demonstrating that the role that is played by black people in such a context is insufficiently meaningful, as has been shown by the proposed model. The actor's network theory has helped to establish the decisive influence of the diverse IT workforce that impacts on the effectiveness of IT governance implementation and on the resulting organisational performance. The promotion of diversity in the IT workforce in terms of the BEE scorecard is key to attaining collaborative governance in which the creative work of the diverse IT workforce (consisting of actors) can be both nurtured and utilised to the optimum degree. Consequently, sound governance would be achieved, in which human capital in all economic sectors would effectively reflect the demographics of the population. The complementary expansion of the use theories of the ANT and social closure in the sphere of IT governance should serve to highlight the importance of inclusivity and active engagement in the IT sector, so as to meet the rising demand for

an innovative and highly skilled IT workforce in response to the growing dependency on IT systems for the successful conduct of business operations.

8.4 Implications for practice

Complementary theories have been used to provide the basis for those arguments in the current study pertaining to IT governance mechanisms that have been used to diagnose and to gain an understanding of the underlying factors contributing to IT governance. From the perspective of IT practitioners and professionals, the current study is an attempt to attain transparency in the industry and to apply the values of good IT governance within organisations by means of developing an effective comprehensive framework that goes beyond the utilisation of mere management tools, IT best practices and frameworks. Such a framework should allow for the full participation of representatives from diverse population demographics. The current study has provided insights into the relationships existing between different variables, which can be manipulated for enhanced IT governance implementation. Such implementation is equally important as a good corporate governance practice and as an effective way in which to bring about innovation in the workplace in order to achieve positive outcomes for business, as anticipated in terms of both governance and transformational policies and frameworks. The current study also espouses the continuous assessment of the overall IT governance maturity level in organisations. It advocates the creation of an elaborate framework that constitutes the basis for cooperation in the field of good governance which will be responsive to the needs and aspirations of the people for full realisation of economic and social development. In this way, a framework will be attained that will help organisations to refine their IT-related governing structure, such that they are capable of adhering to regulatory governance requirements (in terms of the BEE scorecard), since doing so is a prerequisite for organisations to trade successfully within the South African setting. Additionally, the current study serves to broaden IT practitioners' understanding of the turbulent nature of the environment in

which IT governance implementation is expected to be successful, thus encouraging the adoption of an integrated perspective in IT governance that is an essential part of the organisation as a whole. Such an organisation should align its policies, objectives and goals within different geographic settings, in order to raise awareness of the host of factors that either enable or inhibit successful implementation of IT governance.

8.5 Research limitations

One limitation of this quantitative study is that the research sample was too small to allow for generalisation of the findings of the study to the whole population. Not all business dynamics that affect the proper implementation of IT governance, a BEE balanced scorecard and organisational performance were assessed. Only a few aspects were incorporated in order to achieve the objectives of the study. IT governance frameworks and BEE elements are too many and too broad in scope to allow for the investigation of each one in great depth in a single study. As a result, a comprehensive approach was taken to addressing the research questions, and therefore some underlying insightful information might inadvertently have been omitted. Nonetheless, due diligence and rigor was ensured to secure reliability and validity in the research results. A survey of relevant literature was conducted, and the help of several subject experts and professional statisticians was enlisted to ensure that relevant data were collected and properly analysed. The identified limitations of the current study should be addressed in future studies.

8.6 Recommendations

The recommendations of the current study are as follows:

- Understanding the relationships existing between the different variables and how they can enhance the implementation of the BEE scorecard and IT governance is imperative in the current turbulent economic environment. Such an environment


necessitates the adaptability and agility of organisations to sustain a competitive advantage. The unstable nature of BEE policy and the emergence of new technology bring about new challenges for organisations.

- The formulation of processes and strategies aimed at harnessing the skills of the previously disadvantaged in all aspects of ICT, but especially in relation to IT governance, are required in order to attain optimal development of the indigenous diversity in the IT workforce in order to avoid ICT skill crisis in future.
- As IT governance is constantly advancing and new frameworks are being developed and institutionalised in organisations, it is vital to keep indigenous IT professionals abreast of emerging technologies, and to provide them with sound training on a regular basis in order to enable them to make a more meaningful contribution towards the success of IT governance. Added urgency has resulted from many of the skilled white workforce in the ICT sector leaving the country, so that a future skill shortfall might become dire if little is done to remedy the situation.
- Only well-qualified individuals should be responsible for decision making in respect of IT governance. It is imperative that the previously disadvantaged are exposed to career-building opportunities to foster IT capability within South Africa. Scott (1999) affirms that the Malaysian government is known currently to be encouraging job eligibility based on individual merit, which is contributing to the success of the transformation policies in that country.
- Incentives should be provided to encourage knowledge and expertise sharing by those who are already in possession of a wealth of knowledge in the ICT industry. Knowledge management literature supports the fact that effective knowledge-sharing strategies constitute essential knowledge that should be retained within organisations. Consequently, compliance with the BEE scorecard should not result in the disempowerment of those white people with expertise and knowledge, but should, rather, play the role of a transformative tool in spreading knowledge throughout a larger proportion of the population than in the past.

- More workshops and conferences should be held to help to raise awareness about IT governance in all organisations, but especially in small to medium ones, in order for them also to be able to reap the benefits of the proper implementation of IT governance. Doing so would help to accelerate the maturity levels of IT governance.
- Organisations should not only keep abreast of relevant emerging technology and frameworks, but should also institutionalise universally recognised practices and standards, as well as adhere to pertinent rules and regulations governing the implementation of IT systems, in order to accomplish optimum IT governance. The complexity of IT systems requires the clear definition and articulation of policies for all employees, bringing human resource investment to the forefront of the priorities of an organisation.
- Human capital investment, diversity and such inclusivity programmes as BEE are equally vital, if properly implemented, in bringing about the integration of collective talent and skill sets of all citizens, and should, consequently, impact positively on all economic sectors, including the ICT/IT sector. Lee *et al.* (2008) affirm the strong link existing between quality professionals and the effective execution of IT governance.
- IT professionals should have a comprehensive view of their organisation's value chain in order to develop an understanding of how IT governance fits into the chain, as well as in order to grasp what internal and external factors might either inhibit or enable the successful implementation of IT governance in their organisations both within and outside the existing social context.
- Since the BEE scorecard, like IT governance, is a corporate governance issue (Koekemoer, 2009), IT professionals ought to view it in the broader sense, rather than narrowly as a racial issue. The scorecard should be understood from the perspective of human capital investment and diverse premises relating to the development of Indigenous IT talent, in order to enhance the global competitiveness of the country.

- South African leadership should equally well address the imbalances left behind by the apartheid regime in terms of knowledge discrepancies that include the previous lack of consideration of women and people with disabilities for management positions. Organisations with a well-balanced composition of their management complement are known to demonstrate better performance than those that are less well-balanced in this respect (Deloitte, 2010).
- In addition to earning formal degrees and diplomas, South African IT professionals should acquire international certification in different IT governance arenas, which would enable them to gain a creditable position in the international job market. Such certification would also enhance their understanding of emerging problems in the IT sector and enable them to gain exposure to sophisticated methods for dealing with such problems.

8.7 Conclusion



The focus of the study was to explore relationship between BEE and IT governance, which are both also meant to result in improved performance. The empirical results from this study shown in **section 6.10** reveal that the IT governance discipline appears to be recognised fairly well in South African organisations, although still more progress is anticipated in future. Many respondents affirmed that their organisation moderately emphasises investment in human capital and diversity in the composition management of IT leadership. As stated by more than half of the respondents, BEE plays no role in the success of IT governance implementation, a fact that is supported by the weak correlation between IT governance and BEE. The empirical results show that BEE appears to somewhat influence IT governance, meaning that other factors that are beyond the scope of the current dissertation may demonstrate a strong influence on successful IT governance implementation.

As regards the outlined research hypothesis that was outlined in Chapter 5, the following research outcomes were discovered: a weak positive correlation exists between IT governance and BEE; a weak positive correlation exists between IT governance and overall performance; and a statistically significant positive correlation exists between BEE and organisational performance. Therefore, the null hypothesis was accepted as appropriate between IT governance and organisational performance, as well as between IT governance and BEE. The null hypothesis was rejected as holding true between BEE and organisational performance, and the alternative hypothesis was accepted. The most important finding of this study in the IT governance domain is that it is still driven by the white minority, leaving the black IT professional playing a minimal role in the success of IT governance execution, which might have an underlying negative effect on achieving the collaborative governance that is fundamental to economic growth. Taking into account the information presented in all the chapters, this study has successfully achieved the questions devised.



References

- Ali, P., and Gregoriou, G.N. (2006). *International Corporate Governance After Sarbanes-Oxley*. John Wiley & Sons, Inc. Canada.
- Anderson, M. and Steward, J. (2007). *Introduction to African American Studies: Transdisciplinary Approaches and implications*. Imprint Editors. USA.
- Anthens, G. (2008). *How to get more out of ITIL Version 3, Cover story*. Computer World, July 2008.
- ArgoWiki. (2009). *IT Governance*. Available at: http://argowiki.com/index.php?title=IT_Governance#Governance_Decision_Areas_.E2.80.93_the_columns_within_the_matrix. Accessed on 29 Sep 2010).
- African Proactive Initiatives Research. (2010). *IT governance Risk & compliance*. Available at: http://www.gitoc.gov.za/gitoc_web/index2.php?option=com_docman&task=doc_view&gid=48&Itemid=26. (Accessed on 19 Feb 2011).
- AISA (nd). *Welcome to African Information Security Association*. Available at: <http://www.jidaw.com/aisa/>. (Accessed on 3 Feb 2011).
- Al-Juhiam, O.M. (2008). *An Empirical Investigation of the Cultural Impact on Consumer Perception and Attitude Towards Advertising*. Doctoral thesis. University of Huddersfield.
- Arjoon, S. (2005). Corporate governance: an ethical perspective. *Journal of Business Ethics*, Vol 61(4), pp 343-52.
- Ask, U., Björnsson, H., Johansson, M., Magnusson, J. & Nilsson, A. (2007). IT Governance in the light of Paradox – A Social Systems Theory Perspective. *Proceedings of the 40th Hawaii International Conference on System Sciences*, Hawaii, USA.
- Babbie, E. (2007). *The practice of social research*. Wadsworth. USA.
- Babbie, E., Mouton, J., Vorster, P., and Prozesky, B. (2001). *The practice of Social research*. Oxford University Press. SA.
- Balnaves, F. and Caputi, P. (2001). *Introduction to quantitative research methods*, Sage Publication Ltd. California.
- Bannerji, H. (2000). *The dark Side of the nation: Essays on Multiculturalism, Nationalism and Gender*. Canadian Scholars Press. Canada.

