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Declaration

I, Andrew Sanangurayi, do hereby declare that this dissertation is the result of my own investigation and research, except to the extent indicated in the Acknowledgements, References and by comments included in the body of the report, and that it has not been submitted in part or in full for any other degree to any other university.

_________________________
Student Signature

Date____________________

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Supervisor’s Signature    Name

Date____________________
I would like to thank the Almighty for the strength, wisdom and resources put into this research. I also want to thank the following people who were vital for the completion of this research, namely:

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Survey participants, for investing their time, effort and resources in interviews and completion of questionnaires

My colleagues and classmates for the encouragement we shared throughout this journey

And last but not least, my wife Varaidzo and son Lovejoy for, supporting and believing in me and being the source of my encouragement all the way. Thank you for your patience and love.

Abstract
Information Technology has developed from just supporting business to being a business enabler. Technology has continuously transformed, bringing new opportunities and consequently fresh challenges such as increased expenditures and risks. For organizations to take advantage of the technologies and get maximum value from IT value there is need for business and IT alignment. Information Technology Governance is considered as the instrument through which businesses can exploit technology but still manage the challenges associated with the technology. Given Information Technology’s critical role in today’s businesses and its pervasiveness, attention must be afforded to the Information Technology Governance discipline.

The research evaluated the state of Information Technology Governance in twelve indigenous commercial banks of Zimbabwe. A total of 30 questionnaires consisting of 33 questions were completed and returned. A number of interviews were conducted to probe for further information. The study examined the IT governance practices that have been implemented, the effectiveness of the practices and the Information Technology Governance frameworks/standards that have been employed. A number of findings of the study revealed some shortcomings that are in the indigenous commercial banks of Zimbabwe’s Information Technology Governance implementations.
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List of acronyms or Abbreviations

ATMs  Automated Teller Machines
BSC  Balance Scorecard
CEO  Chief Executive Officer
CFO  Chief Financial Officer
CIO  Chief Information Officer
COBIT  Control Objectives for Information and Related Technology
CRM  Customer Relationship Management
CRO  Chief Risk Officer
ICT  Information Communication Technology
IDRBT  Institute for Development and Research in Banking Technology
IODSA  Institute of Directors of Southern Africa
IODZ  Institute of Directors of Zimbabwe
IRR  Internal Rate of Return
ISACA  Information Systems Audit and Control Association
ISO  International Organisation for Standardization
IT  Information Technology
ITG  Information Technology Governance
ITGI  Information Technology Governance Institute
ITIL  Information Technology Infrastructure Library
ITM  Information Technology Management
OECD  Organisation for Economic Cooperation and Development
NPV  Net Present Value
POS  Point of Sale
Pwc  PricewaterhouseCoopers
RBZ  Reserve Bank of Zimbabwe
ROI  Return on Investment
SMS  Short Message Service
SWOT  Strengths, Weaknesses, Opportunities, Threats
CHAPTER ONE

1.0 Introduction

1.1 Introduction to the Study

Today’s business is faced with an accelerating pace of change because of factors that include continuous innovation, rapidly changing technology, protection of information assets, cost reduction initiatives, risk mitigations, and improvement of governance compliance. These factors combined with the increased investments seen in Information Technology (IT) affect business processes significantly. Because of the increasing dependence of business processes on IT, IT capability can no longer be a gray area for the business. Then again, IT can no longer afford not to understand the business and its needs. The successes of the majority of businesses are dependent on how IT is effectively managed and controlled.

Key IT decisions have been always left to IT professionals because of the field’s technical nature and typically, IT has always taken the blame for poor decisions and systems that behave differently from users’ expectations. Information Technology Governance (ITG) comes in to help eliminate such challenges as it brings input from stakeholders together in decision-making. Properly implemented ITG creates a structure that makes it possible to manage IT, execute its operations and services proficiently, delivering business value. Effective ITG creates business benefits that include superior reputation, trust, and reduced costs. It is thus in the best interest of any organisation to have ITG in place and operational.

For banking institutions, corporate governance, which ITG is an integral part of, establishes the accountability framework. Today, every commercial bank branch is implementing some form of technology, such as automation, Internet and mobile banking. These new opportunities bring in new challenges and risks, which can be monitored and managed by a functional ITG framework, thus making ITG non-optional.
Given its criticality and relevance, the research seeks to analyze the degree of awareness, acceptance, and implementation of ITG in the indigenous commercial banks of Zimbabwe.

