

The Effects of IT Governance on the Performance of Kenya State Corporations

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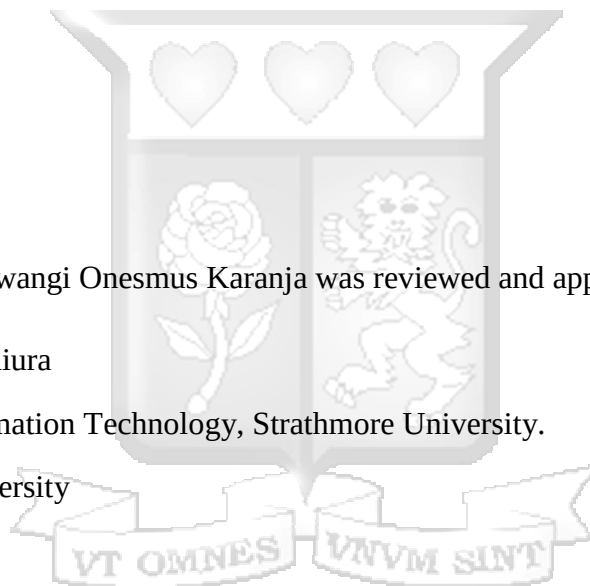
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Abstract

Embrace of IT in the state corporations is among the key factors the government of Kenya has recommended while evaluating performance. IT in this context is meant to not only drive service delivery but is also used to measure performance. As IT gets mainstream, the issue of IT governance becomes very relevant and therefore necessitating a study of the same in the Kenyan context. The study sought to understand the relevance of IT governance for Kenya, the status of embracing IT governance and the effects thereof as far as performance is concerned. State corporations were studied and their scores in their performance contract were related to their embrace of IT governance. The Control Objectives for Information and related Technology (COBIT 5) as a framework for the governance and management of enterprise IT was used as the point of departure for this study.

The study of the relationship between IT governance and the wider corporate governance issues, COBIT 5, theories that underpin performance evaluation viz: stakeholder theory, agency theory and stewardship theory helped identify Critical Success Factors (CSFs) for IT governance performance.

Based upon previous work, the researcher believed a positive correlation between the Critical Success Factors (CSF) and the IT governance performance. Online questionnaires were sent to respondents which were analyzed using Statistical Package for the Social Sciences (SPSS). The characteristic of data was done using frequencies and percentages (descriptive statistics). The statistical association between variables was tested using Chi square.

The study shows that there is no significant scientific proven relationship between performance of the state corporations and embracing of IT governance. Although majority of respondents were of the view that state corporations objectives and IT objectives are harmonized and aligned, most of the respondents were not so sure on whether the board was abreast with the latest innovations in IT or whether they get independent assurance on the realization of the predetermined IT objectives. IT training was suggested as the most important element to be considered by the state corporations in order to realize benefit of investing in IT in the Kenya's state corporations considerations.

The study concluded that performance does not solely rely on IT governance. This implies that performance of state corporations is also dependent on other things but not IT governance alone.

It is the first attempt in Kenya to systematically investigate the effects of IT Governance in the performance of Kenya's state corporations. The results contribute to the body of knowledge on IT Governance on the state corporations and will prompt the management and boards of the state corporations to discern IT governance in their enterprises.



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LIST OF ABBREVIATIONS

CIO-	Chief Information Officer
COBIT-	Control Objectives for Information and Related Technology
CSFs –	Critical Success Factors
ERP-	Enterprise Resource Planning
ICT-	Information and Communication Technology
IEBC -	Independent Electoral and Boundary Commission
ISACA -	Information Systems Audit and Control Association
IT –	Information Technology
KPMG -	Klynveld Peat Marwick Goerdeler
PWC –	Price Water House Coopers
SPSS-	Statistical Package for the Social Sciences



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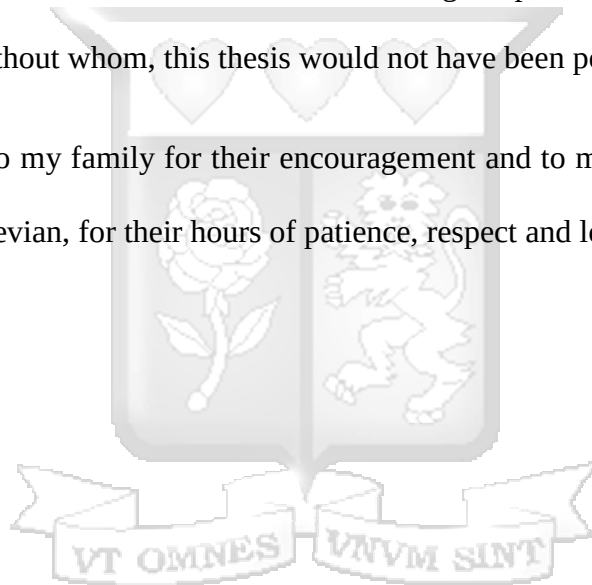
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CHAPTER 1: INTRODUCTION

This chapter discusses the background of the study, overview of IT governance and its importance, statement of the problem and significance of the study. The research objectives and the research questions are also highlighted.

1.1 Background

The scrutiny of public sector organizations has increased in recent years. The public citizens are using private sector as a yardstick in relation to performance, service delivery, risk management etc when evaluating the public sector. They thus demand better service delivery and value from the public sector for the taxes paid to the government. Consequently, public sector responds to the citizens' demand by implementing corporate governance which entails the management practices, processes, culture, policies, laws and institutions which influences the way an entity is coordinated and managed. A successful corporate governance strategy is the one that enables an enterprise to manage all facets of its business with an aim of meeting its goals. Information Technology (IT) governance is part of corporate governance and thus requires commitment at a strategic level to contribute towards meeting these new demands.

Rosacker and Rosacker (2010) in their study on Information Technology within public sector organizations concluded that, while there is increased dependence on IT by the public sector, most of the times, IT projects and other IT initiatives within this segment surpass the budgeted amount, exceed the expected timelines for implementation, or they just do not meet the functional requirements as described by the users and other stakeholders. This collaborates an earlier study by Cats-Baril and Thompson (1995) who concluded that public sector enterprises are faced with over budgeted IT investments, while others are behind schedule and generates reduced benefits than earlier projected. Rosacker and Rosacker (2010) further projected that this trend will most likely continue. As a result, they recommended greater importance for informed guidelines to support IT governance operations in the public sector organizations.

The increased spending in IT is aimed at increasing service delivery. Currently, the efficiency and effectiveness within government can be improved by such things as good internal administration and decentralizing government services from urban areas to locations nearer to the citizens. Whereas the gains to be realized on implementation of IT in public sector is clear, numerous questions regarding the strategies agreed on in the implementation in addition to the success of IT are raised. Accordingly, it is of paramount importance to consider how the implementation is managed and governed to make sure the desirable benefits are realized and the associated risks are mitigated.

There are documented examples which can prompt concerns on IT governance. The Standish Group's (2009) chaos survey reports a general downward trend in project success rates with more failures compared to previous years. The significant reasons highlighted were the absence of top management and the board support, inadequate resources, budget shots, lack of user participation and inputs during requirements and design stages, amongst others. All these reasons relates to IT Governance.

In Kenya there are examples of challenged IT project with the more recent one being the electronic voter register which was to be implemented by the Independent Electoral and Boundary Commission (IEBC) (Nation media, 2012).

For organizations to have effective IT governance there are Critical Success Factors (CSFs) which need to be embraced as documented by Kordel (2004), Nfuka and Rusu (2010) and the COBIT (Control Objectives for Information and Related Technology) 5 framework. These CSFs are service delivery, value delivery, risk management, resource management and performance management. They all agree that for an organization to have effective IT governance, they need to implement these CSFs. Based on this, it follows that there is an association between the CSFs and the performance of IT governance.

1.1.1 Overview of IT Governance

Brisebois, Boyd, and Shadid (2008) in their definition of IT governance insisted the meaning to include the organizational structure, oversight roles and management processes which guarantee the delivery of the desirable benefits of IT in a controlled manner in order to enhance the continual sustainable success of the business. In essence the focal point for IT governance should be IT systems, their performance measurement

and risk management. Most scholars agree that IT governance is an integral part of corporate governance. According to Korac-kakabadse and Kakabadse (2001), it is critical to integrate both the corporate governance and IT governance since the factors which considerably have an effect on corporate governance will also impact on IT governance and vice versa. The principal goals of IT governance are to provide assurance that the IT investments produce beneficial business outputs and to mitigate risks that are associated with IT. Therefore, IT governance ought to be considered when determining how the directly responsible individuals as far as governance of an entity is concerned have considered IT in their supervision, planning, monitoring, control, and direction of an organization (Brisebois et al.,). Bernroider (2008) in his study of Austrian entities argued that there is a positive relationship between the success of implementing IT systems such as Enterprise Resource Planning (ERP) for large organizations and the commitment of top management to IT governance.

IT governance and IT management are however distinct. IT management is more concerned with the effective and efficient provision of IT services and products as well as the managing the IT functions. On the other hand, IT governance is a lot broader and focuses on planning and transforming IT to ensure the current and prospective demands of the business and its customers are met (Peterson, 2003).

1.1.2 Importance of IT Governance

Globally, organizations of all nature may it be public, private, large or small, more and more appreciate IT as a strategic asset and important source of competitive advantage as far as achievement of their goals is concerned. This is confirmed by global surveys by ISACA (2009) on IT governance, in which the number of enterprises that consider IT to be crucial in the delivery of the overall enterprise strategy or vision has increased from 52 percent in 2003 to 57 percent in 2005 and 63 percent in 2007.

In majority of enterprises, IT is vital in managing the transactions, monitoring the internal processes, controlling information usage and managing the knowledge base. These are essential in innovation and sustainability of enterprise business as they support, sustain and assist in business expansion. This is value delivery as highlighted by Kordel (2004). Hence, it is important for the executive management to comprehend the strategic value of IT and they should have IT governance as part of the agenda.

In addition to ensuring that IT investments create business value, IT governance is important in ensuring that IT associated risks are mitigated to avoid failure. This is supported by Kordel (2004) who concluded that the main concerns of IT governance are value delivery and mitigating or reducing IT associated risks.

IT is a key to the success of an organization in terms of effectiveness and efficiency in provision of goods and services particularly when the IT is intended to create business transformation. As a result of business transformation, there are many rewards but there also exist potential risks which may result in undesirable results such as disruption of business operations and could have extensive consequences. Thus IT governance is important in order to balance risks and rewards during such business changes. Hence, there is a greater need for organization not only to develop IT governance but also to implement it into the organization. (Brisebois et al, 2008).

1.2 Statement of the Problem

Corporate governance is a motivation to do things right literally. IT governance which is a component of corporate governance comes in to ensure things are done right in the context of IT projects. Studies have indicated that most IT investments fail as a result of lack of proper governance. For example Guldentops, van Grembergen and Haes (2002), showed that the most prominent IT concerns, whether present or in future are associated with governance and has less to do with technology. According to Weill and Ross (2004), when an organization has implemented IT governance, there is a better return on IT investments by 20% at the minimum. Gichoya (2005), highlighted the characteristics that define Kenyan ICT environment amongst others as: Lack of prior consultations or failure to perform a requirements analysis before allocating budgets; Insufficient ICT budgets which are also increasing; Failure by organizations to have adequate ICT policies and plans to guide IT investments and there is a tendency by enterprises to concentrate on ICT systems that support conventional administrative and operational transactions instead of focusing on how effective it will be to process and distribute information both inside and out of government.

In their study on software project management Knott and Dawson (1999), identified three reasons which explains why there is poor IT project planning in enterprises. These

are: failure to consider risk management; non-justification of business systems to the acceptable levels and failure of involving the executive team.

In their study on failure of IT projects, the Standish Group chaos survey which analyzed approximately 50,000 IT projects in United States concluded that in 2009, only 32 % of the IT projects succeeded while 44% and 24% were challenged and failed respectively. Thus IT projects are in chaos. The question therefore is that should Board of Directors of state corporations discuss IT as a business agenda? And whether it is important to consider appointment of techno savvy board member in the corporation's board. In addition, does aligning IT with business strategies results in improvement of organization performance and better business value of the IT services overtime? The senior management will be pondering whether IT governance can be connected to the main business consideration for instance cost cuts, innovation, agility, simplification, customer delight and the various compliance. Does having IT Auditors reviewing the extent of IT operations/implementation ensure effectiveness of the IT governance?

It will be of interest to know whether the state corporations which have implemented the IT Governance have any advantage of managing IT risks over those that have not.

The purpose of the study was to establish whether IT in Kenya State Corporations is governed and managed to generate value that aligns into overall corporate governance strategy of individual organization hence increasing the performance.

1.3 Research Objectives

The Key objective of the research was to determine if a relationship exists between IT governance and the performance of the state corporations.