- Bartolini, C and Salle, M. (2004). Business driven prioritization of service incidents. *Proceedings of the 15th IFIP/IEEE International Workshop on Distributed Systems: Operations and Management (DSOM 2004)*, IFIP/IEEE. Davis, CA, USA: Springer, Nov. 2004.
- Barry, R.R.G., Du Plessi, D.T., Klein, J.J, Hans, A.A., Thelm, L.G and Richer, G. (1976). *Black Development South Africa*. Maddox, Rolfes & Partners (Pty) Ltd. Pretoria.
- Baskerville, R. and Siponen, M. (2002). An information security meta-policy for emergent organizations. *Logistics information Management*, Vol 15(5/6), pp 337-46.
- Blaikie, N. (2010). *Designing Social Research*. Polity Press.UK.
- Becker, G. (1993). *Human Capital: A Theoretical and Empirical Analysis , with a special Reference to Education*. The University Press of Chicago.US.
- BEE Com. (2001). *Black Economic Empowerment Commission*. Skotaville Press. Johannesburg.
- BEE Charter. (2005). *ICT Black Economic Empowerment Charter (Draft) for the ICT Sector*. Available at:
<http://www.ictcharter.org.za/content/The%20ICT%20BEE%20Charter%20April05.pdf>. (Accessed on 05 April 2011).
- Benedict, K. (2006) .Hardware Drags the market down: Research house sees growth for IT Market. *Finweek*, August 2006, pp79.
- Benedict, K. (2006) .Hardware drags the market down: Research house sees growth for IT Market. *Finweek*, August 2006, pp79.
- Benedict. K. (2005). Empowerment: IT Inequality. *Finweek*, June 2005, pp60.
- Bernroider, W.N. (2008).IT Governance for resource Planning supported by the Delone-McLean Model of Information Systems Success. *Information & Management*, Vol 45(5), pp 257-269.
- Berry, C., and Glaeser, E.L. (2005).The Divergence of Human Capital levels across Cities. *NBER Working PaperNo.11617*, September 2005.
- Bertram. D. (2011). *Likert Scale: CPSC 681-Topic Report*. Available at:
<http://poincare.matf.bg.ac.rs/~kristina//topic-dane-likert.pdf>. (Accessed 12 Mar 2011).
- Betz, C. (2007). *Architecture and Patterns for IT Service Management, Resource Planning, and Governance: Making Shoes for the Cobber's Children*. Morgan Kaufmann Publishers.USA.

Black, T.R. (1999). *Doing quantitative research in social sciences*. Sage Publication Ltd. California.

Boatright, J. R. (2004). Employee Governance and the Ownership of the Firm. *Business Ethics Quarterly*, Vol 14(1), pp1-22.

Bolton, P.(2006).Government Procurement as policy in South Africa. *Journal of Public Procurement*, Vol 6(3), pp 193-217.

Bowie, A., and Unger, D. (1997).*The Politics of open economics: Indonesia, Malaysia, Philippines and Thailand*. University Press Cambridge.UK.

Bowers.T (2008). *Number of women entering IT field drops*. TechRepublic, July 2008. Available at: http://www.techrepublic.com/blog/career/number-of-women-entering-it-field-drops/368?tag=mantle_skin;content. (Accessed on 14 Feb 2011).

Brenner, M. (2006). Classifying ITIL Processes: A Taxonomy under Tool Support Aspects. *Published in Proceedings of the first IEEE/IFIP International Workshop of Business Driven IT Management (DIM) 2006*. IEEE.

Brown, W. and Brown,I. (2008). Social Dimensions of Information and Communication Technology Policy: Chrisanti Avgeavour, Mathew I. Smith, Peter van den

Besselaar.(Boston; Springer). *In IFIP International Federation for Information Processing, Vol 282, pp 109-123*.

Brown, C.V. (1997). Examining the Emergence of Hybrid IS Governance Solutions: Evidence from a Single Case Site. *Information Systems Research*, Vol 8(1), pp 69-94.

Brown, M.R. and Gatian, A.W. (1995). Strategic Information Systems and Financial Performance. *Journal of Management Information Systems*, Vol 11(4), pp 215-34.

Brown, A.E and Grant, G.G. (2005). Framing the Frameworks: A review of IT research. *Communications of the Association for information System*, Vol 15, pp 696-712.

Brown, C.V. and Magill, S.L. (1994). Alignment of the IS Function with the Enterprise: *Toward a Model of Antecedents*. *MIS Quarterly*, Vol 18(4), pp 371-403.

Brown E. j and Yarberrry, A. (2009). *CIO, How to achieve Success through Strategic Alignment, Financial management and IT Governance*. Taloy & Francis Group LLC.US.

Buhlungu, S. (2006). *Trade Unions and Democracy COSATU Workers's Political Attitudes in South Africa*. HRSC Press.SA.

Bush, R. (1999). *Black Nationalism and class struggle in American Century*. University Press. New York.

Calder, A. (2009). *IT governance: Implementing frameworks and Standards for Corporate Governance of IT*. IT governance Publishing.UK.

Calder, A. (2007). *IT Governance: A Pocket Guide*. IT governance publishing. UK.

Calder, A. (2008). *ISO/IEC 38500: The IT Governance Standard*. IT Governance Publishing. USA.

Careers_in_Cosulting. (2011). *Consulting: Facts and Trends*. Available at: <http://www.careers-in-business.com/consulting/mcfacts.htm>. (Accessed on 14 Feb 2011).

Cartin, T.J. (1999). *Principles and Practises of Organizational Performance Excellence*. ASQ Publishers.USA.

Carton, R.W. and Hofer, C.W. (2006). *Measuring Organizational performance: Metrics for Entrepreneurship and Strategic management Research*. Edward Elgar Publishing Ltd.UK.

Chan, Y.L., and S.K. Ho.2000. Performance measurement and the use of Balanced Scorecard in Canadian hospitals. *Advances in Management Accounting*. Vol 9, pp145-169

Cheryl, L.A, Lixin, L. and Susan, W. (2009). Knowledge and Skill Requirement for Entry Level Information Technology Workers: A comparison of Industry and Academia. *Journal of Information Systems Education*. Available at: http://findarticles.com/p/articles/mi_qa4041/is_200910/ai_n39235025/. (Accessed on 15 Feb 2009).

Collins, R. (1979). *The Credential Society: An Historical Sociology of Education and Stratification*. Academic Press. New York.

COSATU. (2010). *Cosatu discussion documents*. Available at: <http://www.cosatu.org.za/show.php?include=docs/pr/2003/pr0822.html&ID=988&cat=Media%20Centre>. (Accessed on 01 Dec 2010).

Chitambala, G. (2006). *Status of IT governance in South Africa: Comparative Approach*. Master of Business Administration Dissertation. University of Pretoria .SA.

Cloete, H. (2005). *Everyone's in understanding skill development in South Africa*. Rapid Access Publishers.SA

Coghlan, L. and Hurley. M. (1996). A profile of the information technology executive. *Information Management & Computer Security*, Vol 4(1), pp5-9.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed method approaches* (2nd ed.), Sage Publications. London.

Creswell, J.W. (2009). *Quantitative Research design; qualitative, quantitative, and mixed methods approaches*. SAGE Publications, Inc. London.

Croteau, A and Bergerone, F. (2001). An information technology trilogy: business strategy, technological deployment and organizational performance. *Journal of Strategic Information Systems*, Vol 10, pp77-99.

Crotty, M. (2008). *The foundations of Social Research: Meaning and Perceptive in the research Process*. Sage Publications LTD. California.

Cruickshank, J. (2003). *Realism and Sociology: Anti-Foundationalism, ontology and Social Science*. Routledge. London.

Czege, B. (1998). *Running an Effective Help Desk*. John Wiley & Sons, Inc, USA

Dandjinou, P. (2007). E-Governance Strategies in Cape Verde and South Africa: From Service Delivery to e-Participation. *ACM International Conference Proceeding Series*, Vol 232, pp 435-436.

Dave, C., Karen, M., and Morag, M. (2009). Nominations: An Actor-Network Approach. *Housing Studies*, Vol 24(3), pp 281-300.

Dedrick, J., V. Gurbaxani, and K.L. Kraemer. (2003). Information Technology and Economic Performance: A critical Review and Empirical Evidence. *Working paper: Center for Research on Information Technology and Organizations*, University of California, Irvine.

Deloitte. (2010). Diversifying the American board, *Thought Leaders collaborate on current Challenges and Practical solutions*. Board Diversity Event Report.

Denton, M. and Vloeberghs, D. (2003). Leadership challenges for organizations in the new South Africa. *Leadership and Development Journal*. Vol 24(2) pp84 -95.

Doherty N.F and Fulford, H. (2006). Aligning information security policy with strategic information Systems Plan. *Computers and Security*, Vol (25) pp 55-63.