1.2 Background to the Study

Corporate governance has been overlooked, though, practiced for as long as corporate entities have been in existence with the expression ‘corporate governance’ not widely used until the 1980s (Tricker, 2000). Given developments, such as the Enron and WorldCom scandals, businesses can no longer afford to overlook but be conscious of the need for good corporate governance practices (Lee, Lee, & Jeong, 2008). These developments awakened companies to the need of distinguishing the responsibilities of shareholders and management as well as effectively monitor their operations. Recent years have seen corporate governance gaining importance with the development of various good corporate governance principles and codes from different countries. International organisations that include Organisation for Economic Cooperation and Development (OECD) have also taken concern and come up with good corporate governance principles that have collective interests at heart (Wilson, 2006). These efforts are responses to the increasing emergence of scams and fraudulent activities attributed to inadequate systems of regulations.

In the mid-1970s, United States was characterized by companies misrepresenting their financial conditions and widespread illicit payments, resulting in the Securities and Exchange Commission making corporate governance an official agenda item (Cheffins, 2012). In the United Kingdom, the sudden financial collapse of Coloroll and Polly Peck contributed to the rising lack of investor confidence and in turn prompted the creation of the Cadbury Committee in May 1991. The breakdown of the Bank of Credit and Commerce International and the Maxwell Group’s appropriation of £440m pension funds were uncovered before the committee’s work was complete thereby submitting it to immense pressure to deliver results quickly (“10 chapter1”, n.d.). The result was the Cadbury report, which put emphasis on financial reporting and auditing but also made
reference to broad corporate governance concepts that include honesty, integrity, and accountability (Information Technology Governance Institute [ITGI], 2003). The Cadbury report preceded works that include the 1995 Greenbury Report, the Combined Code of 1998, 2006, and 2008, and the UK Corporate Governance Code of 2010 (Mallin, 2011). In South Africa, it was the first King report of 1994 that established corporate governance (Naidoo, 2002), followed by major enhancements in the second King report of 2002. As a follow up to the 2008 Companies Act number 71 and global governance trends, the third King report was released in 2009 (Institute of Directors of Southern Africa [IODSA], 2009). One common element in the recent corporate governance principles is the emphasis on the triple bottom line concept, i.e. the valuation of environmental sustainability, social responsibility, and economic performance (Morden, 2007).

Before the 90s, Zimbabwean firms did not give corporate governance the deserved attention, and in the case of the banking sector, the Reserve Bank of Zimbabwe (RBZ) assumed minimal supervision of banks. In fact the Banking Act of 1965 that was in effect had no provision for commercial banks’ records to be inspected and deemed inspection a breach of customer confidentiality (Harvey, 1996). The financial sector was characterized by low and negative interest rates, less competition with bank viability, and profitability guaranteed hence the immateriality of corporate governance at the time (Tsumba, 2002). In 1991 financial sector reforms meant to institute positive interest rates, accredit new banks and increase competition and eliminate controls on bank lending were introduced (Harvey, 1996). As a result of the reforms, accurate, and reliable financial information became a prerequisite for accessing loans and that meant banks had to have appropriate systems for loan management and pay attention to corporate governance (Tsumba, 2002).

The RBZ took concrete measures complimented by the Institute of Directors of Zimbabwe (IODZ) in promoting the adoption of good governance principles mainly in the banking institutions. The commercial and merchant banks onsite examination introduced in 1996 coupled with the Banking Act of 2000 allowed the RBZ to access
banks’ records thereby improve bank supervision effectiveness (Tsumba, 2002). In a period of six months from the last quarter of 2003, a few banking institutions encountered severe challenges resulting in closure of a discount house by end of 2004, two liquidations, and 10 of them placed under curatorship (RBZ, 2006). Poor corporate governance, with cases of undue shareholder influences, improperly established boards, lack of board oversight and poor risk management practices were the sources of the problems. The need for shareholders and management’s separation of responsibilities, adequate board oversight, effective risk management systems and internal controls (RBZ, 2006) could not be over-emphasized.