The specific objectives were:

1. To establish the key elements of IT governance in the Kenya's state corporations.
2. To identify the relevance of the IT governance critical success factors in Kenya's state corporations.
3. To analyze the effect of IT governance on performance of Kenya's state corporation.

1.4 Research Questions

The research concentrated on the following research questions

1. What are the key elements of IT governance in the Kenya's state corporations?
2. How relevant are the IT governance critical success factors in Kenya's state corporations?
3. What is the relationship between embrace of IT governance critical success factors and performance in state corporation?

1.5 Scope of the Study

The study examined the implementation of IT governance in the Kenya's state corporations and its relationship with the performance as determined by the performance contracting department of the government . The study covered the period 2010/2011 as it was the latest performance contracting results released by the government at the time of the study. The population was the state corporations that had signed performance contracts with the government of Kenya in this period. The study was primarily limited to functions within the state corporations which deal with IT management, board meetings and attendance management (company secretaries) and Internal Audit. However, other functional areas and individuals also responded mainly on delegation by their seniors.

1.6 Significance of the Study

Recently, the Kenyan Government in general and state corporations in particular have set up capital investments geared towards initiation and installation of ICT infrastructure. These includes: key government development plans like in the Ministry of Health, e-government directorate, the pre paid electricity project by Kenya Power, the Kenya Transparency & Communications Infrastructure Project by the ICT Board, various management information systems etc. With the increase in implementation and use of IT the associated risks also increases. How well these risks are managed determines how successful these IT investments are.

The results of this study will enlighten the Board of Directors of state corporations' importance of implementing IT governance. The end result will be well managed IT projects, resource controls and value for money.

The Internal Auditors will integrate IT reviews to include reviews of IT alignment to the business objectives. Having an IT governance Committee or IT oversight committee will help the internal auditors in risk management reviews as most of the IT related risks will have been considered in advance.

The organizations as a whole will benefit from the study as the implementation of IT governance will help to generate intended value, innovations and mitigating IT associated risks, avoiding failure.



CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

This chapter begins by reviewing the components and mechanisms of IT governance and its importance. The second part outlines the application of various theories in regards to IT governance while the subsequent part provides the parameters considered by the state corporations' evaluators while evaluating the performance of the public sector. The research gaps identified in various literatures will be discussed lastly.

Based on reviewed literature, there is no concurrence on the definition of IT governance (Mohammed, Kaur and Singh, 2012). Many scholars and researchers have diverse definitions of IT governance. This study adopted the following two understandings:

“IT governance should be a core duty of the Board of Directors and top management. It is an essential part of the organizational governance which includes but not limited to leadership, enterprise structures and procedures that guarantees the organizations' IT maintains and helps improve the organization's strategy and business objectives”. (IT Governance Institute, 2003).

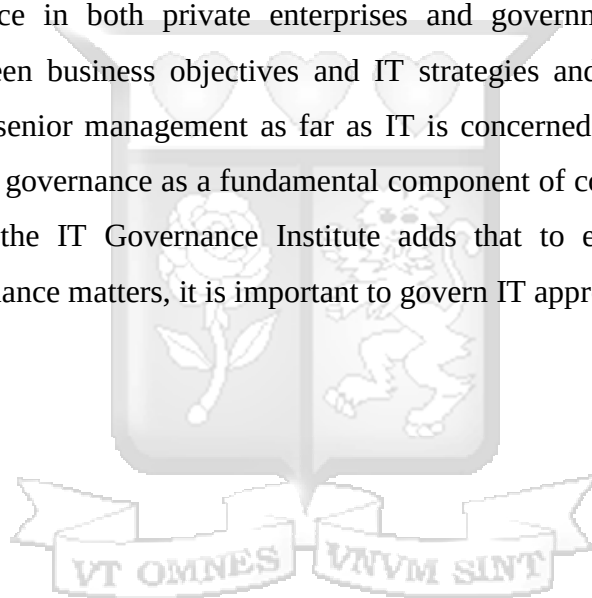
“IT governance should be viewed as the capability of an enterprise Board of Directors, top management and IT management to plan, control and direct the IT investment and policies as a whole as well as manage implementation of IT strategy and ensure its alignment with business strategy” (van Grembergen, 2002).

The two definitions focus on the same issues such as aligning business with IT underlining the responsibility of the Board.

Despite different definitions, most of the researchers agree that IT governance should be an agenda at the top level of the organization and their commitment is vital for the successful implementation. Mohamed et al., (2012) argued that since IT governance is strategic in nature there is need for commitment at the top level or the strategic team. This collaborates an earlier study by Brisebois, et al., (2008) who pegged the responsibility of the IT governance to the Board of Directors and Ko and Fink, (2010) who stressed that IT governance is an essential branch of corporate governance and hence the need for senior management utmost attention. Further study by PWC (2006) collaborates this argument. In their study, PWC concluded that IT governance is mostly driven from the top and also asserted that it should be an important consideration for the Board of Directors.

Brisebois et al. (2008) argued that, one of the important best practices in IT governance is having an organizational structure, as well as an effective IT governance framework, with very distinct tasks, responsibilities and authority. Such an effective framework should make sure that there is an alignment and delivery of IT investments with overall organizational objectives and its strategies. This collaborate an earlier study by the PWC (2006) that found that alignment of business and IT strategies to be the critical factor to ensure attainment of desirable results of IT investments. In the PWC (2006) study, the respondents who believed the alignment of IT strategies and business strategies to be an important driver for ensuring results for IT investments was 60%. Consequently, IT governance should be seen as a means to achieve business objectives.

According to van Grembergen and Haes (2004), IT governance has become a topic for discussion within a good number of organizations. There is an increased implementation of IT governance in both private enterprises and government aimed at achieving alignment between business objectives and IT strategies and to obtain the important involvement of senior management as far as IT is concerned. IT Governance Institute (2003) shows IT governance as a fundamental component of corporate governance. As a matter of fact, the IT Governance Institute adds that to ensure consideration of corporate governance matters, it is important to govern IT appropriately.



The connection between IT governance and corporate governance can be articulated better by matching the corporate governance issues with specific IT governance as shown in table 2.1 below.

Table 2.1: IT Governance Vs Corporate Governance

IT GOVERNANCE AND CORPORATE GOVERNANCE QUESTION.	
Corporate Governance Question	IT Governance Question
How do shareholders and other financiers ensure managers pay back some of the earnings to them?	How does the executive management ensure the CIO and IT in the organization produces value to the business?
How do shareholders and other financiers ensure that management do not embezzle the capital/assets provided or invest them in inappropriate IT projects?	How does top organization team ensure that the CIO and outsourced IT organizations do not embezzle the capital/assets allocated to IT or they invest it in inappropriate projects?
How do shareholders and other financiers control managers?	How does the executive team control the CIO and IT organization?

Source: Shleifer and Vishny, 1997.

2.2 IT governance Critical Success Factors

Kordel (2004) highlighted five management related issues that map IT responsibilities. These are:

IT strategic alignment – This is concerned with the IT strategy supporting the enterprise strategy.

IT value delivery – IT value creation is all about timeliness, adhering to the set budgets and ultimately generating the intended benefits. For these reasons, for IT processes and procedures to be efficient and effective in delivery of the expected results and to attain desirable objectives it is important for proper design, deployment and implemented of the IT processes and procedures.

Risk Management- This is about how the IT value can be preserved, strong internal controls and assuring strong corporate governance to all stakeholders.

IT resource management – An organization should determine the right IT capacity and match them with business requirements. A proper IT governance framework should focus on people in addition to IT infrastructure. General human resources such as continuous training, staff promotion, retention and maintaining key IT competence levels on IT personnel should be across the board to include IT department.

Performance measurement – Like any other project, there is a greater need to monitor and measure performance of IT against pre-set objectives. The performance measurement also ensures that the previous phases mentioned above also achieve their desired outcomes, (Kordel, 2004).

COBIT 5 provides an all inclusive framework that aims at helping organizations realize their IT governance and IT management goals. By considering both the benefits to be realized, mitigating risk to optimal levels and IT resources, the enterprises will generate optimal value of IT. The COBIT 5 framework as designed is generic and is applicable in all nature of organizations, whether profit making, non-profit making or in public sector. This framework is built on five principles as highlighted by (ISACA, 2012).

Meeting Stakeholders needs. Various stakeholders expect value creation from the organization. To achieve this there has to be a trade-off between benefits realization and the optimal risk to be taken as well as resource usage. It is possible for every enterprise to tailor COBIT five to its own situation by cascading top objectives and goals to manageable, and definite IT associated goals and escalating these to the processes and procedures.

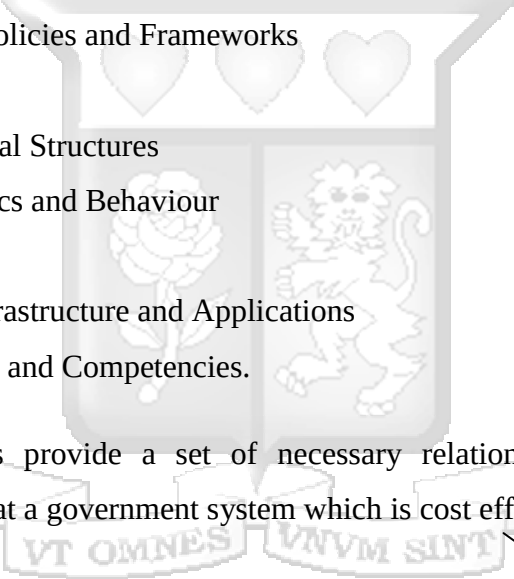
Covering of Enterprise End-to-end – This entails the relationship between IT governance with the corporate governance. Thus all the functional parts, people, information and the processes which support the attainment of the enterprise objectives are to be considered.

Applying a Single Integrated Framework.- This principle ensures that COBIT 5 is considered unequivocally at higher level with other related frameworks

Enabling a Holistic Approach- This principle recognized that for an organization to have effective and efficient IT governance and IT management, all interrelated components should be considered holistically.

Separating Governance from Management. This principle intends to ensure a clear difference between governance and management. The two disciplines relate to distinct activities, entail different corporate structures and serve dissimilar purposes.

In addition to the 5 principles, COBIT 5 framework illustrates seven classes of enablers which generally define everything that can assist organizations to accomplish their objectives (ISACA, 2012). These enablers which are listed below are useful in enhancing the implementation of systems of governance and management for organization IT.

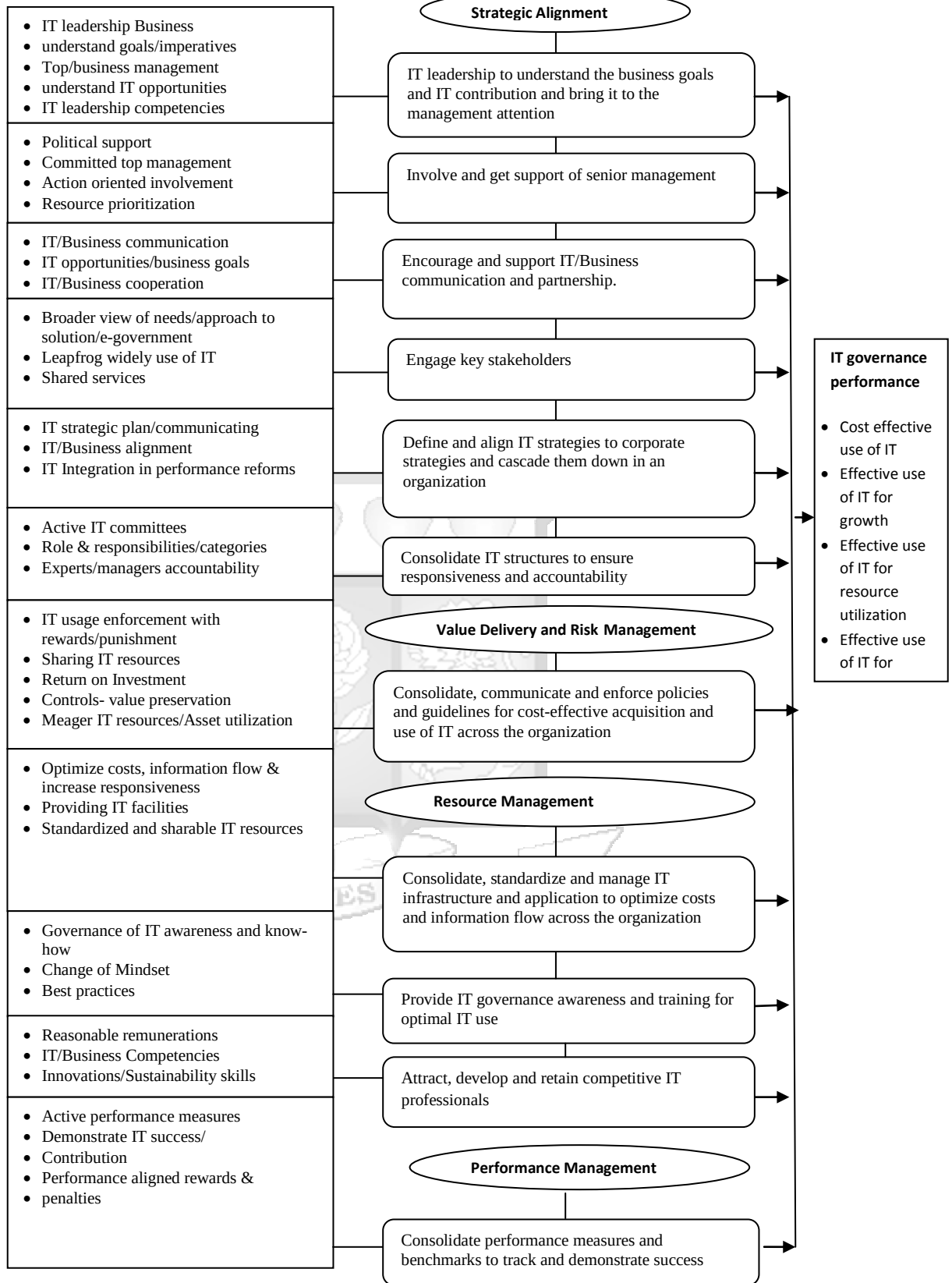
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- i. Principles, Policies and Frameworks
 - ii. Processes
 - iii. Organizational Structures
 - iv. Culture, Ethics and Behaviour
 - v. Information
 - vi. Services, Infrastructure and Applications
 - vii. People Skills and Competencies.