DTI. (2004). The codes of good practice on broad-based black economic empowerment. Available at: <http://www.forestry.co.za/uploads/File/forest/bbbee/BBBEE%20Code%20of%20Good%20Practice.pdf> . (Accessed 12 Feb 2010).

DTI. (2006). *Overview of DTI*. Available at: <http://www.dti.gov.za/thedti/overview.htm>. (Accessed 27 Nov 2010).

Dunnigan, R., Fazaeli, K., Spies, J. (n.d). *Black Economic Empowerment: difficulties and opportunities in making right the wrongs of the past*. Available at: http://faculty.insead.edu/dutt/emdc/projects/Sep-Oct05/Group_D.pdf. (Accessed on 26 Sep 2010).

Durden, C. and Pech, R. (2006). The increasing cost of corporate governance: decision speed-bumps for managers. *Corporate Governance*, Vol 6(1), pp 84-95.

Du Plessis, J.J., McConvill, J. and Bagaric, M. (2005). *Principles of Contemporary Corporate Governance*. Cambridge University Press. Melbourne.

Du Plooy, G.M. (2002) .*Commutation Research*. Juta&Co.Ltd.Lansdowne.

ECAR Research study (2008). IT Governance and Context. Educause Center for Applied Research. Available at: <http://net.educause.edu/ir/library/pdf/ers0805/rs/ers08053.pdf>. (Accessed on 13 Feb 2011).

Econo BEE. (2010). *B-BBEE compliance could mean more business*. Available at: <http://www.econobee.co.za/bee-articles-and-information/press-articles/b-bbee-compliance-could-mean-more-business.html>. (Accessed 18 Feb 2010).

Elephant, P. (2008). *The Benefits of ITIL*. The Benefits of ITIL White Paper August 2008. Available at: <http://www.pinkelephant.com/articles/TheBenefitsOfITILv26.pdf>. (Accessed on 13 Sep 2010).

Emley, T. (1996). *Malaysians experience of Affirmative action*. Human & Rousseau (Pty) Ltd. Cape Town.

Epstein, M.J and Hanson, K.O. (2006).*The Accountable Corporation: Corporate Governance, Volume 1*. Praeger Publishing .USA.

Esser, I. and Dekker, A. (2008). Dynamics of corporate governance in Africa South: Broad-based Black Empowerment and the enhancement of Good Corporate Governance Principles. *Journal International Commercial Law and Technology*. Vol 3(3), pp157-169.

Evans, N. (2006). Leading Information Technology in South Africa: A Unique Challenge. Tshwane University of Technology. South Africa. *Association For Computing Machinery*, Vol 4(1), pp 90-96.

Feedy, D.F., and Willocks, L. (1998). Core IS capabilities for exploiting Information Technology. *Sloan Management Review*, Vol 39(3), pp 9-21.

Fields, M.A. and Keys, P.Y .2003. The Emergence of Corporate Governance from Wall st. to Main st.: Outside Directors, Board Diversity, Earnings Management Incentives to Bear Risk. *The financial Review*, Vol 38(1),pp. 1-24.

Fisher, E. (2004). The European Union in the Age of Accountability. *Oxford Journal of Legal Studies*, Vol 24(3), pp 495-515.

Fleiser, L., and Gumede, S. (2004). The BEE Commission Report on Black Economic Empowerment. *South Africa*, Vol 1(4), pp 55-60.

Fleisher, C.S., and Bensoussan, B.E. (2003). *Strategic and Competitive Analysis*. Pearson Education (PrinticeHall). USA.

Florida, R., Mellander, C. and Stolarick, K. (2007). *Inside the Black Box of Regional Development: Human Capital, the Creative Class and Tolerance April 2007*. Available at: [http://www.creativeclass.com/rfcgdb/articles/Inside the Black Box of Regional Development.pdf](http://www.creativeclass.com/rfcgdb/articles/Inside_the_Black_Box_of_Regional_Development.pdf). (Accessed on 01 Nov 2010).

Forbes, D.P. and Milliken, F.J. (1999). Cognition and Corporate Governance: Understanding boards of directors as strategic decision making groups. *Academy of Management Review*, Vol 24 (3), pp 489-505.

Fuld, M. (1995). *The New Competitive Intelligence*. John Wiley & Sons Inc, Canada.

Furmerton, R. (2004). *Epistemology*. Blackwell Publishing. UK.

Galbraith, J.K. (2006). Some notes on Entrepreneurship and welfare state. *Industrial and Corporate Change*, Vol 15(1), pp 203-207.

Gartner. (2011). *Gartner Says IT and HR Leaders Must Implement IT Diversity Programs to Capitalize on the Diverse IT Workplace*. Available at: <http://www.gartner.com/it/page.jsp?id=492219>. (Accessed on 24 Mar 2011).

Giddens, A. (1984). *The Construction of Society*. University of California Press. CA.

Gliem, J. A. and Gliem, R. (2003). *Calculating, Interpreting and Reporting Cronbach's reliability coefficient for Likert type scales*. 2003 Midwest research to Practise conference in the Adult Continuing and Community Education.

Gomes, R.J. (2007). *The State of IT governance in South Africa*. Masters Dissertation. University of Pretoria.

Gomez, E.T., and Jomo, K.S. (1999). *Malay's political Economy: Politics patronage, and profits*. Green Giant Press. Singapore.

Gorard, S. (2001). *Quantitative methods in educational research*, PastonPrepress Ltd. New York.

Grace-Markin, K. (2008). Can Likert Scale Data Ever BE Continuous? Ezine articles, January 2009. Available at: <http://ezinearticles.com/?Can-Likert-Scale-Data-Ever-Be-Continuous?&id=1874014> . (Accessed on 12 Mar 2011).

Grace, M. and Simon, R. (2008). Weak links in the BEE chain? Procurement, skills and employment equity in the metals and engineering industries. *Journal of Contemporary African Studies*, Vol 26(1), pp 27-50.

Green, C. and Wilson, B. (1989). *The struggle for Black empowerment in New York City: Beyond the politics of Pigmentation*. Praeger. New York.

Green, S. (2005). *Sarbanes Oxley and the Board of Directors: Techniques and Best Practises for Corporate Governance*. John Wiley & Sons. Canada.

Guldentops, E. (2004). *Governing Information Technology through COBIT. In Strategies for Information Technology Governance*. Idea Group Publishing. US.

Gumede, W.M. (2007). *Thabo Mbeki and The Battle for the Soul of The ANC*. Zebra Press. SA

Guinness, P (1992). *On the margin of capitalism: people and development Mukin, Pletong, and Malaysia*. Oxford University Press. USA.

Hamann, R., Khagram, S and Rohan, S. (2008). South Africa's Charter Approach to Post Apartheid Economic Transformation: Collaborative Governance or Hardball Bargaining? *Journal of Southern African Studies*, Vol 34(1), pp 21-37.

Hardy, G. (2006a). Guidance on Aligning Cobit, ITIL, and 17799. *Information Systems Control*, Vol 1, pp32-33.

Hardy, G. (2006b). Using IT governance and COBIT to deliver value with IT and respond to legal, regulatory and compliance challenges. *Information Security Technical Report*, Vol 11(1), pp 55-61.

Heeks, R. (2002). Information Systems and Developing Countries: Failures, Success and Local Improvisations. *Information Society*, Vol 18(2), pp 101-112.

Helbig, N., Hrdinová, J., & Canestraro, D. (2009). Enterprise IT governance at the state level. *An emerging picture The Proceedings of the 10th International Digital Government Research Conference*, Vol 390, pp 172-179.

Henderson, J. and Venkatraman, N. (1990). Strategic Alignment: A model For Organizational Transformation via Information Technology. *Working Paper 3223-90, Sloan School of Management*. Massachusetts Institute of Technology.

Henderson. and Venkatraman,N.(1996). *Aligning Business and IT strategies: Competing in the Information Age*. Oxford University Press. New York.

Henderson. J and Venkatraman, N. (1999). Strategic alignment: Leveraging information technology for transforming organizations. *IBM Systems Journal*, Vol 38(2-3), pp 472-484.

Hirsch, A. (2005). *Season of Hope: Economic reform under Mandela and Mbeki*. University KZN Press.SA

Holtznider, B., and Jaffe, B.D. (2007). *IT Manager's Handbook*. Morgan Kauffman Publishers.US

Hoque, Z., and James, W. (2000). Linking Balanced Scorecard measures to size and market factors: Impact on organizational performance *.Journal of management Accounting Research*, Vol 12, pp 1-17.

Huse, M. (2005). Accountability and creating accountability: a framework for exploring behavioural perspectives of corporate governance. *British Journal of Management*, Vol 16(1) pp 65-79.

Huysamen, G.K. (2001). *Methodology for the social and behavioural sciences*. Oxford Press University. SA.

ICT Empowerment Charter Working Group (2004). *The ICT Charter: fourth working draft*. The ICT Empowerment Charter Working Group. Rivonia.

Iheduru, O. (2004). *Black economic power and nation-building in post-apartheid South Africa*. *Journal of Modern African Studies* Vol 42(1). pp1-30.

Inge, T (2004). A Town is Just a Town: Poverty and Social Relations of Migration in Namibia. *Canadian Journal of African Studies*, Vol 38 (2), pp393-423.

International organization for Standardization (2008).*ISO/IEC standard offers guidelines for making IT office equipment friendlier for the elderly and disabled*. Available at: <http://www.iso.org/iso> .(Accessed 03 Mar 2010).

Ismail,M.(2005). *Quantitative Research Methodology*. Putat Pengajian Ilmu Pendidikan Kolokium Pelajar Pengajian siswazah PPIP 2005, Imput session IV,Disember 2005(Jumaat).

IST-Africa. (2004).Regional Impact of information Society Technology in Africa. Available at: <http://www.ist-africa.org/home/default.asp?page=doc-by-id&docid=3576>.(Accessed on 28 Nov 2010).