Investigations also revealed that weak computer systems were another major cause of the challenges experienced in the banks (RBZ, 2006). Banking cannot be thought of independently from technology and that association brings with it challenges that include adherence to legal/regulatory requirements, threats leading to frauds/crimes, complexity of systems and effects of intentional/unintentional employee acts (Institute for Development and Research in Banking Technology [IDRBT], 2011). Some of these challenges came to reality in the Zimbabwean banks with some institutions intruding computer systems and manipulating the records to suit their personal selfish needs. In response to the IT concerns, RBZ required banking institutions to provide certification proving that their IT policies and procedures are in place, risks are managed, and the systems are secure (RBZ, 2006). The RBZ also issued guidelines to local banks for implementing thereby adhering to good practices, which include guideline 01-2004/BSD and 1-2006/BSD on corporate governance and risk management respectively. Recently, IoDZ came together with the Zimbabwe Leadership forum and the Standards Association of Zimbabwe (SAZ), and are developing a national corporate governance code for Zimbabwe so as to ensure perfect leadership in institutions (Sibanda, 2010). Simultaneously, the Ministry of Information Communication Technology has placed ITG as one of its key result area in its strategic plan of 2010-2014. Perhaps the three can work together and come up with one ITG document for the nation.
Effective fulfillment of corporate governance obligations, including accurate and reliable triple bottom line reporting requires careful governance of aspects that include IT (IODSA, 2009). Technically, informal ITG has been there for decades as decisions have been made, priorities established, and money used on computer technology. The 2002 Sarbanes-Oxley Act (SOX) raised awareness to top management on the business’s dependence on IT and the preceding need for ITG prioritization (Fletcher, 2006). That need for formal ITG was realized as IT became critical to the success/failure of businesses (Tam, 2011). Due to the pervasiveness of Information Systems in business processes, ITG has progressively become a fundamental element of corporate governance (Bhattacharjiya & Chang, 2007). The King Committee noted the pervasive nature of IT and addressed ITG in the third King Report of 2009. On the other hand, reputable organisations, such as the Information Systems Audit and Control Association (ISACA) and ITGI have formulated ITG frameworks to effectively control IT and its related risks.

Generally, bank activities from account opening, account maintenance, participation in money markets, and regulatory reporting, among others, have become heavily reliant on IT systems. In fact because of globalization, competition, and compliance matters, the use of IT systems has become mandatory (Sinha, 2012). Through the use of technology, banks have extended their sizes, products, and services, outdone limitations associated with geographical spread and voluminous transactions to meet new and changing customer needs. Reaching out to customers via new channels, such as the Internet and mobile banking requires that banks put in place appropriate organisational structures to ensure their security and that of customer data (IDRBT, 2011). These developments make the IT certifications required of banks thenby the RBZ inadequate. Overlooking ITG has the potential to influence the safety and soundness of the banking system and thus the need for ITG cannot be overemphasized.

1.2.1 Zimbabwe Banking Sector
Recent years have seen the Zimbabwe economy experiencing hyperinflation and economic collapse. The period 2004–2008 was a nightmare for the banking sector; characterized by bank closures, cash shortages, and withdrawal limits leading to daily persistent queues at most banking institutions. Consequently, confidence in the banking sector was lost. By the end of 2008, inflation had reached unprecedented levels and the Zimbabwean dollar had ceased to perform any monetary functions effectively. Some relief and stabilization was brought by the abandonment of the currency. Since then the Zimbabwean economy has been on a recovery path characterized by low inflation, economic stability, and unfortunately persistent liquidity challenges, among other. Despite the developments, public confidence in the Zimbabwean banking system remains largely low.

The Zimbabwean financial sector consists of the RBZ, a savings bank, commercial and merchant banks, discount houses, building societies, and insurance companies. Commercial banks contribute the most to economic activity. Some banks are struggling, engulfed with high credit risks and deteriorated asset quality despite managing to meet the required minimum capital requirements. As of 31 March 2012, the Zimbabwean banking sector was made up of 26 banks composed of a savings bank, 17 commercial banks, four merchant banks, and four building societies as in Table 1.1.
The list of operational banks has decreased after Royal, Interfin, and Genesis banks ceased to operate. Royal Bank’s deteriorating financial condition saw it failing to raise the required minimum capital within the stipulated timeframes and its board subsequently surrendered the institution’s banking license. RBZ placed Interfin Bank on curatorship after noting its unsafe and unsound condition, attributable to factors including poor corporate governance practices, inadequate capitalization, and poor management. Genesis surrendered its license to the central bank.

Customer confidence, especially in the smaller banks has been eroded because of the current banking sector vulnerabilities resulting in deposits flowing to the perceived stable and bigger banks. In fact deposits are unequally distributed and skewed, with only four banks holding above 60% of the total deposits. Despite the improvement of

![Table1.1: Banks and their capital positions as at 31 March 2012](image)