The seven enablers provide a set of necessary relations linking governance and management aimed at a government system which is cost effective and successful.

These enablers read together with the principles of COBIT 5 and the work of Kordel (2004) compares well as summarized in figure 2.1 (Nfuka and Rusu, 2011).

CONTEXTUAL ELEMENTS

Critical Success Factors



Source Nkufa and Rusu (2011) pg. 1436.

Figure 2.1: IT Governance Critical Success Factors

The Contextual elements in figure 2.1 which are basically management and governance issues calls for envisioned and proper IT leadership at the top so that IT activities are sustainable and aligned to achieve enterprise objectives, (IT Governance Institute, 2003). Van Grembergren (2002) had also earlier observed that, the organizational capabilities of IT should be the responsibility of the board, top management and IT management. As far as IT risk management is concerned, ISACA (2009), viewed IT auditors and risk and compliance professionals as important individuals if enterprises were to have an effective and efficient implementation, and progressive monitoring and improvement of IT governance.

2.3 IT Strategy Committee and IT Steering Committee

The set up of IT strategy and IT steering committees in an enterprise is a major step towards controlling and governing enterprise IT (Guldentops, 2004). As shown in figure 2.2, the IT strategy committee also called the IT governance committee is normally a board committee. The main duty of this committee is providing policy direction and guidelines to IT strategy and ensuring the IT strategies are aligned to the entity business strategies. Van Grembergren and Haes, (2004), agrees with Guldentops (2004), and added that being a board committee, it should help the board of directors in the important role of oversight and governance as far as IT matters are concerned. This oversight role by the board is important as pointed out by Richard and Warren, (2005), who compares the lack of oversight role to failure to audit books of accounts. As a result Richard and Warren (2005), suggested that the membership IT strategic committee to consist of independent directors, same as the norm with audit and compensation committees.

The IT steering committee follows the IT strategic committee in seniority. The membership of this committee should be the executive team or the senior management of the organization. The main duty of this committee should be to set IT priority areas and budget and other resource allocations. In addition, the committee should also have a hand in performance measurement of implemented IT investments as well as determining the value of the major IT projects. To ensure proper alignment of IT and business strategies, there is a need for a close relationship between the IT steering and IT strategic committee, (IT Governance Institute, 2002).

At operational level consist of the IT team who are trained in various categories such system development and support, network development and support, infrastructure development and support excreta. This team should be equipped with necessary skills and should be able to interpret the guidelines provided by the strategy and steering committees to ensure the enterprise IT objectives are achieved in a controlled and well governed manner.

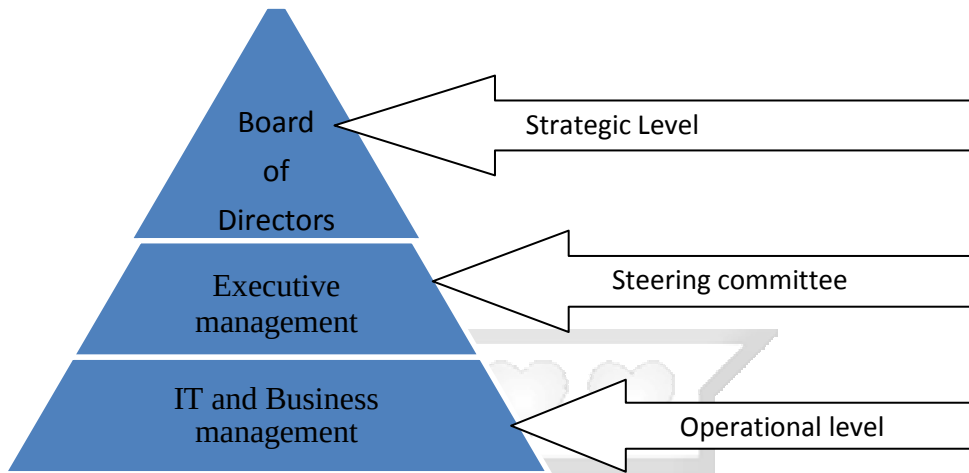


Figure 2.2 IT Strategy and Steering committee

2.4 IT governance Performance

IT governance performance is described as an evaluation of how the IT policies guidelines, activities etc have supported and led to desirable actions ultimately bringing about achievement of organizational goals (Weill and Ross, 2004; Huang, Zmud and Price 2010).

The value generated to the business as a result of engaging an IT organization is a good measure of IT governance performance. According to Weill and Ross (2004), there are four parameters to be measured to determine such performance. These are: how cost effective it is in the utilization of IT; effectiveness in the IT asset utilization; how effective it is in the usage and management of IT growth and how IT can be used to enhance business flexibility. While agreeing with to Weill and Ross (2004), Simonsson, Johnson and Ekstedt (2010), observed that the measures mentioned are designed to enhance IT value from an enterprise point of view and has been recognized and adopted by researchers and various organizations.

2.5 State corporation performance

The Kenya state corporations performance is best measured through the performance contracting process. This process is part of the wider reforms in the public sector which are intends to have a public service which is efficient and effective. There are a variety of management concepts in the performance contracting. These concepts are used in outlining the responsibilities and expectations necessary for the concerned parties to achieve the pre-agreed objectives. The performance contracting tool, helps in making the specific objectives clearer, encourages innovation, provides a base for monitoring and control and provides operational independence to the public sector organizations. After the expiry of the performance contract period, the same tool is used to measure how well the set objectives were achieved therefore ensuring that public sector managers have a pegged responsibility and are accountable for their actions and decisions. (Public Sector Reforms and Performance Contracting, 2012).

There are performance indicators which are set depending on the sector. The performance contracting process aims at ensuring the global best practices are employed and that the targets set are geared towards improving the growth of the country and ensure competitive advantage. There are pre-set performance criterion categories with fixed sub-weight depending on the sector as shown in table 2.2 below.

Table 2.2 :Performance Criterion Categories

Performance criterion category	Performance criterion weights for state corporations in percentages (%)		
	Non commercial	Public Universities	Commercial
Finance & Stewardship	12	15	45
Service Delivery	25	15	
Non-Financial	15	15	10
Operations	30	40	30
Dynamic/Qualitative	10	10	10
Corruption Eradication	5	5	5

Source: 9th Performance cycle guideline 2012/2013.

Performance rating is from 1 to 5. A score of 1 means that the institution has achieved or surpassed the set targets while a score of 5 means the institution has achieved a zero or below, (Public Sector Reforms and Performance Contracting, 2012).

2.6 IT governance Theories

Governance generally relates to the authority and responsibility that determine how the enterprise resources will be used and harmonization of various interests in an organization. (Daily, Dalton and Cannella, 2003; Sundamurthy and Lewis, 2003). It follows that IT governance which is a part of corporate governance should describe the authority and responsibility over IT resources, both human and non-human and the harmonization of various IT interests. Consequently, due to the existing relationship between corporate governance and IT governance most of the commonly accepted theories of corporate governance are applicable to IT governance.

2.6.1 IT Governance and stakeholders' theory

Stakeholder theory tends to inform the managers how to operate instead of dealing with the management theorists and economists. Thus, it can be said to be managerial in nature, (Freeman, Wicks, and Parma 2004). It also pushes managers to be clear about how they want to do business; specifically what kinds of relationships they want and need to create with their stakeholders to deliver on their purpose. The stakeholders theory is key in the literature of IT governance.

IT governance must not be considered merely as a vehicle for reducing public administrative overheads and implemented in a business like fashion, Grant (2002). In terms of developing overall strategy, there is a fundamental responsibility to understand the needs of government, organizations and citizens from a stakeholder perspective. The idea of citizens and organizations interacting with government as stakeholders is not new by any means (Carroll, 1996; Freeman, 1984). Byrson (2004, p. 22) suggests that a stakeholder, regardless of their power is any person, group, or organization that can place a claim on the organization's attention, resources, or output, or is affected by that output.

According to Freeman et al. (2004) there are two key questions to be asked: What is the purpose of the organization and what is the responsibility of management to

stakeholders? In this case, it should be asked what responsibilities do government, citizens, employees and suppliers have in the development of IT Governance?

Typical stakeholders are identified as consumers, suppliers, government, competitors, employees and shareholders (ISACA 2012). Matten and Crane (2005) argues that “stakeholders participate in the processes of organizing, decision-making and governance” An interesting question therefore is where is ICT taking us in relation to stakeholder theory and e-governance? Tan, Pa and Lim (2005), cited numerous authors who have believed that the core of e-government strategy involves a fundamental realignment of development objectives with the needs of primary stakeholders. (Pardo, Scholl, Cook, Connelly, and Dawes, 2000; Pardo and Scholl 2002, cited in Tan et al., 2005).

Tan et al. (2005) in their review of e-government services in Singapore held the fundamental assertion that any analysis of e-governance must start with the assumptions of stakeholder management including key aspects such as identifying who stakeholders are; understanding stakeholder interests; working out on how to align stakeholder interests in an e-government framework. In Kenya’s state corporations the largest stakeholders are government and the public.

2.6.2 IT Governance and Agency Theory

Agency theory treats the relationship between the owners of an organization and the management as a principal-agent relationship. In state corporations set up, the board of directors or board of trustees are the principals while the top managements are the agents. The principals must assure that managers (agents) make decision and discharge their duties in a way that serves the best interests of the principal (Jensen & Meckling, 1976). Agency theory thus takes a win-lose perspective, (McGinnis, Pumphrey, Trimmer and Wiggins, 2004).

The Board will provide the oversight role on how IT is managed by the management. This will include receiving reports on performance and also independent assurance on IT governance as envisaged in the CSFs. This results in agency costs which includes audit costs among others.

2.6.3 IT Governance and Stewardship Theory

Stewardship theory addresses the underlying agency assumption that there is a tension between the risk propensity of principals and their agents whereby agents focus their actions upon mitigating their personal risks at the expense of principals, (Wesley C.L. 2010). As opposed to the human trends towards individualism and protecting self interests of agency theory, stewardship theory focuses on collective good of the constituents in the firm regardless of manager's interests (Davis, J.H., Schoorman, F.D., and Donaldson L, 1997). This theory assumes that managers are trustworthy stewards of the organization and focuses on a win-win situation.

In regard to IT governance, the stewardship theory therefore assumes that managers will always ensure IT resources are available, IT risks are mitigated and that the benefits anticipated are achieved by implementing good processes and controls. These actions which benefit the organization will be taken even if the immediate self interest of the managers will not be attained.

2.7 Research Gaps

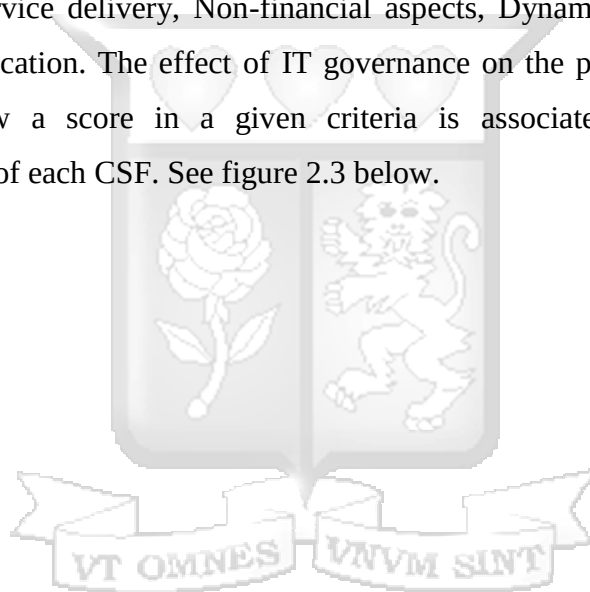
There are several studies which have looked at concerns about inadequate IT governance effectiveness (Weill and Ross, 2004; Ali and Green, 2007). A study has also been conducted to show the effect of critical success factors on IT governance in a developing country (Tanzania) set up (Nkufa and Rusu 2011). However, there is scant evidence to show whether having implemented IT governance, the performance of the public organizations improves. Such a concern in Kenya public sector organizations is due to the fact that today there is a remarkable amount of IT applications in the public sector. For example, in Kenya today there are applications to manage payroll, financial records, distribution, store, warehouse among others. However, such applications are coupled with fragmented IT initiatives with loss of synergies and economies of scale in and across the organizations, leading to duplication of efforts and resources (Ndovu, 2004; Bakari, 2007). A sound IT governance strategy (especially in state corporations) would ensure synergies and overall contribution to the wider corporation objectives.