ITGI. (2005). Control Objectives for Information and Related Technology. Available at: [Edition.http://www.itgi.org](http://www.itgi.org). (Accessed 01 Mar 2010).

Information Shield. (2005). *Using Information Shield publications for ISO/IEC 27001 certification*. Available at: <http://www.informationshield.com> (accessed on 14 May 2010).

ITGI. (2010). *Aligning Cobit 4.3, ITIL v3 and ISO/IEC27002 for Business Benefit*. available from www.itigi.org (accessed on 21march 2010).

ITGI and OGC. (2005). *Aligning Cobit, ITIL, and ISO/IEC 1779 For Business Benefit Management Summary*. Available at: <http://www.itgovernance.co.uk/files/ITIL-COBIT-ISO17799JointFramework.pdf> (accessed on 26 may 2010).

ITGI. (2003). *Board Briefing on IT governance: 2nd edition*. Available at: www.isaca.org (accessed on 24 Mar 2010).

IT governance Institute. (2006a). *COBIT Mapping of ISO/IEC 17799:2005 with COBIT 4.0*. ISACA. USA.

IT governance Institute. (2006b). *Information Security Governance: Guidance for Boards of Directors and Executive Management, 2nd Edition*. ISACA. USA

IT governance Institute. (2008). *Unlocking Value: An executive Primer on the critical role of IT Governance*. ISACA. USA.

IT Governance. (2009). *COBIT User Guide for Service Managers*. ISACA. USA.

IT governance Network. (2010a). *King III – IT Governance: The role of internal and external audit*. Available at: http://www.itgovernance.com/king3_auditors.pdf. (Accessed on 13 Sep 2010).

IT Governance Network (2010b). *King III Report on IT Governance*. Available at: http://www.itgovernance.co.za/00/index.php?option=com_content&view=article&id=44&Itemid=32. (Accessed on 13 Sep 2010).

IT Online. (2009). *King III makes board responsible for IT Governance*. Available at: <http://www.it-online.co.za/content/view/1314256/>. (Accessed on 13 may 2010).

IT Web Johannesburg. (2009). *King III highlights IT importance*. Available at: http://www.crux.co.za/index.php?option=com_content&view=article&id=49:king-iii-highlights-its-importance&catid=1:latest-news&Itemid=30. (Accessed on 13 Sep 2010).

Ittner, C.D., and Larker, D.F. (2003). *Coming up Short on Nonfinancial Performance Measurement*. *Harvard Business Review*, pp1-9.

Lewis, K., Schwartz, L. and ITSM Academy. (2009). *Case for ITIL Return On Investment White paper*, January 2009. Available at: http://www.itsmacademy.com/files/ITIL_ROI_Case_Studies.pdf (Accessed on 9 Feb 2011).

Ives, B., Jarvenpaa, S., and Mason, R. (1993). Global Business Drivers: Aligning Information Technology to Global Business Strategy, *IBM Systems Journal*, Vol 32(1), pp 143-161.

James, T., Smith, R. Roodt, J., Primo, N., Beeby, N., Fok, Evans, N., and Moutloutsi, V. (2006). *Women in the Information and Communication Technology Sector in South Africa*. June 2006. Available at: http://women-in-ict.meraka.csir.co.za/images/7/76/National_print.pdf. (Accessed on 13 Mar 2010).

Jamieso, S. (2004). Likert Scales: how to (ab) use them. *Blackwell publishing Ltd Medical Education*. Vol 38, pp 1212-1218.

Johnson, E.C. (2005). IT Governance: New Players, Challenges and Opportunities. *Information System Control Journal*, Vol 2, pp17-18.

Johnson, P. and Duberley, J. (2000). *Understanding Management Research*. Sage Publications Ltd. California.

Kaplan, R.S., and Norton, D.P. (1992). The balanced scorecard: Measures that drive performance. *Harvard Business Review* (Jan-Feb), pp 71-79.

Kaplan, R.S. (1993). *Using Balanced Scorecard as Strategic Management System*. Harvard Business Review. US.

Kaplan, R.S and Norton, N.P (1996). *The Balanced Scorecard: Translating the strategy into action*. Harvard Business School Press. Boston.

Kaplan, R. S., & Norton, D. P. (2001). Transforming balanced scorecard from performance measurement to strategic management. *Accounting Horizons*, Vol 15 (2) 147-160.

Kennerson, G. (nd). *IT job title*. Available at: http://education.yahoo.net/articles/it_job_titles.htm. (Accessed on 27 Jan 2011).

Khan, K. (2006). How IT governance is changing. *Journal of Corporate Accounting & Finance*, Vol 17(5), pp 21-25.

Kloppers, M. (2010). *White representation dropped radically in professional sector, shows Transformation Monitoring*. available at <http://www.solidaritysa.co.za/Home/wmview.php?ArtID=2658>. (Accessed on 27 Jan 2011).

Koekemoer, P. (2009). *Quarterly Unit Trust Results: Empowerment Economics*. Finweek October 19.

KPMG. (2009). *BEE Survey 2009*. Available at: <http://www.kpmg.com/ZA/en/IssuesAndInsights/ArticlesPublications/Surveys/Documents/2009%20BEE%20Survey.pdf> .(Accessed on 18 Feb 2011).

KPMG. (2011). *Understanding the implications of the King III Code of Governance Principles*. Available at. <http://www.kpmg.com/za/en/whatwedo/advisory1/king-iii-Code-of-Governance/Pages/default.aspx>. (Accessed on 03 Sep 2010).

Lainhart, J.W. (2000). COBIT: A Methodology for Managing and Controlling Information Technology Risks and Vulnerabilities. *Journal of Information Systems* , Vol 14(1), pp 21-25

Laker, J. (2009). The Effectiveness of the truth and Reconciliation Commission in achieving and Promoting Reconciliation: Lessons from South Africa TRC to Develop a Model for Uganda's TRC. *A Journal of Peace and Conflict studies*, Vol 1(1).

Letseka, M., and Maile, S. (2008). *High university drop-out rates: a threat to South Africa's future*. HRSC, February 2008. Available at: <http://www.hsrc.ac.za/Document-2717.phtml>. (Accessed on 12 Feb 2011).

Law, J. (2006) .Traduction/ trahison: Notes on ANT, *Convergencia*, Vol 13(4), pp 47–72.
Latour, B. (2005). *Reassembling the Social: An Introduction to Actor-Network Theory*. Oxford University Press. USA.

Lee, C.H, Lee, J.H, Park, J.S, and Jeong, K.P (2008) A study of casual relationship between IT governance Inhibitors and its Success in Korea Enterprises. *Proceedings of 41st Hawaii International Conference on information systems*. IEEE

Ling, Q., Giacomino, D., Browne, M., and Akers, M. (2009). An Examination Of The Use Of The Board Balanced Scorecard By Large Public Corporations. *Review of Business Information Systems*. Vol 13 (2) pp41-49.

Lipman, F.D and Lipman, L.K (2006). *Corporate Governance Best Practise: Strategies for Public, Private, and Not for Profit Organizations*. John Wiley & Sons. Canada.

Lopel, B., Melendez, J., Radeva, P., and Vitria, J (2005). *Artificial Intelligence in Research*. IOS Press. Netherlands.

Luftman, J., Lewis, P., and Oldach, S. (1993). Transforming the Enterprise: The Alignment of Business and Information Technology Strategies. *IBM Systems Journal*, Vol 32(1), pp 198-221.

Luhmann, N. (1995). *Social Systems*. Stanford University Press, Stanford, CA.

Madi, P.M (1997). *Black economic in the new South Africa: The rights and the wrongs* .Knowledge Resource (Pty) Ltd. Randburg.

Marangos, J. (2005). Why is China a High –Lamba Society. *Journal of Economic Issues*, Vol 39(4), pp933-950.

Malizlish, B., and Handler, R. (2005). *IT Portfolio Management Step-by-Step: Unlocking the Business value of Technology*. John Wiley&Sons, Inc. New Jersey.

Mallin, C. (2002). The relationship between corporate governance, transparency and financial disclosure. *Corporate Governance: An International Review*, Vol 10(4), pp 235-5

Matheus, R., and Ribeiro, M. M. (2009). Models for Citizen Engagement in Latin American: Case Studies of Public Digital Budgeting. *Association for Computing Machinery*. Vol 322, pp 109-116.

McKin&Company. (2010). *Transforming public-sector IT: An Interview with the World Bank's CIO*. McKinseyQuarterly, Dec 2010. Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:22801838~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>. (Accessed on 12 Feb 2011).

Mcleod, P., and Stephen, L. (1992). *The effects of Ethic Diversity on idea Generation in Small Groups*. Paper presented at annual Meeting of the Academy of Management, Las Vegas, Nevada.

Mcnutt, P.A and Batho, C.A. (2005). Codes of ethics and Employee Governance. *International Journal of Social Economics*, Vol 32(8), pp 656-666.

Meyer, J.P. & Allen, N.J. (1991). A three component conceptualization of organizational commitment. *Human Resource Management Review*. Vol 1, pp61-98.

Miller, P. F., Vandome, A.F., and McBrewster, J. (2009). *Deductive reasoning*. VDH Publishing House Ltd. Mauritius.

Milne, K., and Bowles, D. (2009). *How IT Governance Drives Improved Performance: A study of 389 global IT organizations reveals three levels of IT governance maturity as well as specific high-impact governance practices that optimize performance for organizations at each level*.

Misuraca, G.C. (2006) e-Governance in Africa, from theory to action: a practical-oriented research and case studies on ICTs for Local Governance. *Proceedings of the 2006 international conference on Digital government research*. Vol. 151, pp209-218.

Morisawa, T., and Kurosaki, H. (2003). Using Balanced scorecard in Reforming Corporate Management systems. *Numora Research Institute*. NRI Paper No71, December 2003.