<table>
<thead>
<tr>
<th>COMMERCIAL BANKS</th>
<th>Core Capital (US$ mil)</th>
<th>Net Capital Base (US$ mil)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBZ Bank</td>
<td>66.83</td>
<td>91.15</td>
</tr>
<tr>
<td>Stanbic Bank</td>
<td>57.89</td>
<td>62.33</td>
</tr>
<tr>
<td>Barclays Bank</td>
<td>34.26</td>
<td>32.16</td>
</tr>
<tr>
<td>Stanbic Bank</td>
<td>31.34</td>
<td>34.77</td>
</tr>
<tr>
<td>BancABC</td>
<td>33.72</td>
<td>36.76</td>
</tr>
<tr>
<td>ZB Bank</td>
<td>22.29</td>
<td>31.49</td>
</tr>
<tr>
<td>FBC Bank</td>
<td>15.05</td>
<td>19.49</td>
</tr>
<tr>
<td>NMB Bank</td>
<td>18.91</td>
<td>20.38</td>
</tr>
<tr>
<td>Interfin Bank</td>
<td>-47.75</td>
<td>-25.2</td>
</tr>
<tr>
<td>Metropolitan Bank</td>
<td>18.7</td>
<td>22.87</td>
</tr>
<tr>
<td>MCB Bank</td>
<td>20.7</td>
<td>24.7</td>
</tr>
<tr>
<td>TN Bank</td>
<td>13.28</td>
<td>13.43</td>
</tr>
<tr>
<td>AgriBank</td>
<td>14.79</td>
<td>21.68</td>
</tr>
<tr>
<td>Trust Bank</td>
<td>23</td>
<td>24.06</td>
</tr>
<tr>
<td>Kingdom Bank</td>
<td>10.98</td>
<td>18.33</td>
</tr>
<tr>
<td>Royal Bank</td>
<td>4.34</td>
<td>4.25</td>
</tr>
<tr>
<td>ZABG Bank</td>
<td>12.16</td>
<td>13.16</td>
</tr>
<tr>
<td>MERCHANT BANKS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tetrad Investment</td>
<td>12.82</td>
<td>13.41</td>
</tr>
<tr>
<td>Eco Bank</td>
<td>12.37</td>
<td>13.48</td>
</tr>
<tr>
<td>Genesis Investment</td>
<td>-3.2</td>
<td>-2.14</td>
</tr>
<tr>
<td>Renaissance</td>
<td>15.45</td>
<td>15.87</td>
</tr>
<tr>
<td>BUILDING SOCIETIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBZ Building Society</td>
<td>25.11</td>
<td>26.49</td>
</tr>
<tr>
<td>CABS</td>
<td>17.38</td>
<td>22.39</td>
</tr>
<tr>
<td>FBC Building Society</td>
<td>14.03</td>
<td>15.23</td>
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<tr>
<td>ZB Building Society</td>
<td>14.01</td>
<td>14.82</td>
</tr>
<tr>
<td>SAVINGS BANK</td>
<td></td>
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<tr>
<td>POSB</td>
<td>11.15</td>
<td>11.87</td>
</tr>
</tbody>
</table>

nominal bank deposits, their growth rate has softened and become short-term of usually below 30 days. The sector is also characterized by an increase in non-performing loans, from 5.9% to 9.9% in December 2011 and June 2012 respectively, beyond the worldwide established Basel II threshold of 5%. This is one sign that there are poor corporate governance practices in the financial sector. The government is amending the Banking Act in a bid to improve the RBZ’s surveillance over the sector, with RBZ also advocating for Basel II framework implementation in banking institutions.

1.2.2 Financial Services Business Models

1.2.2.1 General Models

Ayadi, Arbak, and De Groen explain three major alternative types of banking models identifiable from the banking services. The first category, retail banks follow the original traditional banking model, where the primary sources of funding are customer deposits. This model is limited concerning investment exposures. Retail banking provides a variety of services to consumers, which include checking and savings accounts, safe deposit boxes, mortgages, and credit cards. Investments banks, the other category are more focused on trading activities, mainly transactions involving derivatives. Investment banks do not take customer deposits. The other category is composed of what can be termed wholesale banks, which are more active in interbank markets and prefer to operate in the domestically mainly (Ayadi, Arbak, & De Groen, 2011).

The high growth rate of technologies has forced organisations to transform from the traditional business models and exploit opportunities presented by these technologies resulting in improved models. A business model describes the value offered to customers by a firm, its architecture, and its partners’ network for generating, promoting, and delivering this value to produce viable and profitable revenues streams (Osterwalder&Pigneur, 2002). A generic business model according to Pateli, consists of two key frames, the horizontal and vertical frames as shown in Figure 1.1 below. The horizontal frame is made up of the business model’s primary components namely;
mission, resources, target market, value proposition, key activities, cost and revenue model, and value chain with the vertical frame making up the business model’s underlying components namely; market trends, regulation, and technology (Pateli, 2003).