2.8 Conceptual Model

To study the effects of IT governance on performance of Kenya's state corporations, CSFs was the loci. Based on the literature (COBIT, Kodel, Nfuka and Rusa amongst others), elements of IT governance were identified. For the purpose of conceptualization, the elements were further compressed into three. These elements operationalize each of the CSFs.

The researcher is also aware that IT operates in social economical, political or cultural environment. These environmental factors could have effects on the performance of Kenya's state corporations. Thus, in the conceptual framework "others" was introduced. However, this was beyond the scope of the study.

The measure of performance for the state corporations is based on 5 criteria: Financial stewardship, Service delivery, Non-financial aspects, Dynamic/qualitative aspects and Corruption eradication. The effect of IT governance on the performance is understood by relating how a score in a given criteria is associated by that corporation's implementation of each CSF. See figure 2.3 below.



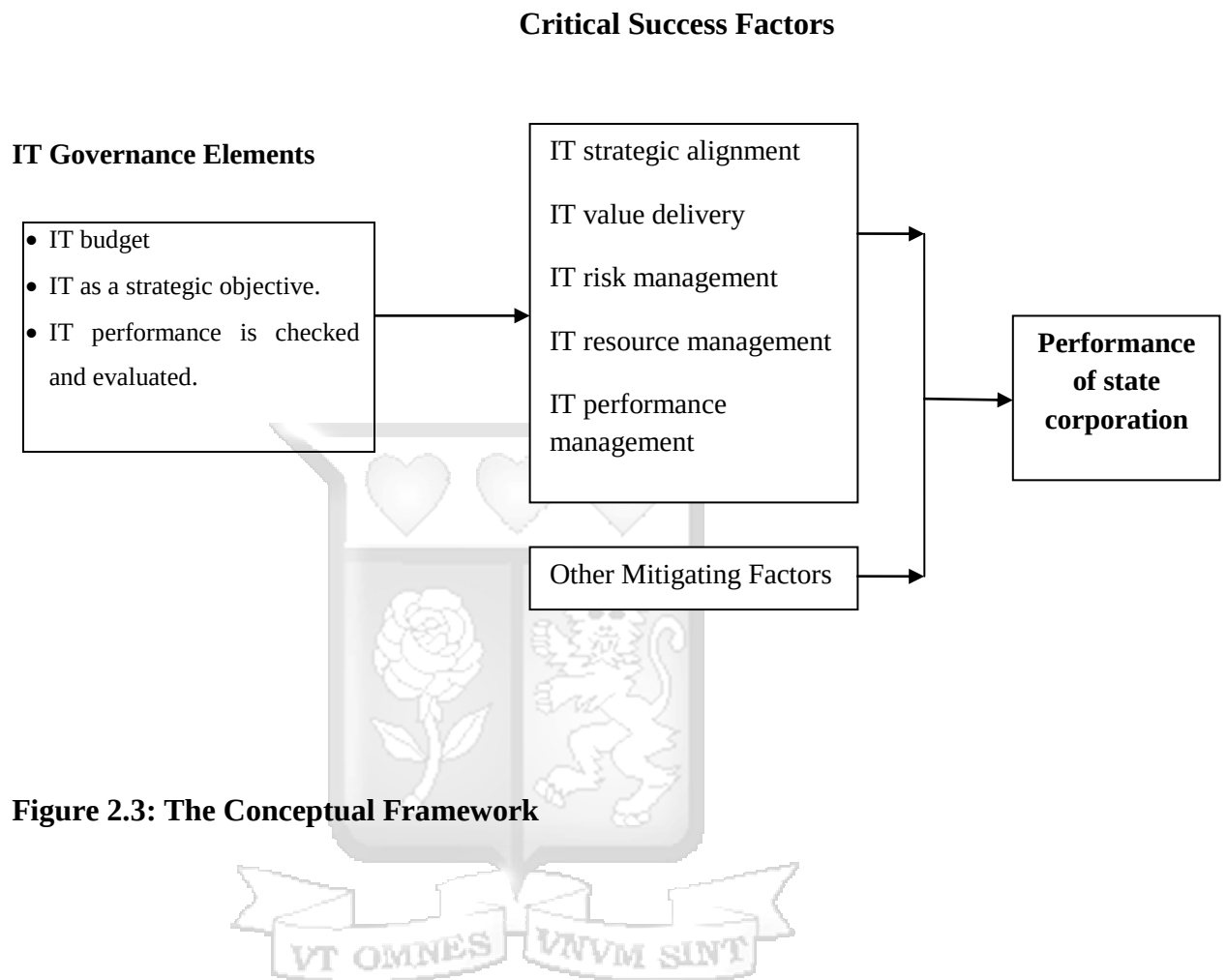


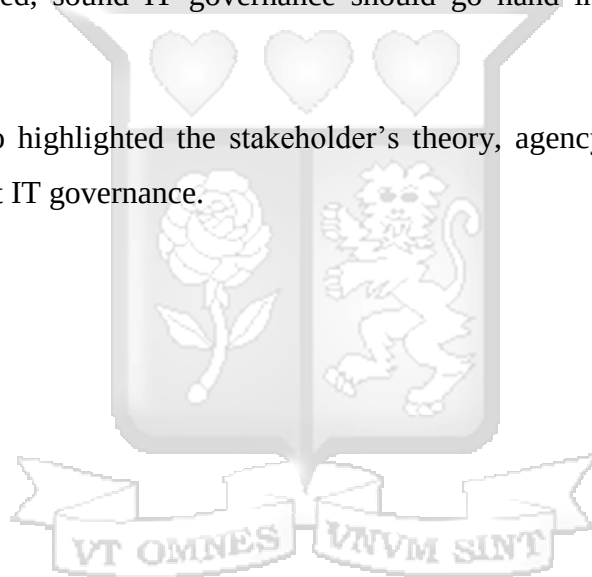
Figure 2.3: The Conceptual Framework

2.9 Chapter Summary

IT is an integral part of the public sector service delivery. IT governance is an integral part of corporate governance. IT governance ensures that IT goals are met and IT risks are mitigated such that IT delivers value to sustain and grow the organization. IT governance drives strategic alignment between IT investment and programme delivery and must judiciously measure performance (Brisebois et al., 2008).

The chapter examines the critical requirements of an effective IT governance implementation based on COBIT 5 collaborated by reviewed literature. Gaps of the previous research are identified and the issues of performance of state corporations are demystified. Although the review did not get to details of how the performance is actually calculated, sound IT governance should go hand in hand with performance contracting.

The chapter also highlighted the stakeholder's theory, agency theory and stewardship theory to support IT governance.



CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology provides the various systematic steps that are generally adopted in studying the research problem along with the logic behind them (Kothari, 2009). In this chapter I present the research process and the adopted approach in developing this thesis.

The chapter is therefore organized under the following sections: the research design, the population and sampling techniques, data collection methods and instruments (including structure of the questionnaire), data analysis and presentations. The chapter ends with statements on the consideration made relating to research quality and research ethics

3.2 Research Design

Research design helps determine how the research strategy is formulated. In addition it helps readers to understand the direction of the research. Thus, the way the study goes depends on research design (Saunders, Thornhill, and Lewis, 2009). According to Yin (2002); Cater-Steel and Al-Hakim (2008), research design can be classified as exploratory, descriptive, or explanatory. This study adopted a triangulated approach blending descriptive and exploratory research design.

3.2.1 Descriptive Research

Descriptive Research is designed to provide further insight into the research problem by describing the variables of interest. Used for profiling, defining, segmentation, estimating, predicting, and examining associative relationships. (Saunders et al., 2009) Cross-Sectional Study is the most common type of research project which typically involves conducting a survey of a sample of population elements at one point in time (Yin, 2002).

From the foregoing definition of descriptive research, this research design was suited to study the effects on performance over the period of time when the state corporations were assessed as the government implemented balanced score card based performance contracting. Borrowing from previous related work in the form of case studies that identified IT governance Critical Success Factors (CSFs) in public sector organizations (Nfuka and Rusu 2010a) an in-depth explorative study of IT governance frameworks

was done. Not only were the CSFs identified but also studied in the context of Kenya's state corporations. An exploration of such frameworks as COBIT, the Balanced Score Card lead to operationalization of the relevant research variables as a basis for understanding IT governance. This means descriptive and exploratory designs were used.

The methodological approach was mainly qualitative. However the qualitative factors were quantified for the purposes of measurement and statistical analysis. Respondents answered questions relating to IT Governance to measure how well their organizations have implemented IT Governance. This was the basis of relating the respondent's assessment of IT governance to the published performance of the state corporations in the various parameters of finance & stewardship, service delivery, non-financial, operations qualitative and corruption eradication, (Public Sector Reforms and Performance Contracting, 2012). A questionnaire was administered to respondents who provided quantified information quantified as per the Likert scale. Likert-scaled questions were anchored between 1 and 5 whereby: 1 = strongly agree and 5 = strongly disagree.

3.3 Population and Sampling

Defining the concerned population and the subsequent determination of a sample frame, method and size are paramount to generalize findings (Kothari, 2004).

A study population is an entire group of individuals, events or objects having a common observable characteristic. The study population consisted of 178 state corporations that had signed performance contracts with the government of Kenya in the periods 2010/2011. These are distributed across seven (7) categories of state corporations as defined by the Kenyan government performance contracting department. The categories are: service, commercial, financial, public universities, regional development, regulatory and lastly training and research. A total of 90 corporations were identified as the sample using a combination of purposeful and stratified sampling. We purposely sought to ensure each of the seven categories (strata) of state corporations were represented. Questionnaires were distributed to the 90 corporations. The responses received were from 60 corporations.

3.4 Data Collection Methods

According to Saunders et al. (2009), there are two categories of collecting data, namely primary and secondary. Primary data is collected for a specific purpose by the researcher and the information is gathered for instance through interviews, questionnaires and observations. In this study, the primary data was collected through online questionnaires. Secondary data is the data that already has been collected for another purpose and the information can be obtained from books, articles and research reports. In this study the introductory chapter as well as in literature review represent data of secondary nature. The secondary data covered the relation of IT governance and performance and the results of performance evaluation of the state corporations (Performance contracting report covering 2010/2011 period).

3.4.1 Questionnaire

Online questionnaire was designed for data collection. Content validity was qualitatively assessed through preliminary study, multiple reviews in consultation with a panel of advisors that included members of IT faculty, and representatives of the NPO sector. Content and construct validity were further qualitatively substantiated through a comprehensive literature review in the areas of Balanced Score card, COBIT and IT governance specific theories relating to Stakeholders, Agency and Stewardship.

The survey instrument was constructed using both existing measures from the extant literature and new measures developed from the exploratory study.

The questionnaire is mapped into the conceptual model as described in the preceding chapter as follows. A total of sixteen (16) IT governance elements are assessed. These are spread across four (4) broad categories that represent the Critical Success Factors (CSFs). Secondly, a two dimensional assessment of the relation between each of the CSFs and the five (5) parameters used in the Balanced Score Card performance evaluation viz: Finance & stewardship, Service delivery, Non-financial, Dynamic/qualitative aspects and Corruption eradication, (Public Sector Reforms and Performance Contracting, 2012). Likert-scaled questions were anchored in a scale of 1-5 whereby: 1 = strongly agree and 5 = strongly disagree.

The respondents were a mix of company secretaries (equivalent to chief executive officers in the private sector), Heads of internal audit, IT managers (Chief Information Officers), Heads of performance contracting and members of ICT steering committees. These are the positions best suited and with cross-cutting knowledge of metrics of IT governance, CSFs and overall performance indicators in their respective state corporation. A total of 60 responses were received from corporations across all the categories.

3.5 Data Analysis

The data was collected, checked, coded, and logged into the computer system for analysis using SPSS (Statistical Package for Social Sciences). Descriptive analysis such as frequencies and percentages were used to present quantitative data summarized in tables and graphs based on the research questions. The findings are recorded and summarized with textual comments that directly reference the statistical data provided in tables and charts

3.6 Research Quality

To ensure the quality of research both the research validity and research reliability were considered.