- Mitchell, B., Welman, C., and Kruger, F. (2005). *Research Methodology*. Oxford University Press, South Africa.
- Moeller, R.R. (2008). *Sarbanes-Oxley Internal Controls: Effective Auditing with AS5, CobiT, and ITIL*. John Wiley & Sons, Inc., Canada.
- Morency, J. (2005). Best practice, practice, practice. *Network World*, Vol 22(1), and pp 37.
- Mparadzi, A., and Okorafor, N. (2009). *Understanding Broad Based Economic Empowerment*. Juta & CO.Ltd.SA.
- Murphy, R. (1988). *Social Closure: The theory of Monopolization and Exclusion*. Oxford Clarendon Press.UK.
- Nagm F, Cecez-Kecmanovic D (2008) Pre-Investment Information Systems Assessment: An Actor Network Theory Account, *ECIS*, pp422-433.
- Nasir, A. (2007). Use of ICT: A Step Towards Good Governance in Developing Countries. *Association for Computing Machinery*, Vol 232, pp 296-300.
- Nair, J. (2006). *Practicalities around Black Economic Empowerment Small and Medium Enterprises in South Africa*. MBA dissertation. University of Pretoria. South Africa
- Natras, F. Nicoli, A. and Seekings J, (2001). 'Two Nations? Race and Economic Inequality in South Africa Today'. *Daedalus*, Vol 130 (1) pp 45–70.
- Neuman, W.L. (2006). *Social Research Methods: Qualitative and Quantitative Approaches*. Pearson Education, Inc.USA.
- NHS, OGC, CPP, WLGA and CIPS. (2007). *Capacity and Capacity Building Literature Review*. 3rd Workshop Paris 16-18 September 2007. International Research Study of Public Procurement.
- Nieman, G., and Bennett, A. (2006). *Business Management. Value Chain Approach*. Published by Van Schaik Publishers. Pretoria.
- Niven, P.R, (2006). *Balanced scorecard Step by Step: Maximizing Performance and Maintaining Results*. John Wiley and Sons, Inc. Canada.
- Nnolim, A.L., and Steenkamp, A.L. (2008). Implementing a planning model for information security management. *International Journal of Computers, Systems and Signals*, Vol 9(2) pp41-54.
- Norfolk, D. (2005). *IT Governance: Managing Information Technology for Business*. Thorogood Publishing .UK

Norman, M. (2010). *The pulse of IT governance: gauging the effectiveness of technology strategy and usage can be critical to maintaining organizational health*. High Beam Research, August 2010.

Nshingila, S. (2010). *COSATU slams BEE fronting*. *Newsline*, March 04. Available at: http://www.newstime.co.za/SouthAfrica/Cosatu_slams_BEE_fronting/4046/. (Accessed on 01 Dec 2010).

Oliver, M.S. (2009). *Information technology research*. van Schaik Publishers.SA.

Parkin, F. (1979). *Marxism and Class Theory: A Bourgeois Critique*. Columbia University Press. New York.

Pearlson, K.E and Saunders, C.S. (2009). *Strategic management of Information System*. John and Sons, Inc. New Jersey.

Peterson, R. (2003). *Integration Strategies and Tactics for Information Technology Governance*. Idea Group Publishing. UK.

Peterson, R. (2004). *Crafting Information Technology Governance*. *Information Systems Management*, Vol 21(4), pp 7-23.

Pickett, K.H.S. (2010). *The Internal Auditing Hand Book*. John Wiley & Sons Ltd. UK.

Porter, M.E. (1985). *Competitive Advantage*, The Free Press. New York.

Ponte, S. Roberts, S and van Stitter, L. (2009). *Black Economic Empowerment: Business and the State in South Africa*. *Development and Change*. Vol38 (5), pp933-955.

Posthumusa, S. and von Solms, R.(2005). *IT oversight: an important function of Corporate governance*. *Computer Fraud & Security*, Vol 2005(6), pp 11-17.

Pour, M.K. (2006). *Emerging Trends and Challenges in Information Technology Management*. Idea Group publishing.UK.

PWC and ITGI (2006). *IT Governance Global Status 2006*. Available at: <http://www.isaca.org/Knowledge-Center/Research/Documents/ITGI-Global-Status-Report-2006.pdf> (Accessed 27 Feb 2011).

PWC and ITGI (2008). *IT Governance Global Status-2008*. Available at: <http://www.isaca.org/Knowledge-Center/Research/Documents/ITGI-Global-Status-Report-2008.pdf> . (Accessed on 27 Feb 2011).

PWC (2009). *Draft King III at a glance Corporate: Steering Point*. Governance Series February 2009. Available at:

<http://www.iodsa.co.za/downloads/documents/Draft%20King%20III%20at%20a%20glande.pdf> .(Accessed on 03 Sep 2010).

PWC (2010) (PriceWaterhouseCoopers) KING III Introduction and overview- Compliance with laws rules, codes and standards, available from www.pwc.com/za/en/king3. (Accessed on 1 September 2010).

Pusch, C. (2007). *South Africa To BEE or not to BEE*, New Africa New African ; Aug/Sep2007, Issue 465, p30-32

Raja, S. and Raja, K (2008). *Relationship of Knowledge management Practices, Competeces, and Organizational Performance*. World Academy of Science ,Engineering and Technology 48.

Ramaphosa, C., Nzimande, B., Lunes, D.,Sachs,A., Maseko,S., Mbeki,M., Zilwa S.,Malabane, I., Kaz,M., Ndlovu,L., Macozoma,S.,Mafuna, and Luhabe,W. (2009).*Challenges facing BEE. Visions of Black empowerment*. Jacania Media (Pty), South Africa.

Ray, W.J (2009). *Methods Towards a Social Behaviour and Experience*. WadsWorth. USA.

Read,T.J. (2004). Discussion of Director Responsibility for IT Governance. *International Journal of Accounting Information Systems*, Vol 5(2), pp 105-107.

Relyea, H.C. (2004). Homeland security and information sharing: Federal policy considerations. *Government Information Quarterly*, Vol 21(4), pp420-438.

ResearchAndMarket. (2009) .*Top 10 Companies in South Africa Retail Banking Industry: IT Spending Predictor 2009*. Available at: http://www.researchandmarkets.com/reports/1146281/top_10_companies_in_south_africa_retail.pdf . (Accessed on 13 Feb 2010).

Renken, J. (2004).Developing an IS/ICT Management Capability Maturity Framework, *Proceedings of SAICSIT*, Vol75 pp 53 – 62.

Rezaee, Z. (2007). *Corporate Governance Post-Sarbanes-Oxley: Regulations, Requirements, Requirements and Integrated Processes*. John Wiley & Sons. Canada

Richard, P.J., Devinney, P.M., and Yip, G.S., and Johnson, G. (2009). Measuring Organizational performance as a dependent variable: Towards Methodological Best Practice. *Journal of Management*, Vol 35(3), pp 718-804.

Richard, O.C. (2000). Racial diversity, business strategy, firm value: A resource-based view. *Academy of Management Journal* , Vol 43(2),pp 164-177.

Ridley, G., Young, J., and Carol, P. (2004). COBIT and its utilization: a framework from the literature. *Proceedings of the 37th Hawaii International Conference on System Sciences*. IEEE, New York.

Robb, D. (2007). *Best practices, and Better performance: infrastructure library helps you to clear hurdles of IT Technology Trends and Management*. Government News, May 2007.

Robins, F. (2006). Corporate Governance after Sarbanes-Oxley: an Australian perspective. *Corporate Governance*, Vol 6(1), pp 34-48.

Robson, W. (1994). *Strategic Management and Information Systems: An Integrated Approach*. Pitman Publishing. London.

Roger T and Roger S. (2008) .The Politics of Black Economic Empowerment in South Africa. *Journal of South African Studies*, Vol 34, pp699-716.

Rhodes, J. (2009). A Strategic framework for Rural Micro-Enterprise Development: The integration of Information Communication Technology (ICT), E-Commerce, Marketing, and Actor- Network Theory. *Perspective on global Development & Technology*, Vol 8(1), pp 48-69.

Rossouw, G.J. (2005). Business ethics and corporate governance in Africa. *Business and Society*, Vol 44(1), pp 94-106.

Rudd, C. (2004).An Introductory Overview of ITIL. UK: itSMF.

SA GoodNews. (2007).Self-employment in South Africa is increasing. Available at: http://www.sagoodnews.co.za/employment/self_employment_in_south_africa_increasing_3.html. (Accessed on 12 Feb 2011).

SAITI. (2000). *South Africa ICT Sector Development Framework Summary*. Available at <http://www.dti.gov.za/saitis/docs/ictnov-00-summ.html>. (Accessed on 28 Nov 2010).

SAT MONITOR (2010).*Transformation in the professional sector: accountants, engineers, attorneys, information technology professionals, financial service professionals and medical practitioners*. SNRI, September 2010.

Sallé, M. (2004). *IT Service Management and IT Governance: Review, Comparative Analysis and their Impact on Utility Computing*. Trusted Systems Laboratory HP Laboratories Palo AltoHPL-2004-98 June 2004.

Sambamurthy, V. and Zmud, R.W (1999). Arrangements for Information Technology Governance: A Theory Of Multiple Contingencies. *MIS Quarterly*, Vol 23(2), pp 261-290.