Below is a brief description of each component according to Pateli:

i. **Mission**: The strategic objectives, an organisation must achieve.

ii. **Target market**: Denotes the scope and market segment, i.e., the customers likely to consume the products/services.

iii. **Value proposition**: Describes the value to be provided by the firm to its customers, e.g., reduced price.

iv. **Resources**: Include humane.g., skills and knowledge; tangible e.g., financial, tools, facilities, and intangible e.g., intellectual property, business processes.

v. **Key activities**: Refers to the organisation’s internal and external processes.

vi. **Cost and revenue model**: Prices must provide real value to the customers, with a market research and financial analysis done before any changes. Sources of revenue must be available, e.g., sales profits, advertising.

vii. **Value chain**: Concerned with partnerships and alliances that the firm may establish to improve business processes’ efficiency.
viii. Market trends: The firm must be adaptive to market trends.

ix. Regulation: They may have unexpected effects on businesses and must therefore be understood.

x. Technology: Plays an important role in business and must be tracked closely. Technology can shift very quickly causing huge disruption to an unprepared organisation.

Summarised, a business model describes how a firm functions, provides product/service, generates revenue, adapts to new technologies, associated regulation, and its markets, enabling management to have a complete business view.

1.2.2.2 Indigenous Banks Business Models

The indigenous commercial banks in Zimbabwe generally incorporate the three models, retail, investment, and wholesale. In response to the demographic structure changes of the client bases, banks are forced to alter their business profiles thereby fusing all the models in the process. The following explains the business framework components as applicable in the institutions.

1.2.2.2.1 Mission

The banks’ strategic objectives generally focus on offering the best services to all potential customers through provision of a diversified range of products and services to match all needs. The banks seek to develop a customer-oriented culture, which offer continuous, excellent, and timeously support services. Through expanding branch networks and innovative products, the institutions seek to offer the convenience of transacting from anywhere and anytime. Through the use of technology, the banks seek to leverage their systems and achieve cost-effective operations and improve service delivery. In conformance to the triple bottom line concept, banks are increasingly seeking to embrace corporate social responsibility. One other strategic objective is to increase market share through exploring new avenues for growth and profitability.
1.2.2.2.2 Value Proposition

Most banks are proposing access to a number of products and services as observed in their one stop shop drive. The banks have diversified progressively into more lines of business activity and expanding their markets. The lines of business include stockbroking, mortgages, insurances and non-financial services comprising managing stocks portfolios, retirement planning, and education funding. With the wide branch networks, innovative Internet-based products, banks are offering customers improved services delivery, convenience, and accessibility.

1.2.2.2.3 Target Market

Banks are targeting individuals, institutions, and corporates for a clientele base. For formal employees, most banks target those meeting certain criteria as seen in new accounts openings, requiring items like pay-slips and a specified minimum income. This extends to some products like loans, where formal employees get preferential treatment as they have guarantors in their employers. Some banks also have products specifically targeted at Zimbabweans in the diaspora allowing them access to financial instruments and other investments in Zimbabwe. Some of the products available are flexible also targeting non-customers of the banking institutions.

1.2.2.2.4 Resources

Zimbabwean indigenous banks are generally facing challenges of human skills and funding. Many skilled employees have migrated to other countries, seeking greener pastures. Consequently, banks have been forced to spend huge amounts of money on staff trainings to ensure they possess the adequate skills. Several banks have had to improve their infrastructure, upgrading core banking systems, which had been long overdue as a result of financial constraints. The connectivity links being laid down by service providers such as Powertel, Liquid Telecom, and Africom have created opportunities for the banking sector to expand on their branch networks and services.
offerings. Banks need adequate finances to meet the direct and indirect costs associated with maintaining their infrastructure, services, and ever moving global advances in the banking industry.

1.2.2.2.5 Key Activities

The Zimbabwean banking sector is characterized by intense competition with more customer-centric brands increasingly hitting the market. Any bank that seeks to survive and succeed in this environment has to attract new customers and retain existing customers. Initiatives for achieving this include offering diversified but relevant and competitively priced products and offering superior customer service. Superior customer service requires customer engagement, one key activity that seems to be lacking in the banking institutions. Customer engagement extends to processes that involve customers, e.g., customers do not have to walk into the physical banks to open accounts or apply for loans. Another key activity in the banking institutions is risk management; a process that looks at regulatory expectations, industry changes, growth, audit issues, and products offered, among other. Developments in the banking sector seem to give an impression that this is being inadequately addressed.