Research validity refers to how well a test measures what it is supposed to measure. To ensure validity of the formulated questionnaire used to measure the research questions, content validity was considered. When content validity is well thought out, according to Saunders et al. (2009), the finding from the questionnaire actually represents the reality of what is to be measured. For content validity the research questions were subjected to a review by peers. Each of the questions was scrutinized to ensure they will measure what they are intended to. This also encouraged open debate during review meeting on the topic under study as well as assessing whether each measurement question in the questionnaire was essential, useful but not essential or not necessary. The questionnaire and the research questions were then revised accordingly.

Reliability as far as research quality is concerned is the degree to which the target tools used in the data collection and analysis will produce stable and consistent results. The reliability of the data collected such as the categorization of the state corporation and the ranking of the sampled state corporation was tested by comparing the data collected with

other data from a variety of sources such as from the literature reviewed and published annual evaluations of state corporations.

3.7 Ethical Considerations

The ethical considerations considered in the research were on the privacy of the participants, which was upheld and they were not to be involved in anything within the research that would cause harm or invade their privacy where it goes beyond the scope agreed. Confidentiality and anonymity was maintained throughout the period of collection and analysis of the data. The researcher ensured that the aims of the thesis were shared with the intended participants. Objectivity in collection of the data was also observed.



CHAPTER 4: DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the research results, the analysis presentation and discussion. SPSS version 17 was used to do the analysis. Descriptive statistics (i.e. frequencies and percentages) were used to describe characteristics of data. Chi square test was used to test association between variables. All qualitative data was grouped into categories and then coded before the analysis was done. Data was organized in tables and presented on graphs and charts.

4.2 Response rate

Out of 90 questionnaires distributed, 60 questionnaires were returned. This translates to 67% response rate. This also surpassed the targeted 40 respondents. According to Mugenda and Mugenda (2003) a 50% response rate is adequate, 60% good and above 70% rated very good. This high response rate was facilitated by the fact that questionnaires were distributed through emails after contacting the targeted respondents. This also guaranteed a quick circulation of the questionnaire. Respondents were also followed up by the researcher to check on the progress with filling the questionnaire.

4.3 Respondents Profile

Age categories

Figure 4.1 below reveal that more than a half (62%) of the respondents were between 25-35 years while 30% were between ages 36-45 years and only 8 % were between ages 45-55years.

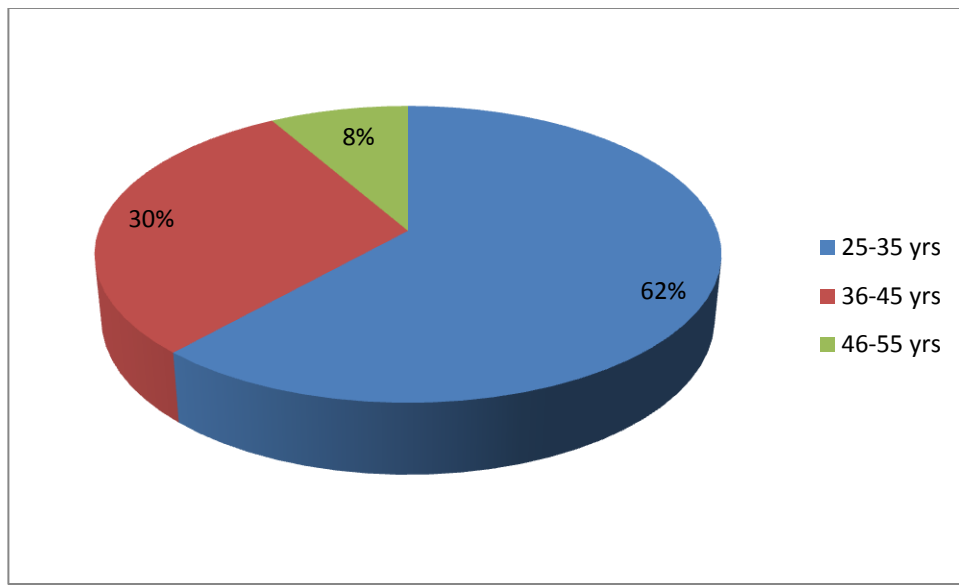


Figure 4.1: Age Categories of the respondents

Years worked in the current state corporation

Respondents were asked to indicate the number of years they have worked in their current company (Figure 4.2). Most of them indicated that they had worked between 3-6 years (45%), while 28.3% and 26.7 % indicated they have worked for less than three years and more than six years respectively. This implies that majority of the respondents had the knowledge of how their respective organization operates. The findings collaborate Larnsen (2012) observation that the longer employees stay in an organization, the more experienced they become with the operations and the industry. From this information, there was confidence in the data collected since most of the respondents (73%) had been working at their respective institutions for over 3 years and this shows that they were well versed with the state of IT governance in state corporations.

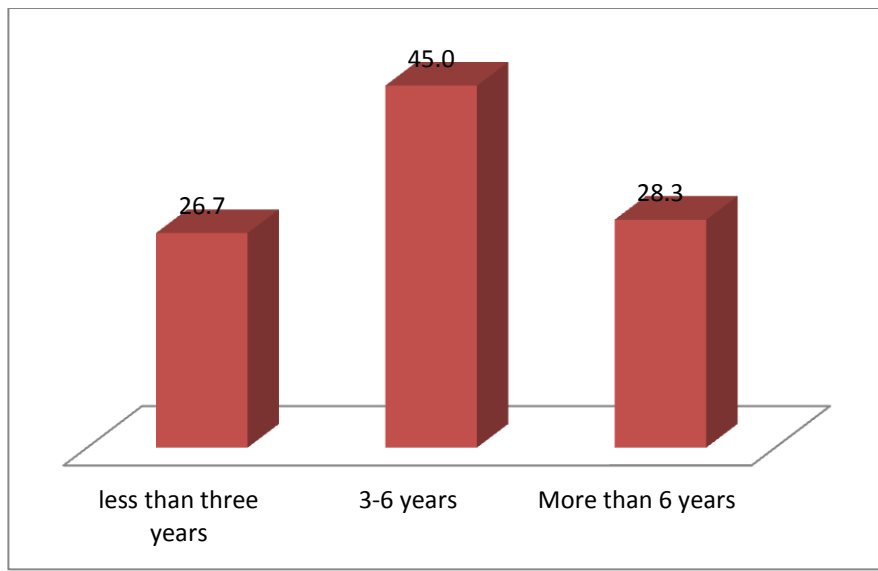


Figure 4.2: Years worked in the current company

Functional category of the company

Figure 4.3 shows functional categories of the state corporations as categorized by the performance contracting department. Most respondents represented service and regulatory categories at 26.7%, while among the sampled state corporations, only 5% were categorized as financial. This implies that, all the category of the Kenya's state corporations were considered for the survey. The tertiary education and training category was combined with the public universities as most of the tertiary institutions had been converted to public universities by the time of this research.

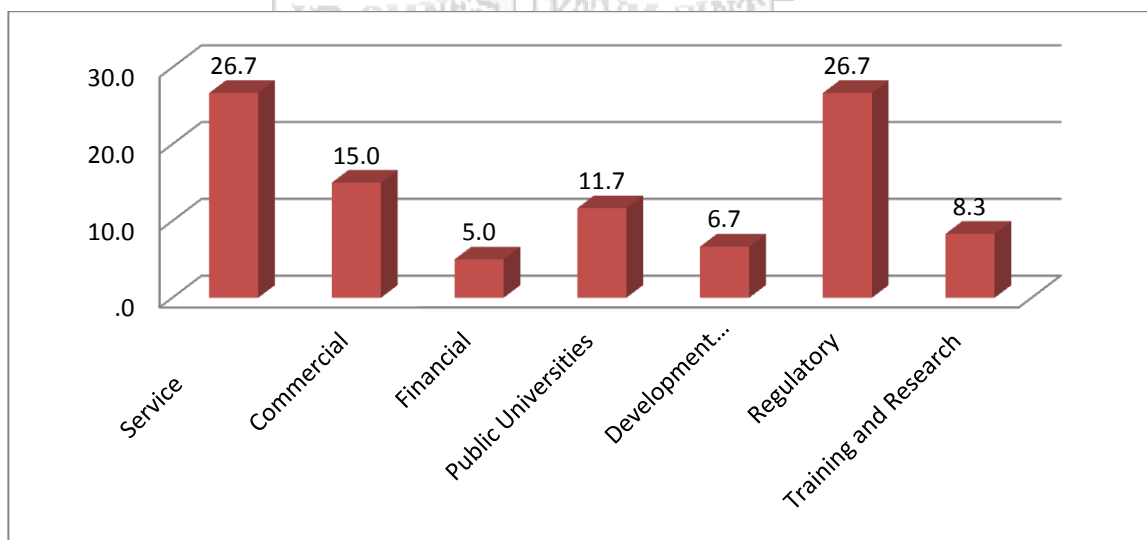


Figure 4.3: Functional category of the organization

Number of staffs in an organization

The figure 4.4 below shows the number of staffs in the state corporations. More than a half of the state corporations studied employed over 200 employees while 25 % employed between 50-100 employees. The least number of employees were between 1-50 employees and this was indicated by only 3.3%. In their study, Kankanhalli, Tan, and Wei (2003) reported a positive relationship between organization size and information systems security effectiveness in Singaporean organizations. Elbanna and Child (2007) reported a positive association between organizational size and information systems planning effectiveness. Ko, et al (2008) suggested a positive association between organization size and innovation adoption.. Thus, from our study, majority of the organizations were large enough to necessitate various governance structures including IT Governance.

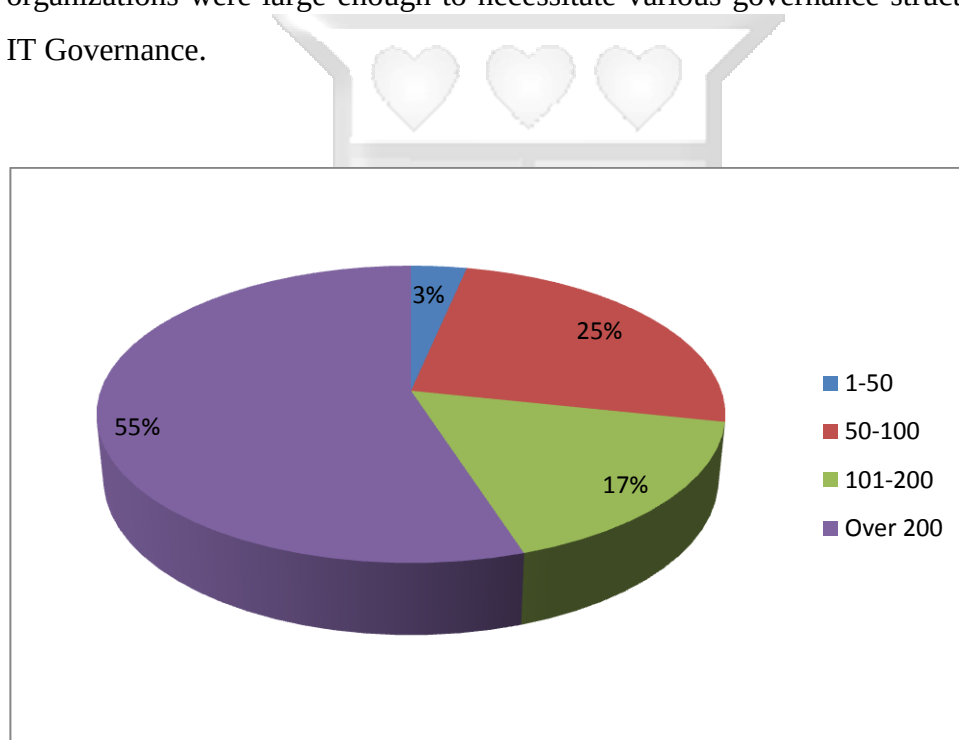


Figure 4.4: Number of staffs in an organization

4.4 Findings

This section documents the results of the study. The study sought to establish if a relationship exists between IT governance and the performance of the Kenya's state corporations.

4.4.1 Presence of IT Governance:

Respondents were asked to generally state whether they have IT governance in their organization. Almost all respondent (80%) said that they have IT governance with only 6.7% saying that they do not have and 13.3 % were not sure. See figure 4.5 below. The result could be attributed to the fact that most state corporations have adopted (or are closest to) private sector ways of operation.