- Santos, J.R.A. (1999). Designing A Farm Resume. *Journal of Extension*, Vol 37(2).
- Scott, J.C (1968). *Political Ideology: Reality and Beliefs of elite*. University of Malay Press, Singapore.
- Seidl, D. & Becker, K.H. (2005). (eds.) *Niklas Luhmann and organization studies*. Liber & CBS, Malmö.
- Schwarz, A and Hirschheim .R. (2003). An extended platform logic perspective of IT governance: managing perception and activities of IT. *The Journal of Strategic Information Systems*, Vol 12(2), pp129-166.
- Schultz, E.E. (2004). Sarbanes-Oxley-a huge boon to information security. *Computers & Security*, Vol 23(5), pp 353-354.
- Singh, K. (2007). *Quantitative Research Methods*. SAGE Publications, Inc. London.
- Simonsson, M and Johnson, L. (2006). *Assessment of IT Governance: A Prioritization of COBIT*. Published by Royal Institute of Technology: Sweden.
- Simonsson, M., Lagerström, R., and Johnson, P. 2008 A Bayesian Network for IT Governance Performance Prediction. *Association for Computing Machinery*, Vol. 342 (1).
- Siponen , M (2006). Six Design Theories for IS Security Policies and Guidelines. *Journal of the Association for Information systems*, Vol 17(7).
- Sohal, A.S. and FitzPatric, P. (2002).IT governance and management in large Australian Organizations. *International Journal of Production Economics*, Vol 75(1), pp97-112.
- SouthAfrica.Info. (2011). South Africa's population. Available at: <http://www.southafrica.info/about/people/population.htm>. (Accessed on Jan 2011).
- South African. Info. (2009). *Technology 'will drive jobs growth*. Available at: <http://www.southafrica.info/news/business/660705.htm>. (Accessed on 9 Feb 2011).
- Stahl, B.S. (2008) .*Information Systems: Critical Perspective*. Routledge. London.
- Steger.U. (2004). *Mastering Global Corporate Governance*. John Wiley & Sons, Inc., UK.
- Stern, A. (2001). Reinvesting the IT dollar: From IT fire fighting to quality strategic services. *Educause Quarterly*, Vol 24(3), pp 8-14.
- Symons, C (2006) .*COBIT Versus Other Frameworks: A Road Map To Comprehensive IT Governance*. Forrester Research, Inc, January 2006. Available at:

http://www.michlik.at/it_prozesse/COBIT_Versus_Other_Frameworks.pdf. (Accessed on 12 Feb 2011).

SystemCraft. (2010). Managing Small and Medium Enterprises. Available at <http://systemscraft.wordpress.com/2011/01/05/managing-small-and-medium-enterprises-2/>. (Accessed on 13 Feb 2011).

Straub, D.W., Goodman, S. and Baskerville, R.L. (2008). Information Security Policies, Processes and Practises. M.E Sharp, Inc.US.

Teddie, C. and Tashakkori, A. (2009). *Foundations of Mixed Methods: Approaches to Social and Behavioural sciences*. Sage Publications Ltd. California.

Suhr, D .D. (2006). Exploratory or Confirmatory Factor Analysis? *SUGI 31 Proceedings-Papers 200-31*. Available at: <http://www2.sas.com/proceedings/sugi31/200-31.pdf>. (Accessed on 27 Jan 2011).

Swanson, R. A., & Holton, E. F. (2005). "Research in Organizations: foundations and methods of inquiry. Berrett-Koehler Publishing, Inc. San Francisco.

The Johns Hopkins University and EGarrett-Mayer, E. (2006). *Statistics in Psychosocial Research*. Available at: <http://ocw.jhsph.edu/courses/statisticspsychosocialresearch/PDFs/Lecture8.pdf>. (Accessed on 27 Jan 2011).

The Presidency of Republic of Africa. (2009). *Development Indicators*. Available at: <http://www.thepresidency.gov.za/learning/me/indicators/2009/indicators.pdf> (Accessed on 13 Feb 2011).

Toner, P. (2011). Workforces Skills and Innovation: An Overview of Major Themes in the Literature. *OECD Education Working Papers, No. 55, OECD Publishing*. doi: 10.1787/5kgk6hpnhxzq-en.

Training Camp. (2010) .*Getting IT-GRC certified shows you have arrived. The knowledge that comes with it shows how you got there*. Available at: <http://www.trainingcamp.com/global/itandmanagement/management/compliance/itgrc.aspx>. (Accessed on 12 Feb 2011).

Trauth, E.M. (2001). Mapping Information-Sector Work to the Work Force. *Communication of the ACM*, Vol 44(7), pp 74-75.

Trauth, E.M, Quesenberry, J.L, Huang, H., and McKnight, S. (2008). Linking Economic Development and Workforce Diversity through Action Research. *ACM SIGMIS-CPR 08*, pp58-65.

Trauth, E.M, Huang,H., Morgan., Quesenberry, J.L., and Yeo,B.(2006). *Investigating the Existence and Value of Diversity in the Global IT Workforce: An Analytical Framework*. IT Workers: Human Capital Issues in a the Knowledge-based Environment. pp 331-360

Trochim, W.M.K. (2006). Likert Scaling. Research Methods Knowledgebase. October 2006. Available at: <http://www.socialresearchmethods.net/kb/scallik.php>. (Accessed on 12 Mar 2011).

Times Live (2004). *New order perpetuates bad habits of the old: Black CEOs have a chance to fix SA business, Chris Barron reports*. Available at: <http://www.timeslive.co.za/sundaytimes/article112091>. Accessed on 24 November 2010

Top Empowerment companies (2009) available from <http://www.empowerdex.co.za>.(Accessed on 15 April 2010).

Trites, G. (2004).Director Responsibility for IT governance. *International Journal for Accounting Systems*, Vol 5 (2), pp89-99.

Trindade, F.A and Lee, H.F (1997). Constitution of Malaysia, further perspectives and developments. Oxford University Press. USA.

Tuttle, B., and Vandervelde, S.D. (2007). An empirical examination of Cobit as an Internal control Framework for information technology. *International Journal of Accounting Information Systems*, Vol 8(4), pp 240-263.

Watson, W., Kundan, K., and Michael, L. (1993). Cultural Diversity's impact on interaction Process and Performance: Comparing Homogenous and Diverse Task Groups. *Academy of Management Journal* ,Vol 36(4), pp 590-602.

Watters, J.K, and Biernacki, P. (1989).Targeted sampling: Options for the Study Of Hidden Populations. *Social problems*, Vol 36 (4),pp416-130.

Weber, M.(1978). *Economy and Society :An Outline of interpretative Sociology*. University of California Press . Berkeley.

Weill, P. (2004). Don't Just Lead, Govern: How Top-performing Firms Govern IT. *MIS Quarterly*, Vol 3(1), pp 1-17.

Weill, P., and Ross, J.W. (2005). A Matrixed Approach to designing ITGovernance. *MIT Sloan Management Review*, Vol 46(2), pp 26-34.

Weill, P. and Ross, J.W. (2004). *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*. Harvard Business Press. New York.

Weill, P. and Woodham, R. (2002). Don't Just Lead, Govern: Implementing Effective IT Governance. MIT Sloan School of Management Working Paper, 4237-02, *MIT Sloan School of Management*.

William, R. and Lehem, B. (1988). Economy in revolutionary societies. National Book Print. Cape Town.

Wiander, T. (2007) .ISO/IEC 17799 Standard's Intended Usage and Actual Use by the Practitioners. *18th Australasian Conference on Information Systems ISO/IEC .17799. Intended Usage & Actual Use*5-7 Dec 2007. Toowoomba.

Wooley, R. (2005). *Everyone's guide to black economic empowerment: how to implement*. Zebra Press.SA.

Wikipedia. (2011). Likert Scale.8 March. Available at:
http://en.wikipedia.org/wiki/Likert_scale. (Accessed on 12 Mar 2011).

Wrich, D. and Smallwood, N (2003).how leaders build value, John Wiley & Sons Inc, UK.

Wyngaard, R. G., and Peter SA Hendricks. (2010). South Africa's King III: Highlighting the need for a separate non-profit governance code,. *International Journal of Civil Society Law, Vol 8(2)*.

van Bon,J. de Jong,A., Kolthof, A., Piepre,M., Tjassing,R., van der Veen,A.,and Verheijen,T.(2008).*Service Transition based on ITIL v3- A management Guide*. Van Haren Publishing.Zaltbommel.

van Grembergen, W.V. (2004). *Strategies for Information Technology Governance*. Idea Group publishing.US.

van Grembergen, W. , De Haes, I., and Amelinckx, I. (2003). Using COBIT and the Balanced Scorecard as Instruments for Service Level management. *Information Systems Control Journal, Vol 4, pp 56-62*.

van Scheers, L. (2010).Retail Black economic empowerment compliant companies : Cultural Renewal in South Africa. *Problems and Perspectives in Management, Vol 8(1),pp 143-152*.

Verhoef, C. (2007). Quantifying the effects of IT governance Rules. *Science of Computing Programming, Vol 67(1-2), pp 247-277*.

von Solms, B. (2005). Information Security Governance: Cobit or ISO 17799 or Both ? *Computers & Security, Vol 24(2) pp99-104*.

Yeo, B. (2007). *An Investigation of Contentextual Factors Influencing the Development of a Sustainable Knowledge Economy*. Doctoral Dissertation. University Park, The Pennsylvania State University, College of Information Sciences and Technology

Zerpa, C. (2009) Improving Governance with an e-Government Maturity Model, *Association for Computing* .Vol. 322, pp 347-351.



Appendix

BEE Compliance and IT Governance SURVEY 2010

Dear Survey Participant,

Thank you for your willingness to participating in this research project; BEE compliance and Successful IT Governance Implementation. Below is more information regarding this project.

Why am I doing this?

The aim of the project is to examine the correlation between BEE Compliance and Successful IT Governance Implementation in the South African organizations specifically in the Gauteng province.

Who is the researcher?

The study is being carried out by MOHAPI MATEKA a Masters student from the University of Johannesburg.

What do I request of you in the study?

Participation in this survey is voluntary and anonymous. By completing and returning this questionnaire, you have agreed to participate in this research and to the possible publication of the results with the understanding that anonymity will be preserved. Although this is an anonymous survey, space is provided at the end of the questionnaire for contact details of people who would be prepared to make themselves available for short follow-up interviews.

The questionnaire will take you, at most, 20 minutes to complete. The majority of questions require that you select the most appropriate answer.