1.2.2.2.6 Cost and Revenue Model

Indigenous commercial banks in Zimbabwe are making their revenue partly from interests from lending and non-funded incomes that include transaction fees, account service charges and Automated Teller Machines (ATM) charges. In general, the banks have abandoned paying interests on savings and instead lend the savings at higher interest rates. The revenue model seems to discourage savings through the high bank charges leading to many people preferring to keep their monies out of the formal financial system. Most salary earners seem to make one monthly withdrawal and keep their cash at home. Banks are also diversifying into other sectors of the economy, such as mining and agriculture so as to capture liquidity at source. Others have streamlined
their operations through disposal of non-core assets in a bid to raise cash. As cost cutting measures, most banks have embarked on retrenchment exercises.

1.2.2.2.7 Value Chain

There is an increase in strategic alliances involving the indigenous commercial banks of Zimbabwe. One typical example is the banc assurance, whereby the banks are partnering with insurance firms to distribute insurance products through the banks’ networks. Other strategic alliances are with international transacting service partners such as MasterCard, Visa, and American express. Banks have established partnerships with their suppliers, who include vendors of their core banking systems. Because the systems are at the heart of their operations, banks cannot afford to do without such relationships.

![Value Chain in Banks](image)

**Figure 1.2 Value Chain in Banks**

1.2.2.8 Market Trends

One notable general trend in the dollarization era in the Zimbabwean banking sector is the failure to declare dividends by most banks boards in a bid to preserve capital. Also noted in the 2012 mid-term fiscal policy review is that asset qualities in the banking sector have deteriorated, a development attributed to unsound lending practices and poor risk management systems. In response to this, a slowdown in lending is being
experienced. Also noted are the staff retrenchments or rationalization in the banking institutions as banks attempt to strike an optimal balance between cost and revenue. The Zimbabwean banking market has also experienced a surge in electronic transaction processes and according to RBZ Governor, Dr. Gono, the financial sector recorded $21 billion worth of electronic transactions from January 2011 to August 2011 (“Zim mobile banking rises”, 2011). The majority of banks have launched a wide array of electronic-based transactions’ initiatives in a bid to improve customer experiences.

1.2.2.9 Regulation

The minimum capital requirements of $12.5m for banking institutions saw weaker banks struggling to raise the amount. The bigger banks met the requirements largely from the retained profits whereas others had to look in the markets to raise the capital. The proposal to raise the capital requirements to $100m will most likely result in other banking institutions being taken over or merging with others. In their annual reports for 2011 some banks have reported that policy inconsistencies and uncertainties surrounding the indigenization and empowerment bill have an impact on their funding as investors and depositors are skeptical to commit their funds.

1.2.2.10 Technology

The indigenous banks in Zimbabwe are embracing technology as seen by the wide range of technologically based services. Most banks have installed ATMs, setup websites with information for use by clients, implemented Short Message Service (SMS) banking and of late mobile and Internet banking. The launch of broadband Internet by players like Africom, Econet, and Powertel has expanded Internet availability in Zimbabwe and thereby presenting opportunities for growth in these technology-based banking services. This has forced banks to change the way of doing business and some have already started implementing e-commerce products and services. Those that choose to do the business the traditional way will most likely not survive.
1.2.2 Zimbabwe Banking Sector Industry Analysis

To help carry out an assessment of the Zimbabwean banking industry, some elements from the following tools will be adopted: Porter’s five forces model, PESTLE and Strengths, Weaknesses, Opportunities, Threat (SWOT) analysis.

1.2.3.1 Porter’s Five Forces Model

In the Porter’s classic model of competition, a firm must develop and implement strategies to counter the five competitive forces for survival and success shown in Figure 1.3.

![Porter's Five Forces Model](image)

**Figure 1.3 Porter’s five competitive forces (Obrien, 2003).**

1.2.3.1.1 Threats of New Entrants

In any industry, new entrants come with the desire to capture market share usually bringing new capacity and substantial resources against six major barriers namely; economies of scale, capital requirements, product differentiation, cost disadvantages independent of size, access to distribution channels, and government policy (Porter,
1979). The minimum capital requirement for the Zimbabwean banking sector of $12.5m is high and serves as a barrier to entry, especially for local firms. Besides other investments, the banking sector requires huge spending on IT infrastructure. New entrants, especially foreign investors are skeptical to invest in Zimbabwe, banking sector included because of the enacted indigenization and empowerment bill.

1.2.3.1.2 Rivalry of Competitors

The Zimbabwean banking sector has many players offering many similar products and services. Rivalry intensifies among existing firms as competitors increase and also as the competitors become similar in size and capability. Zimbabwean banks are offering salary-based loans with slightly different interest rates and payback periods as differentiators in a bid to lure people to open accounts. The rivalry of competition among banks is high.