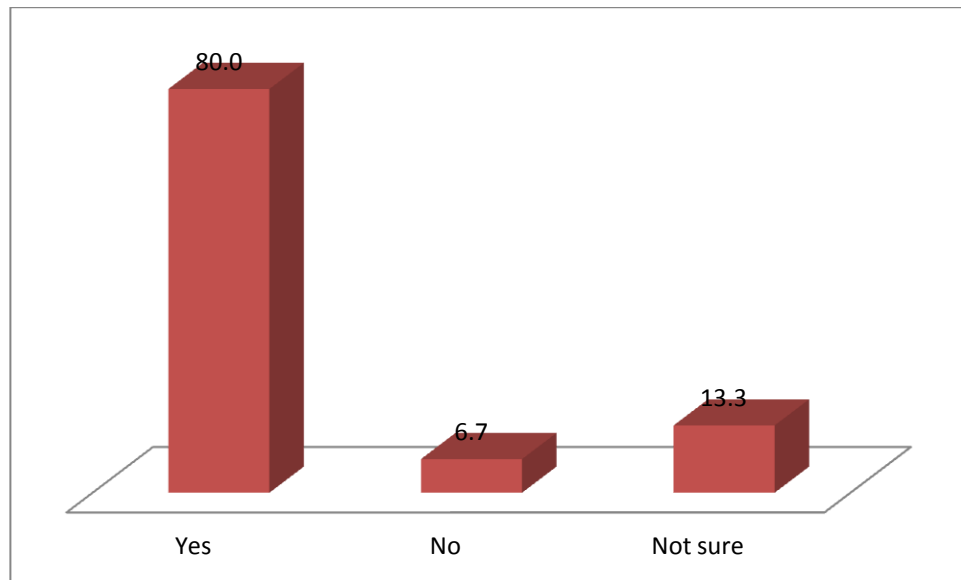
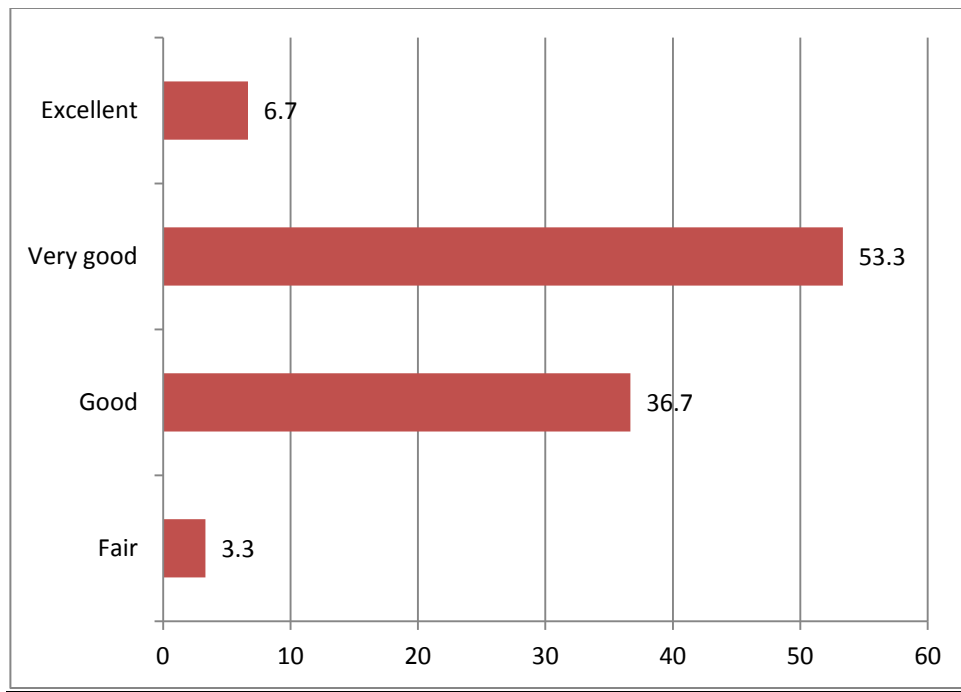


Figure 4.5: Do you have IT governance?

4.4.2 Performance contract rating of the organization in the financial Year 2010/2011

Most of the state corporations had a “very good” performance rating as indicated in the figure 4.6 below while a good number of them (36.7%) were rated “good” in the performance contracting rating. Only 6.7 % indicated that their performance contract rating was excellent and 3.3% said they were fair in their performance contract rating. The results were validated by cross checking against the published results by the Kenya’s performance contracting department.



Percentage performance rating

Figure 4.6: Performance contract rating of the organization in the financial Year 2010/2011

4.4.3 Effect of IT governance on the performance contracting rating

First, we plotted a line graph to show if a relationship exists between IT governance and performance rating as shown in figure 4.7. The figure shows that there is a relationship. It is noted that the corporations whose respondents believe there is IT governance, majority of the same had their performance rated either good or very good. The next step was to check whether performance contract rating was associated with the presence of IT governance. We did a chi square test to check the association. The results in table 4.1 shows that there is no significant relationship between performance of the state corporations and embracing of IT governance (P value = 0.232).

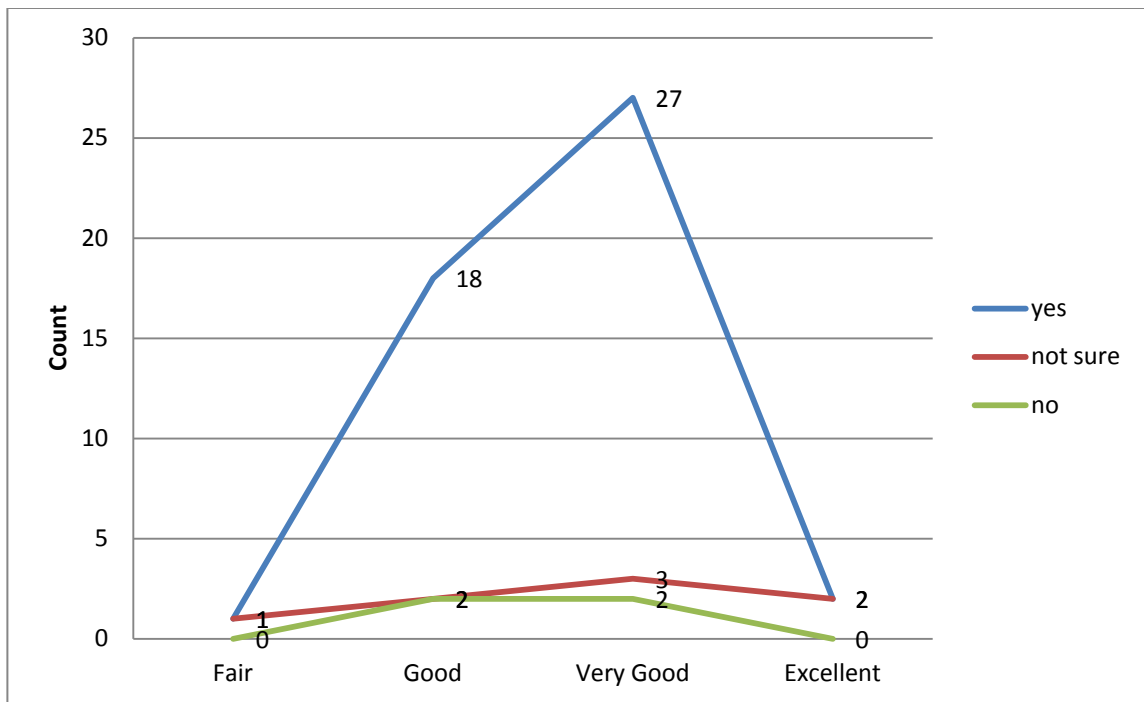


Figure 4.7: Relationship between presence of IT governance and performance rating

Table 4.1: Association between IT governance and the performance contract rating.

Performance contract rating	Do you have IT governance			Total
	Yes	No	Not sure	
Fair	1	0	1	2
	2.1%	.0%	12.5%	3.3%
Good	18	2	2	22
	37.5%	50.0%	25.0%	36.7%
Very good	27	2	3	32
	56.3%	50.0%	37.5%	53.3%
Excellent	2	0	2	4
	4.2%	.0%	25.0%	6.7%
Total	48	4	8	60
	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Degree of Freedom	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.086 ^a	6	.232
Likelihood Ratio	6.132	6	.409
N of Valid Cases	60		

4.4.4 Extent of IT related elements in state-corporations

In this section, participants were asked to rate to what extent they thought their organization was affected by various elements of IT. A number of questions were asked and their responses were indicated. These questions represent various elements of IT governance. The majority of the respondents agreed to all of the questions asked. However, there are a good number of respondents who were neutral (not sure) of the questions asked. The results are as shown in figure 4.8 below.

The clarity of what IT is doing and the fact that IT supports the organization in complying with regulations and service levels had the highest rating of agreeing. On the other hand, the highest number of disagreeing respondents did not believe the board obtains IT performance reports illustrating the value of IT from a business driver perspective and that the board gets independent assurance on the achievement of IT objectives and the containment of IT risks. The highest numbers of the neutral ratings were also concerning the board involvement with IT whereby the respondents were neutral on whether the board is aware of the latest developments in IT from a business perspective and that the board obtains IT performance reports illustrating the value of IT from a business driver perspective.

Thus, it is evident that whereas there is a general agreement on existence of IT elements in the state corporations, the extent of governance issues which is at board level ranks low compared to operational and infrastructure issues. This is despite the fact that majority of the respondents indicated they had IT governance in their respective

organization. Due to the above reasons, IT governance may not be well entrenched in the state corporations.

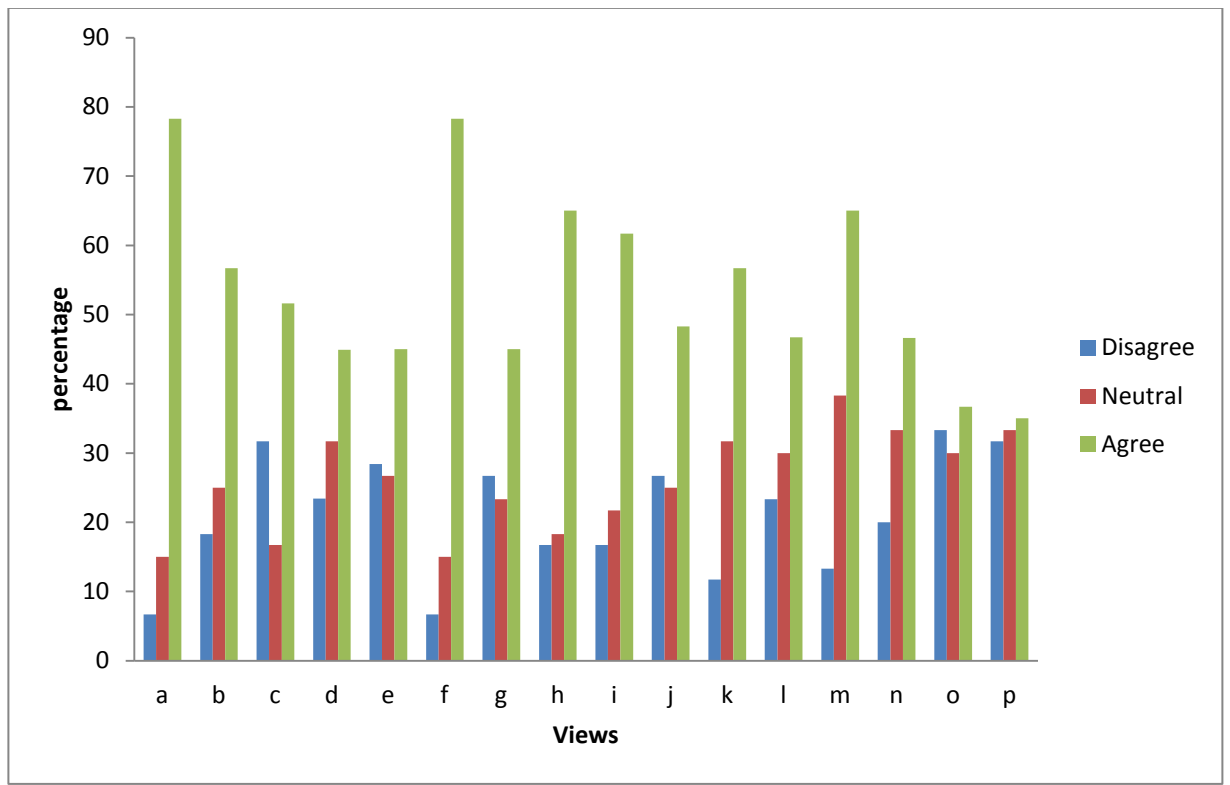


Figure 4.8: Extent of IT related elements in state-corporations.

Key

- It is clear what IT is doing.
- End users are satisfied with the quality of IT services.
- There are sufficient IT resources and infrastructure available to meet required strategic objectives.
- IT core competencies are maintained at a sufficient level to meet required strategic objectives.
- Most of the times IT projects normally have budget overruns.
- IT supports the organization in complying with regulations and service levels.
- There is significance amount of overall budget allocated to IT.
- IT practices and IT culture support and encourage change within the organization
- The organization objectives and IT objectives are linked and synchronized

- j. The organization is clear on its position relative to IT risks, IT risk avoiding and IT risk-taking
- k. The organization can be said to be taking “reasonable” precautions relative to IT risks.
- l. IT is a regular item on the agenda of the board and is it addressed in a structured manner.
- m. The board is aware of the latest developments in IT from a business perspective.
- n. The board have a view on how and how much the organization invests in IT compared to other like organizations
- o. The board obtains IT performance reports illustrating the value of IT from a business driver perspective (customer service, cost, agility, quality, etc.
- p. The board gets independent assurance on the achievement of IT objectives and the containment of IT risks.