How am I going to use the results?

This is an anonymous survey. No attempt is being made to uncover your identity, the identity of your organisation or examine the responses on an individual basis. The results of the project may be published, but you may be assured that any information obtained in connection with this study that may identify you will remain confidential and will not be disclosed.

If at any stage you have any queries or concerns regarding your participation in the study, please feel free to contact me directly.

MOHAPI MATEKA

Cell : 0749141145

200672263@student.uj.ac.za

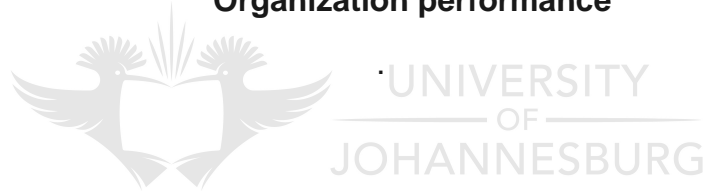
It would highly appreciated you could complete the attached questionnaire before 15/11/2010. Thank you for your participation. This survey consists of four sections:

Section A: Other Information and Biographical

Section B: IT Governance Implementation Status

Section C: BEE Balanced Scorecard and Black IT Professionals Competency

Section D: Kaplan's Balanced Scorecard and Organization performance



SECTION A

Other Information and Biographical

A1. In what industry is your organization?

A1.1	Automobile & Transport	
A1.2	Bank & Financial services	
A1.3	Consumer & Retail	
A1.4	Information Technology/Telecommunications	
A1.5	Insurance	
A1.6	Manufacturing or Trading	
A1.7	A1_Other Other Specify	

A2. Indicate size of organization (Please indicate by making an **X** next to the relevant statement)

A2.1	small	
A2.2	Medium	
A2.3	Large	

A3. Indicate type of organization (Please indicate by making an **X** next to the relevant statement)

A3.1	Public	
A3.2	Private	

A4. Employment (Please indicate by making an **X** next to the relevant statement)

A4.1	Employed by a company / organization / government	
A4.2	Self employed / Independent consultant	
A4.3	Employed by a consulting company / organization who do external projects for clients	

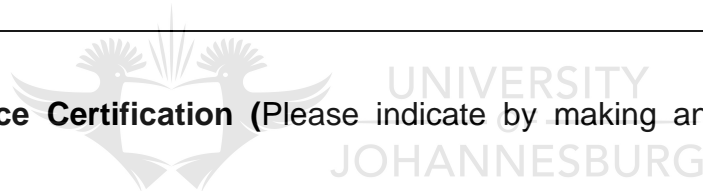
A5. Position, Role, Job title (Please indicate by making an **X** in the relevant column)

A5.1	CIO	
A5.2	Assistant Project Manager	
A5.3	Project Coordinator	
A5.4	Project Manager	
A5.5	Senior Project manager	
A5.6	Project Leader / Project Team Leader	
A5.7	Program Manager	
A5.8	Portfolio Manager	
A5.9	Project Implementation Manager	
A5.10	IT manager	
A5.11	Business Analyst	
A5.12	Project management consultant	
A5.13	Other (Please specify)	

A6. Educational background (Please indicate by making an **X** in the relevant column)

A6.1	Grade 11 or less	
A6.2	Matriculation	
A6.3	Professional Certification	
A6.4	Diploma	
A6.5	Bachelors Degree	
A6.6	Honours Degree	
A6.7	Master Degree	
A6.8	Doctoral Degree	
A6.9	Other (Please specify)	

A7. IT Governance Certification (Please indicate by making an **X** in the relevant column)



A7.1	Certified Information Systems Auditor(CISA)	
A7.2	Certified Information Security Manager (CISM)	
A7.3	Certified in the Governance of Enterprise IT (CGEIT)	
A7.4	Certified in Risk and Information Systems Control (CRISC)	
A7.5	None	
A7.6	PMP from PMI	
A7.7	CAPM from PMI	
A7.8	Prince 2 Practitioner	
A7.9	Certificated Project Manager (IPMA Level B) from IPMA	

A7.10	Practitioner Qualification (IPMA Level C) from IPMA	
A7.11	APMP (IPMA Level D) from IPMA	
A7.12	IT Project+ from CompTIA	
A7.13	APMC from IIL	
A7.14	CPM from IAPMM	
A7.15	Other specify	

BIOGRAPHICAL (Please indicate by making an **X** in the relevant column)

A8. Gender	Gender	<i>Female:</i>		<i>Male:</i>		
A9. Age Group	Age Group	<i>Younger than 20</i>		<i>21 – 29</i>		<i>30 – 39</i>
		<i>40 - 49</i>		<i>50 - 59</i>		<i>60 or older</i>
A10. Race	Race	<i>African</i>		<i>Asian & Indians</i>		<i>Coloured</i>
		<i>White</i>				

Please complete all the sections.

SECTION B

IT governance implementation status

Please read through the following carefully before completing the questionnaire. IT governance Maturity refers to processes, documentation, management and metrics. There are five levels of IT governance Maturity as follows:

0 - Non-Existent	Management processes or documentation metrics are not in place (Complete lack of any recognizable processes. The organization has not recognized that there is an issue to be addressed).
1 - Initial	Processes are ad hoc and disorganized (There is evidence that the organization has recognized that the issues exist and need to be addressed. However, there are no standardized processes; there are ad hoc approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganized).
2 - Repeatable	Processes follow a regular pattern (Processes have developed to a stage where different people undertaking the same task follow similar procedures. There is no formal training or communication of standard procedures and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and errors are likely as a result).
3 - Defined	Processes are documented and communicated (Procedures have been standardized and documented and communicated through formal training. However, compliance with the procedures is left to each individual and it is unlikely that deviations will be detected. The procedures themselves are not sophisticated, but are the formalization of existing practices).
4 - Managed	Processes are monitored and measured (It is possible to monitor and measure compliance with procedures and to take action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way).
5 - Optimized	Best practices are followed and automated (Processes have been refined to a level of best practice, based on the results of continuous improvement and benchmarking with other organizations and industry best practices. IT is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt) and ensure standardized documentation practises.

PLEASE RATE EACH OF THE FOLLOWING STATEMENTS ACCORDING TO THE ABOVE

MATURITY LEVELS.

OVERALL LEVEL OF IT governance MATURITY <i>0= nonexistent, 1=Initial, 2= Repeatable, 3=Defined, 4=Managed, 5= Optimized</i>	0	1	2	3	4	5
B1. In your opinion what is the overall level of IT governance maturity in your organization?						

B2. In your opinion how far have the following IT Governance Frameworks been implemented in your organizations?	Not considering	Considering implementing	In the process of implementing	Have already implemented
B2.1 CObit				
B2.2 ITIL				
B2.3 ISO/IEC 17799				
B2.1 KING III				

B3. Cobit <i>How mature is your organisation in terms of the following statements...?. 0= non existent, 1=Initial, 2= Repeatable, 3=Defined, 4=Managed, 5= Optimized</i>	0	1	2	3	4	5
B3.1 Definition of IT strategic alignment						
B3.2 Measurement of Competency and Value of IT						
B3.3 Formal IT Committee with well- defined roles and responsibilities						
B3.4 IT portfolio management						
B3.5 Human resource management						
B3.6 Defining information Architecture						

B3.7 Proper Communication of Management aims through IT policy and Control framework						
B3.8 Proper Quality Management						
B3.9 Assessment and management of IT Risks						

B4. ITIL	0	1	2	3	4	5
<i>How mature is your organisation in implementing the following ITIL Processes?</i> <i>0= non existent, 1=Initial, 2= Repeatable, 3=Defined, 4=Managed, 5= Optimized</i>						
B4.1 Incident Management						
B4.2 Problem Management.						
B4.3 Change Management						
B4.4 Release Management						
B4.5 Service Level Management						
B4.6 Availability Management						
B4.7 Capacity Management						

B5. ISO/ IEC 17799	0	1	2	3	4	5
<i>How mature is your organisation in terms of the following ISO/ IEC 17799 indicator?</i> <i>0= non existent, 1=Initial, 2= Repeatable, 3=Defined, 4=Managed, 5= Optimized</i>						
B5.1 Code of conduct defining reputable practices, facility use restrictions, and expectations.						
B5.2 Adherence to ISO/IEC 17799 certification						
B5.3 Data protection and privacy of personal information						

B5.4 Usefulness of Information security policy document.						
B5.5 Allocation of information security responsibilities						
B5.6 Information security education and training						
B5.7 Reporting security incidents						
B5.8 Business continuity management						
B5.9 Formulate security requirements and objectives						
B5.10 Security risks are cost-effectively managed						
B5.11 Compliance with laws and regulations						

B6. King III	0	1	2	3	4	5
<p><i>How mature is your organisation in terms of the King III indicators....?</i></p> <p><i>0= non existent, 1=Initial, 2= Repeatable, 3=Defined, 4=Managed, 5= Optimized</i></p>						
B6.1 The board is responsible for information technology (IT) governance						
B6.2 IT is aligned with the performance and sustainability objectives of the company						
B6.3 The board delegates to management the responsibility for the implementation of an IT governance frameworks						
B6.4 The board monitors and evaluates significant IT investments and expenditure						
B6.5 IT forms an integral part of the company's risk management						
B6.6 The board ensure that information assets are managed effectively						

B6.7 A risk committee and audit committee assists the board in carrying out its IT responsibilities						
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SECTION C

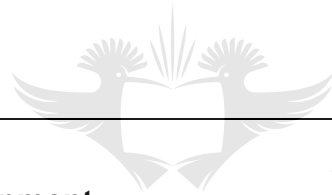
BEE BALANCED SCORE CARD AND BLACK IT PROFESSIONALS COMPETENCY

C. BEE scorecard is the primary measurement tool of organizations' compliance with the BEE Requirements. (Make an **X** next to ALL the indicators of each element TO indicate BEE compliance significance in your organization)

OVERALL COMPLIANCE	LEVEL OF BEE	Not disclosed	No plan or progress	Planned, not approved	Approved, not fully implemented	Fully implemented
C1. In your opinion what is the overall level of BEE compliance in your organization?						