1.2.3.1.3 Bargaining Power of Customers

When customers have bargaining power, they can reduce industry profits by forcing prices to drop, demanding superior or increased services, and setting competitors against each other (Porter, 1979). With the advances in technology, customers demand quality and more services and thus have high bargaining power. Banking institutions are forced to adopt e-commerce strategies, invest in products, and services, such as mobile banking in a bid to improve customer services. A customer can easily switch to another bank if he/she is unhappy with the service obtained from a particular bank.

1.2.3.1.4 Threats of Substitute Products

The existence of readily available substitutes priced competitively places a top limit on the prices an industry can charge for its product without giving its customers a reason to shift to substitutes, risking sales erosion and reduced profitability. For the banking sector, services such as money transfers can be done through substitute products.
like Econet’s EcoCash, Western Union, Telegraphic Transfer, and registered mail. The threat of substitute products can be ranked as medium because most companies transfer their employees’ salaries into bank accounts rather than giving cash forcing them to use banks.

1.2.3.1.5 Bargaining Power of Suppliers

The banking industry makes use of many suppliers, e.g. computer equipment and credit card suppliers. The number of computer equipment suppliers is high making their bargaining power low. Highly branded credit card suppliers, VISA and Master Card with high bargaining power from probably high switching costs are commonly used in Zimbabwe. Banks rely on Internet Service Providers (ISP) to connect remote branches. In areas where the ISPs are limited, those with presence have high bargaining power.

1.2.4.2 PESTEL Analysis

This analyzes the political, economic, social, technological, environmental, and legal factors found in the environment an industry operates in.

1.2.4.2.1 Economic Issues

The Zimbabwean economy has noted some progress toward stability after years of economic and social destruction. Despite the progress, the economy is still characterized by policy unpredictability and instability, low business, and investor confidence, slow pace of economic reforms and little growth in employment. Access to funding is limited, partly due to low investor confidence, the volatility and fragility of the global financial environment, and lack of alternate financing sources. A slowdown in GDP growth attributable to underperformance by some chief sectors, which include agriculture and tourism, is expected. Low interest rates on deposits have been experienced, with savings rates ranging from 0%-5% thereby undermining the efforts of mobilizing domestic savings. Bank deposits of short-term nature constitute the majority
of the total deposits, these coming from salary payments rather than planned savings. Unemployment is high, with the majority of the employed earning less to afford savings.

1.2.4.2.2 Technological Factors

Technology plays a key role in the bank’s internal controls and services they offer. It has brought radical changes in their operations, providing better customer service, improved quality and speed of services, and reduction in transaction costs for customers and banks through the use of the following:

- **ATMs**: Their entry has changed the profile of the bank branches’ front offices. Customers can make some transactions, including cash withdrawals, balance enquiries, and bank statements without visiting their branches, bringing the anytime service provision convenience.

- **Internet banking**: An account holder carries out financial transactions via the Internet from anywhere and anytime. Additional benefits include prompt service, viewing/downloading of bank statements, funds transfers between accounts, and payment of bills.

- **Mobile banking**: Also known as m-banking; it supports transactions including balance inquiries, account transactions, payments, alerts on withdrawals/deposits, and credit applications through a mobile device such as a mobile phone. It notifies through Short Message Service (SMS).

- **Point of Sale (POS)**: Debit/credit cards issued by the banking institutions allow financial transactions to be done in exchange for goods/services. People can do away with risks associated with carrying large sums of money for purchases.

- **Call Centre**: Another channel that has captured banks and customers’ imaginations. Customer’s service representatives at these sites have vast amount of information at their fingertips and consequently, cut down costs and improve customer satisfaction. The 24/7 working adds the ‘human touch’ sought by customers.
Customer Relationship Management (CRM): Technology is not only concerned with delivering robust and reliable services to customers at lower costs but also generating and effectively managing information (IDRBT, 2010). Most banks store voluminous data on customers and transactions without meaningful using it. Technology, through adoption of CRM systems offers an opportunity to analyze the data and make good use of it to increase profitable business. In this environment of intense competition, customer retention is critical.

1.2.4.2.3 Political-legal Factors

The RBZ is empowered by Chapter 22:15 of the RBZ Act to supervise banking institutions and foster stability and proper running of the financial system. Anyone conducting banking business in Zimbabwe is registered, regulated, monitored, and supervised by Chapter 24:20 of the Banking Act and Statutory Instrument 205 of 2000 of the Banking Regulations. The RBZ supports the government’s indigenization and empowerment bill, which calls for 51% local ownership in economic sectors, the financial services included. The continued political uncertainty around the roadmap to elections has negative impact toward the sustainable economic growth.