4.4.5 How state corporations has been affected by IT

The respondent were asked to check from a number of responses provided, the correct statement that applies to their organization. 58 out of 60 respondents said that they have an IT department, 42 out of 60 said that IT officers are part of the IT project committee team and 32 out of 60 mentioned that their companies enforces policies and guidelines for cost effective acquisitions. However only 17 and 18 out of 60 agreed that risk managers are part of IT project committee team and IT investments are measured against expected results respectively. See figure 4.9.

This compares well with above observations (figure 4.8) whereby, elements which relates to IT governance issues e.g. IT risk management and IT performance measurement are not rated as high as those that relates to operations e. g presence of IT department in the organizations.

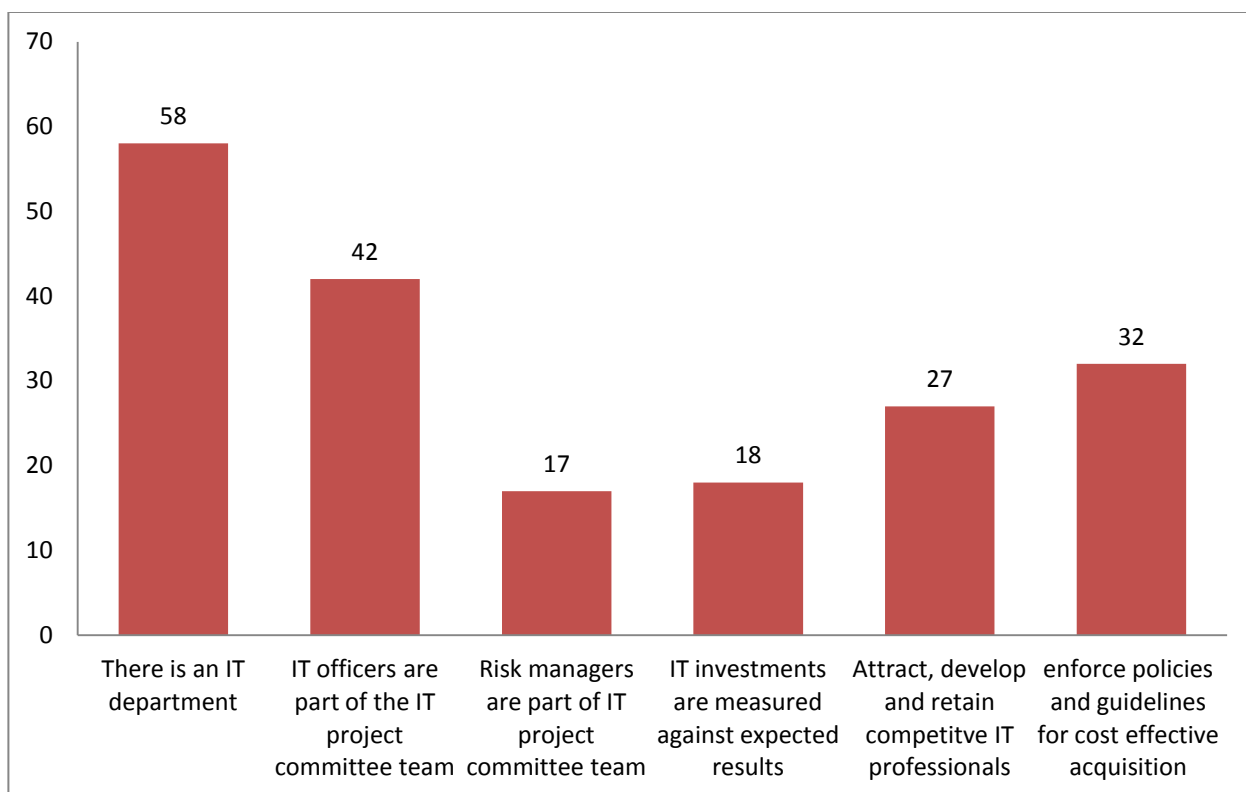


Figure 4.9: The respondents' views on of how their organization has been affected by IT

4.4.6 Effects of IT governance on the overall performance of Kenya's state corporations

To get the information on the effects of IT governance on the overall performance of the state corporations, we asked the respondent to rate the positive effects of the following IT governance elements on the performance.

1. IT strategic alignment
2. IT Value delivery
3. IT risk management
4. IT resource management
5. IT performance management

The table 4.2 below shows the results.

Table 4.2: Positive effect of IT governance

	Frequency	Percent
IT strategic alignment		
Strongly disagree	5	8.3
Disagree	1	1.7
Neutral	5	8.3
Agree	29	48.3
Strongly Agree	20	33.3
IT value delivery		
Strongly disagree	1	1.7
Disagree	1	1.7
Neutral	4	6.7
Agree	37	61.7
Strongly Agree	17	28.3
IT risk management		
Strongly disagree	1	1.7
Disagree	4	6.7
Neutral	5	8.3
Agree	32	53.3
Strongly Agree	18	30
IT resource management		
Strongly disagree	4	6.7
Disagree	1	1.7
Neutral	6	10
Agree	35	58.3
Strongly Agree	14	23.3
IT performance management		
Strongly disagree	5	8.3
Disagree	1	1.7
Neutral	10	16.7
Agree	31	51.7
Strongly Agree	13	21.7

More than three quarter of the respondents agreed that IT strategic alignment (81.6%), IT value delivery (90.0%), IT risk management (83.3), IT resource management (81.6%) and IT performance management (73.4%) positively affect the overall performance of their organization.

The respondents were also asked to choose which criterion of performance contracting was most positively affected by the IT governance elements mentioned in table 4.2. Their responses were as in the table 4.3 below.

Table 4.3: Criterion of performance contracting positively affected by IT governance

IT strategic alignment	Frequency	Percent
Financial stewardship	9	15.0
Service delivery	42	70.0
Non-Financial aspects	4	6.7
Dynamic/Qualitative aspects	3	5.0
Corruption eradication	2	3.3
IT value delivery		
Financial stewardship	14	23.3
Service delivery	36	60.0
Non-Financial aspects	4	6.7
Dynamic/Qualitative aspects	1	1.7
Corruption eradication	5	8.3
IT risk management		
Financial stewardship	16	26.7
Service delivery	31	51.7
Non-Financial aspects	3	5.0
Dynamic/Qualitative aspects	7	11.7
Corruption eradication	3	5.0
IT resource management		
Financial stewardship	16	26.7
Service delivery	33	55.0
Non-Financial aspects	6	10.0
Dynamic/Qualitative aspects	4	6.7
Corruption eradication	1	1.7
IT performance management		
Financial stewardship	6	10.0

IT strategic alignment	Frequency	Percent
Service delivery	39	65.0
Non-Financial aspects	4	6.7
Dynamic/Qualitative aspects	11	18.3
Corruption eradication	0	.0

Table 4.3 reveals that among the IT governance CSFs, service delivery is the one most affected positively by all IT governance elements. IT strategic alignment (70%) rendering the heaviest effect, followed by IT performance management (65%) and IT value delivery (60%). IT resource management (55%) and IT risk management (51 %) came in last. The least affected was corruption eradication with all the CSFs having less than 10% effect

We also did a chi square test to check if there is a relationship between IT governance elements and Criterion of performance contracting. The rating scale of IT element were combined and reduced to three levels (agree, disagree and neutral) for easier comparison. The results of the test are displayed in table 4.4. This table shows that the level of agreement of the respondents that IT strategic alignment, IT value delivery, IT risk management, IT resource management and IT performance management positively affects the performance contracting is not associated with the performance contracting criterion as all the P values are greater than 0.05.

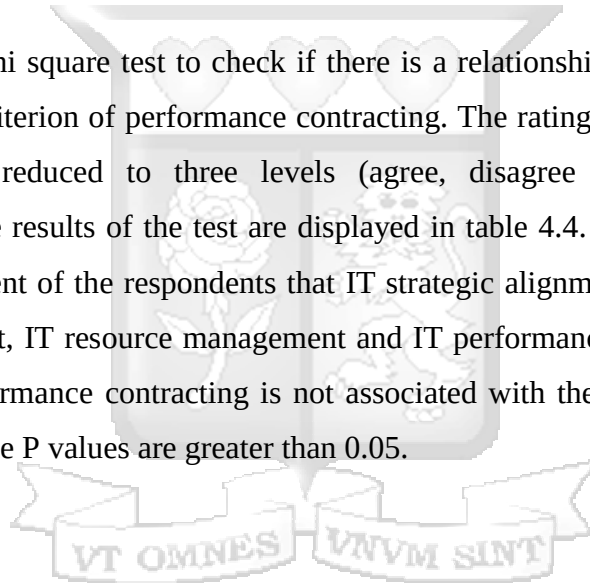


Table 4.4: Cross tabulation of elements of IT governance and criterion of performance contracting

	Criterion of performance contacting					
	Financial stewardship	Service delivery	Non- Financial aspects	Dynamic/Qualitative aspects	Corruption eradication	P value
IT strategic alignment						
Disagree	1 (16.7%)	4 (66.7)	0 (0.0)	1 (16.7%)	0 (0.0)	0.775
Neutral	0 (0.0)	5 (100)	0 (0.0)	0 (0.0)	0 (0.0)	
Agree	8 (16.3)	33 (67.3)	4 (8.2)	2 (4.1)	2 (4.1)	
IT value delivery						
Disagree	0 (0.0)	2 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0.734
Neutral	0 (0.0)	3 (75.0)	1 (25)	0 (0.0)	0 (0.0)	
Agree	14 (29.5)	31 (57.4)	3 (5.6)	1 (1.7)	5 (9.3)	
IT Risk management						
Disagree	0 (0.0)	1 (20.0)	2 (40.0)	2 (40.0)	0 (0.0)	0.101
Neutral	2 (40.0)	1 (20.0)	1 (20.0)	0 (0.0)	1 (20.0)	
Agree	14 (28.0)	29 (58.0)	0 (0.0)	5 (10.0)	2 (4.0)	
IT Resource management						
Disagree	0 (0.0)	2 (40.0)	2 (40.0)	1 (20.0)	0 (0.0)	0.143
Neutral	0 (0.0)	5 (83.3)	1 (16.7)	0 (0.0)	0 (0.0)	
Agree	16 (32.7)	26 (53.1)	3 (6.1)	3 (6.1)	1 (2.0)	
IT performance management						
Disagree	1 (16.7)	3 (50.0)	0 (0.0)	2 (33.3)	0 (0.0)	0.279
Neutral	0 (0.0)	5 (50.0)	2 (20.0)	3 (30.0)	0 (0.0)	
Agree	5 (11.4)	31 (70.5)	2 (4.5)	6 (13.6)	0 (0.0)	

As much as there are some relationships between IT governance elements and Criterion of performance contracting, the relationships are not statistically significant with all the

P values being greater than 0.05. We therefore say that performance does not solely rely on IT governance.

4.4.7 Relationship between IT governance elements and the functional category of the organization

We also did a Cross tabulation between IT governance elements and the functional category of the organization as shown in table 4.5 below. Chi square test was used to check if there is relationship between IT governance and functional category of the organization. The results showed that there is no significant relationship between IT governance that positively affect performance and the functional categories of the organizations as all P values are greater than 0.05. Thus, the functional category of the respondents does not determine whether they agree, neutral or disagree that the IT government elements positively affect the overall performance of Kenya's state corporations.