C2. In your opinion how can you rate the BEE compliance of the following BEE Balanced Scorecard elements?	No Compliance	Low Compliance	Moderate Compliance	Good Compliance	Excellent Compliance
C2.1 Management and Control					
C2.2 Skill Development					
C2.3 Procurement					
C2.4 Ownership					

C3. Management and Control <i>To what extent are the following statements implemented in your organization?</i>	Not at all	To little extent	To medium	To a great
C3.1 Involvement of Blacks at executive management level and at board level				
C3.2 Involvement of BLACK WOMEN at executive management level and at board				
C3.3 Adequate attempts to increase number senior black employees in your business				
C3.4 Involvement of People living with disabilities at executive management level and at board level				



C4. Skill Development <i>To what extent do you agree with the following BEE indicators being practiced in your organization?</i>	Strongly Disagree	Disagree	neutral	Agree	Strongly agree
C4.1 The Company complies with the requirements of the Skills Development Act and the Skills Development Levies Act					
C4.2 The organization registered with Sector Education and Training Authority (SETA)					
C4.3 There is percentage of organization's payroll that is spent on the job training					
C4.4 The company employs a Skills Development Facilitator.					

C4.5 The company submits a Workplace Skills Plan to the Services SETA.					
C4.6 The company submits an Annual Training Report to the Services SETA.					
C4.7 Organization's black employees have undergone training programs that lead to a recognized qualification					
C4.8 Organization's BLACK WOMEN employees have undergone training programs that lead to a recognized qualification					
C4.9 Organization supporting black emerging professionals through skills transfer in mentorship programmes					

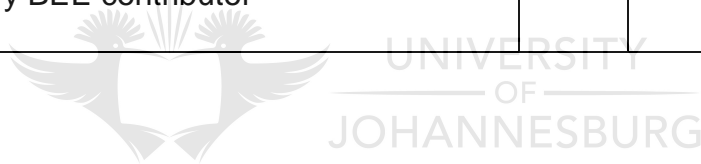
C5. Procurement <i>To what extent do you agree with the following Procurement indicators being practiced in your organization?</i>	Strongly Disagree	Disagree	neutral	Agree	Strongly agree
C5.1 Organization purchase any of its products from Black businesses					
C5.2 Organization sub-contract or outsource any of your requirements to Black Businesses.					
C5.3 The organization has indicated a commitment to progress such procurement					
C5.4 The organization has a clear preferential procurement policy					
C5.5 The organization is buying from good BEE contributors					

C6. Ownership <i>To what extent do you agree with the following Ownership Indicators being practiced in your organization?</i>	Strongly Disagree	Disagree	neutral	Agree	Strongly agree
C6.1 Adequate number of black people own shares in the organization					
C6.2 BEE partner purchase shares in the organization					
C6.3 There is a significant percentage of the black people in your organization					
C6.4 Significant percentage of voting rights for black people					
C6.5 BEE partners still repaying debt as a result of them acquiring a stake in your organization					
C6.6 Consider Black Ownership to be priority					

General BEE implementation questions (Make an **X** next to ALL the BEE indicators to show the degree to which your organization comply to BEE policy)

C7. General BEE compliance questions To what to the following statement reflect BEE compliance in your organization?		Not at all	little extent	To medium To extent	To great extent
C7.1	There are adequate measures in place to counteract racism and sexism in the				

	workplace				
C7.2	BEE is generally perceived as a positive process for organizational growth by all employees including managers				
C7.3	The organization constitutes a framework and establishes the principles upon which BEE will be implemented in the all business areas.				
C7.4	There are explicit policies and guidelines to implement and accelerate the economic empowerment process				
C7.5	The organization report on BEE progress every year.				
C7.6	C7.6 The organization is excellent, good and satisfactory BEE contributor				



IT Governance Effectiveness and BEE compliance.

BEE compliance ensures upliftment of previously disadvantaged people (blacks) in economic sectors. Please indicate significance of black contribution and involvement to ensure successful implementation of IT governance within your organization. (Make an X next to ALL the factors)

C8. Black competency..... How do you rate the level of priority placed on uplifting black people through involving them actively and meaningfully in IT governance domain within your organization?	a				
	Not priority	Low priority	Medium priority	High Priority	Essential

C9. Black Competency.....					
Indicate the significance of Black IT professionals' contribution toward the following IT governance maturity indicators in your organization?		No contribution	Minor contribution	Moderate contribution	Major contribution
C9.1	Alignment of Business goals and IT				
C9.2	Development of important IT policies that apply throughout the institution				
C9.3	Efficient formulation and measurement of IT goals				
C9.4	Cost-effective use of IT				
C9.5	Effective use of IT to enhance teaching and learning				
C9.6	Effective use of IT to enhance administrative processes				
C9.7	Building support for IT through inclusion of all employees				
C9.8	Making informed and timely IT decisions.				
C9.9	Achieving transparency in decision making.				
C9.10	Ensuring IT risk management				
C9.11	Ensuring IT performance management				
C9.12	Ensuring Strategic alignment.				
C9.13	Ensuring IT Resource Management				

Racial Composition of IT Top management and IT executives

(Make an X next to ALL the indicators of racial composition of IT)

C10: Are the following statements about your organization's racial profile in the IT management positions correct or incorrect?		Very incorrect	Incorrect	Neutral	Correct	Very correct
C10.1	Sufficient participation of a black people at IT steering committees, at executive management level and at board level					
C10.2	There is significant increase in number of IT senior black employees in your business					
C10.3	There is significant increase in number IT senior black WOMEN at executive management level and at board					
C10.4	People living with disabilities are allowed occupy IT executive management positions					
C10.5	IT work force as whole(from technical level to management) is well balanced in racial terms					

Black Competencies in executing IT governance core responsibilities

(Make an X next to ALL the indicators of Black competency)

C11 Competency.....skills					
To what extend are the following competency indicators reflect your organization?		Not at all	little extent	To medium To extent	To great extent
C11.1	The organization commits a lot of effort in IT staff training				
C11.2	The organization ensures acquiring skills, and managerial skills and access appropriate technology by previously disadvantaged people.				
C11.3	Black people are equipped with Rudimentary IT technical, managerial and business skills, leading to the success of the overall organization				
C11.4	Black People are well prepared ,trained and qualified for IT leadership positions				
C11.5	IT Black Directors, Executives, Managers demonstrates outstanding performance in all business areas				

C12. What percentage of the ownership and board membership of your firm is black or PDI (tick one)?	<10%	10 to 20%	21 to 40%	40 to 60%	61 and above
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C13 .What percentage of your procurement comes (in average) from IT black (or "PDI") suppliers (tick one)?	<10%	10 to 20%	21 to 40%	40 to 60%	61 and above
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19. 6 Black Competency						
Indicate how would rate the Capacity of Black Professional to execute IT governance Frameworks?		Poor	Fair	Good	Very Good	Excellent
C14.1	Rate black people: involvement to carry out Cobit processes					
C14.2	Rate black people: capacity to carry out cobit processes					
C14.3	Rate black people: involvement to carry out ISO/IEC 17799 processes					
C14.4	Rate black people: capacity to carry out ISO/IEC 17799 processes					
C14.5	Rate black people: involvement to carry out ITIL processes					
C14.6	Rate black people: capacity to carry out ITIL processes					
C14.7	Rate black people: involvement to carry out KING III processes?					
C14.8	Rate black people: capacity to carry out KING III processes?					
C14.9	Are black IT professionals Up-to-date with new versions of each one of the frameworks and learn them on continuous basis?					
C14.10	Are Black IT professionals a priority in acquisition of new skills related to the emerging versions the aforementioned frameworks?					

C15. Black competency..... Do you think BEE strategy plays an major role in ensuring successful implementation of IT governance?	Do not Know	No	Yes

SECTION D

Kaplan’s Balanced Scorecard and Organization performance

20.8 OPINION POLLS about overall organization performance or maturity a organization using four perspectives derived from Kaplan’s balanced scorecard. Proper IT governance leads to proper Organizational Performance which implies efficiency, effectiveness, relevance and financial viability of an organization.

(Make an **X** next to ALL the indicators of each of four perspective of Balanced Scorecard)

D1. Do you think your performance measurement system is a Balanced Scorecard?	I do not Know	No	Yes

Perspectives	21.0 How would you rate the achievement of your performance given the performance metrics below?		Below average	Average	Above average
Customer perceptive	D2.1.1	Customer satisfaction through quality services			
	D2.1.2	Customer relationship management			
Internal perceptive	D2.2.1	Market share			
	D2.2.2	Deliver that value proposition that attract and retain customer			
	D2.2.3	Shareholder interests on financial returns			

Financial perceptive	D2.3.1	Sales margin			
	D2.3.2	Return on equity/investment			
Learning & group	D2.4.1	Individual Competences & Growth is ensured through continuous learning and training			
	D2.4.2	Employee Motivation, empowerment & Mentorship			

The Overall Organizational maturity (Human capital and Diversity in IT workforce)

22.1 How would you rate the success of your performance measurement system given statements below?	Very unsuccessful	Not very successful	Successful	Very successful
D3.1 Improving the skills and knowledge of the management and board				
D3.2 Improving the composition of the board				
D3.3 Evaluation of skills and qualifications of directors				
D3.4 Existence of training programs				
D3.5 Evaluation of programs by new board members				

22.7 How does the business unit mainly communicate the implementation of the performance Measurement system to the employees of the unit? (Tick one)	I do 't know	Does not communicate	Brochures	News letter	Memo	Information sessions	Other (specify)
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