Table 4.5: Cross tabulation between IT governance elements and the functional category of the organization

Organization functional category	IT strategic alignment			P value
	Disagree	Neutral	Agree	
Service	3 (18.8)	0 (0.0)	13(81.3)	0.372
Commercial/Manufacturing	1(11.1)	2(22.2)	6(66.7)	
Financial	0 (0.0)	1 (33.3)	2(66.7)	
Public Universities	0 (0.0)	1(14.3)	6 (85.7)	
Regional Development Authorities	1(25.0)	0 (0.0)	3(75.0)	
Regulatory	1 (6.3)	0 (0.0)	15(93.8)	
Training and Research	0 (0.0)	1(20.0)	4(80.0)	
IT value delivery				0.434
Service	1 (6.3)	0 (0.0)	15 (93.8)	
Commercial/Manufacturing	0 (0.0)	0 (0.0)	9 (100)	
Financial	0 (0.0)	1 (33.3)	2 (66.7)	
Public Universities	0 (0.0)	1(14.3)	6 (85.7)	
Regional Development Authorities	0 (0.0)	1(25)	3 (75.0)	
Regulatory	1(6.3)	0 (0.0)	15 (93.8)	
Training and Research	0 (0.0)	1(20.0)	4 (80.0)	
It Risk management				0.435
Service	3 (18.8)	0 (0.0)	13(81.3)	
Commercial/Manufacturing	0 (0.0)	1 (11.1)	8 (88.9)	
Financial	0 (0.0)	0 (0.0)	3 (100)	
Public Universities	1 (14.3)	2 (28.6)	4 (57.1)	
Regional Development Authorities	0 (0.0)	1 (25.0)	3 (75.0)	
Regulatory	1 (6.3)	1(6.3)	14(87.5)	
Training and Research	0 (0.0)	0 (0.0)	5 (100)	
IT resource management				0.653
Service	2 (12.5)	0 (0.0)	14 (87.5)	
Commercial/Manufacturing	2 (22.2)	1 (11.1)	6 (66.7)	
Financial	0 (0.0)	1 (33.3)	2 (66.7)	
Public Universities	0 (0.0)	1 (14.3)	6 (85.7)	
Regional Development Authorities	0 (0.0)	1 (25.0)	3 (75.0)	
Regulatory	1 (6.3)	1 (6.3)	14 (87.5)	
Training and Research	0 (0.0)	1 (20.0)	4 (80.0)	
IT performance management				0.814
Service	2 (12.5)	2 (12.5)	12 (75)	
Commercial/Manufacturing	1 (11.1)	1 (11.1)	7 (77.8)	
Financial	0 (0.0)	1 (33.3)	2 (66.7)	
Public Universities	0 (0.0)	3 (42.9)	4 (57.1)	
Regional Development Authorities	0 (0.0)	1 (25.0)	3 (75.0)	
Regulatory	2 (12.5)	1 (6.3)	13 (81.3)	
Training and Research	1(20.0)	1(20.0)	3(60.0)	

To gauge appreciation and interest of the IT governance in the work place, participants were asked if they could pay for a course in IT governance. Majority said yes (90%). Only 3.3 % said no and 6.67% were not sure about it. The results are as shown in the figure 4.10 below.

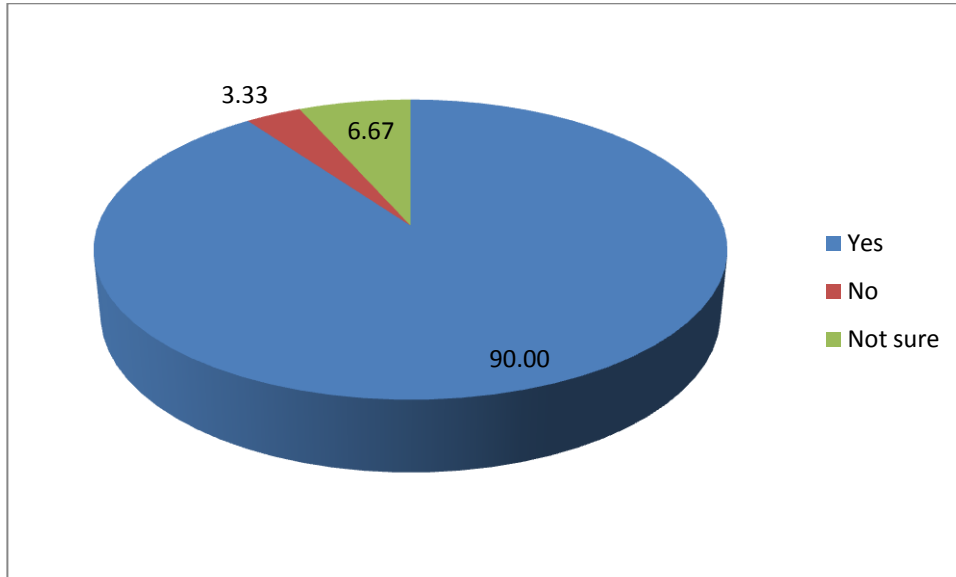


Figure 4.10: Option for paying an IT governance course

4.4.8 Proposals to realize IT benefits in state corporations

Participants were finally asked to give their comments on what they think should be done to realize the benefit of investing in IT in the Kenya's state corporations. Their responses were qualitative in nature but were grouped into the following broad categories to allow quantitative analysis:

- Aligning IT governance to the organizations' objectives (IT to be part of strategic plan)
- Allocation of enough resources in support of IT. This includes improving IT infrastructure, recruiting and retaining IT experts
- Managers must be equipped with IT knowledge
- IT results should be evaluated
- IT governance to be implement
- IT agenda to be incorporated in board meetings

- Training which includes extensive training of all IT and non IT users, encourage all staffs to embrace IT and sensitize the management and the board on the benefit of IT in an organization.

The results are as shown in the figure 4.11 below. Percentages were based on the number of respondent who gave their comments.

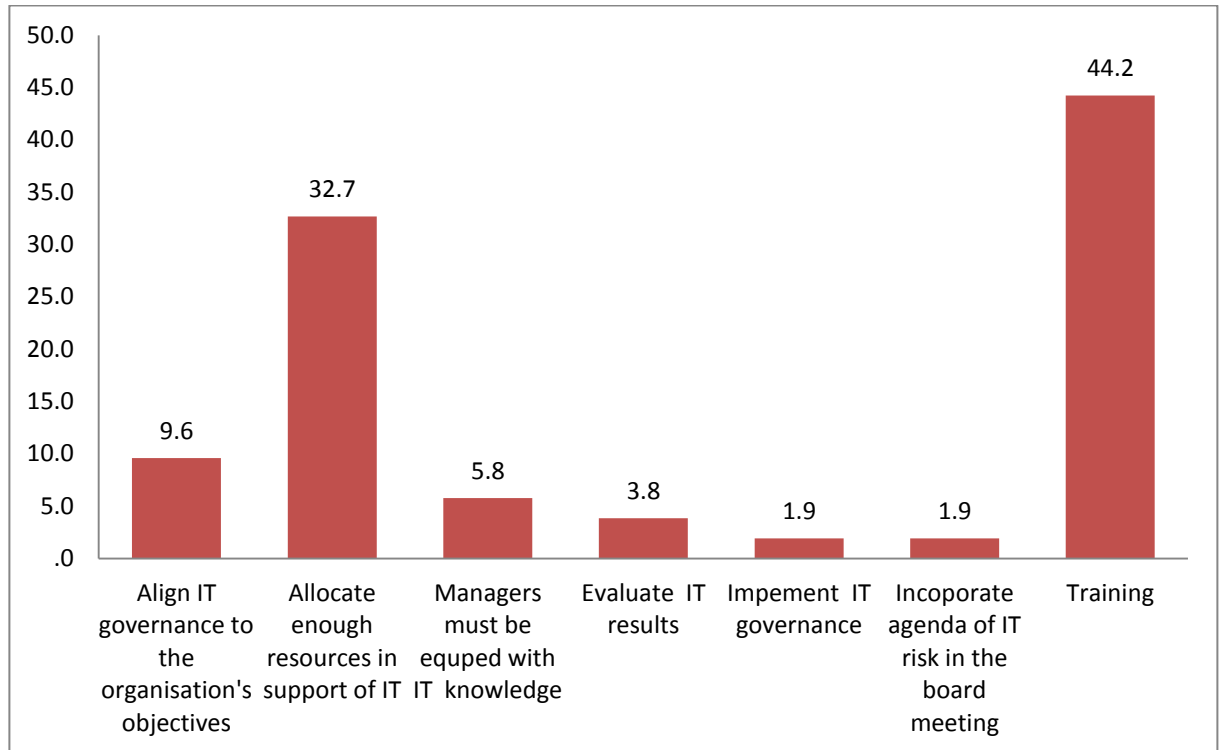


Figure 4.11: Respondent comments on realizing the benefits of investing in IT.

It can be seen from the figure above that training is the most important aspect as far as realization of the benefits of IT is concerned with 44.2 percent of the respondent mentioning it in their comments followed by allocation of enough resources to support IT (32.7 %). Other important suggestions were that IT governance should be aligned to the organizations objectives, all managers must be equipped with IT knowledge and IT results to be evaluated and implemented.

4.5 Discussions

This sub-section provides the researcher understanding of the analyzed data and how it relates to the research objectives and research questions as set out in chapter 1.

There was presence of IT department in the organization was ranked as the major element of the IT governance. Thus, we can say that there is fairly good provision of resources. There was a high score on alignment of IT objectives to strategic objective whereby 61.7% agreed that these two are aligned. However, IT risk management and IT performance management ranked low among the respondents. This shows that IT governance is not properly implemented as it lacks the key elements of risk management and performance measurement. In addition, the involvement of board of directors in matters IT also scored low. Lack of performance measurement is also evidence as majority of the respondents were either neutral or disagreed with the fact that board of directors receive independent assurance on the achievement of IT objectives and that the board receives IT performance reports.

Thus strategic alignment, value delivery and resource management are the most considered elements of IT governance whereas, performance measurement and risk management are less considered.

All the 5 critical success factors were relevant in Kenya's state corporations with respondents agreeing at a score of more than 70% that the CSF's have positive effect on performance of state corporations.

For the state corporations to achieve the benefits of implementing IT, majority of staffs believed that staff needs to be trained. Most of the respondents would pay for an IT governance course.

The highlighting of training as an important factor collaborates well in the research of Weill (2004), who concluded that Providing IT governance awareness and training for optimal use of IT is paramount and acts as a stepping stone to effective IT governance. (ITGI, 2003; Warland and Ridley, 2005; Tan et al., 2009). Moreover, Nkufa and Rusu (2010a) showed training to contribute to competencies and mindset changes to improve IT governance in an environment that portrays lower IT knowledge and culture. Thus they concluded that the provision of IT governance awareness and training for optimal use of IT will positively influence IT governance performance.

CHAPTER 5: SUMMARY CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study sought to establish the effect of IT governance in the performance of Kenya's state corporation. Since different Kenya's State Corporation can evaluate their performance based on different parameters depending on their functionality, this study adopted the agreed parameters negotiated by the state corporations during performance contracting. This was an important aspect of the study as the performance is measurable and to a larger extent uniform. The purpose of this chapter is to discuss and summarize the findings of the study and finally give conclusions and recommendations for improvement or practice. This will be done with justification from the data that was collected and analyzed.

5.2 Summary

As already indicated majority of respondents indicated there is IT governance in their organization. In addition, majority of the respondents believed that IT department has the right resources and IT is aligned to the strategic objectives of the organization. However, majority of the respondents were either neutral or disagree with the Board of Directors involvement in IT Governance. The presence of an IT department in 58 out of 60 respondents also shows that IT has been entrenched in the state corporations. The majority of respondents agreed that all the CSFs had a positive effect on the performance of State Corporations. However, when the same data was subjected to statistical analysis, it was evident that there is no significant statistical association between these factors and the performance as all the p values were above 0.05.

There is a need for state corporations to train staff on IT governance for the purpose of appreciation of the key CSFs affecting overall performance. This training should be more geared towards less considered elements of IT governance such as performance measurement and risk management.

There is also a great need to involve Board of Directors in matters IT. This helps them appreciate the benefits and the risks affiliated to IT investments. The involvement should be both on reporting lines and training. This will help them in performing the oversight role effectively.

5.3 Conclusion

Based on this study, we conclude that though IT governance has a positive effect on the performance of state corporations, there is no significant relationship which means that there are other factors which affect performance and not IT governance only. This does not matter even whether the organizations are grouped in their functional categories.

We also conclude that critical success factors of IT governance are not well entrenched in the state corporations. The factors which are considered are not done so in totality with key elements missing. IT risk management IT performance management are the least entrenched while strategic alignment, value delivery and resource management are fairly entrenched.

Although most of the state corporations have set up the IT departments/units, this should not be seen as the end of managing IT. There is a need for board and senior management commitment for a significant effect on IT governance.

Providing IT governance awareness and training and as well as providing enough resource allocations are the key component in ensuring optimal use of IT in the Kenya's state corporations.

5.4 Recommendations

This study recommends that both the board of directors and senior management should be involved in matters IT. IT Governance is actually a part of the overall Corporate Governance Strategy of an organization and thus it is critical for participation of the two groups. They should understand that having IT department is not enough but rather IT needs to be managed and governed systematically to make sure the desirable benefits are realized and the associated risks are mitigated. The study recommends that all the CSF's of the IT governance are properly implemented holistically.

The study also recommends that IT governance as one of the factors which affect performance should be evaluated separately in the annual performance rating of the state corporations. Thus will ensure that all the CSF's are considered when investing in IT projects and IT is used optimally.

5.5 Suggestions for further study

The findings provide a further research on IT Governance. Future researchers may be concerned on developing a framework for implementing IT governance in the state corporations.

Researchers may also be concerned with what effects the IT governance has on performance in the private sector. Private sector may be operating in a different regulatory framework than public sector and it will be interesting to find out if IT governance has any effect of their results.



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APPENDIX 1: QUESTIONNAIRE