1.2.4.2.4 Socio-Cultural Factors

Socio-culture issues have an impact on business as they influence how people behave, including their consumption patterns and lifestyles. These create either opportunities/threats for any industry, the banking sector included.

- **Literacy levels**: The Zimbabwean education system is among the best in Africa, with a number of learning institutions promoting quality education. Since 2009, the literacy level has increased to 92% after challenges experienced in the last decade. This provides opportunities for the banking sector as more people can use banking services.
- *Change in lifestyle*: People have become advanced and require products of high class. Their needs are ever changing and increasing, thus opening opportunities for banks to tap in.

1.2.5.3 Indigenous Banks SWOT Framework

SWOT creates an overview of a company's strategic situation. Because this research focuses on more than one Zimbabwean indigenous commercial bank, the SWOT analysis looks at the common elements in the banks.

**Strengths**
- Provision of technology-based products such as Internet banking, ATMs.
- Offers product line diversification.

**Weaknesses**
- Liquidity risk due to limited access to funding
- High overheads costs e.g. wages
- Skilled labour shortages from migrations
- Poor risk management and internal control systems
- High loan rates
- Low staff morale
- Deteriorating asset quality
- Weak corporate governance

**Opportunities**
- New branches in remote areas from improved connectivity presence
- Under-banked population
- Less competition from foreigners
- New technology-driven products and services

**Threats**
- Inadequate monitoring and supervision of banks
- Government policies, e.g., the indigenisation bill scares foreign investors
- Non-performing loan ratios
- High unemployment

1.3 Problem Statement

IT has become an integral part of the business, essential for its support, sustainability, growth, and that makes ITG a corporate imperative (IODSA, 2009). If successfully leveraged, IT has the power to transform the business producing value-added products and services and effectively manage enterprise resources and risks (ITGI, 2003). In general, Zimbabwean banks have adopted some of the King Committee and RBZ guidelines on corporate governance. However, typical recent developments at Interfin Banking Corporation and Renaissance Bank revealed that generally, poor corporate governance is still prevailing in the banking industry. From the guidelines adopted in the banking institutions, it appears ITG has not been afforded the deserved attention given that information systems are at the heart of modern banking. It seems the ITG framework structures are inadequate with some of the stakeholders meant to be at the forefront of ITG implementations possessing misconceptions about the discipline. Some appear to confuse Information Technology Management (ITM) and ITG, perceiving them as similar. The Chief Information Officer (CIO) must be business-oriented and provide a link between IT and the business (IODSA, 2009) yet some banks do not have this position. The consequences of ineffective ITG can be devastating, causing business losses and disruptions, damaged reputations, failure to demonstrate value from IT investments, higher costs, and unsatisfied customers among other.

1.4 Research Objectives

These are:

i. To establish the awareness of ITG in Zimbabwean indigenous commercial banks from 2007 to 2013.

ii. To evaluate ITG as practiced in Zimbabwean indigenous commercial banks.
iii. To establish the effectiveness of the current ITG implementations in Zimbabwean indigenous commercial banks.
iv. To recommend ITG frameworks for use by Zimbabwean indigenous commercial banks.

1.5 Research Questions

i. Are the stakeholders in Zimbabwean indigenous commercial banks aware of and understand ITG?
ii. What ITG practices and frameworks have been adopted and implemented in the Zimbabwean indigenous commercial banks?
iii. How effective has been the ITG implementations done in Zimbabwean indigenous commercial banks?
iv. To recommend IT governance frameworks for use by Zimbabwean indigenous commercial banks.

1.6 Rationale of Study

The increased use of IT systems increases risks with security being one major one in the banking industry. Debacles demonstrating weak corporate governance structures have occurred and leaving questions on the employed governance models in organisations. The prevailing economic hardships have translated to budget cuts within organisations, banks included. As IT budgets are getting extremely tighter in most organisations, the challenge is to invest in IT systems that align with business strategy, adds value, and reduce the cost of operations. Given these developments, it is critical to review the state of ITG in a bid to identify the positives and negatives that exist. This will help the banks to reflect on their conduct; get to appreciate the discipline and the benefits of an operational ITG and the effects of not having it. The benefits include alignment of IT with business, aid in compliance, reducing IT risk, improving quality of IT services, and help managing resources.
Not only will this study offer valuable insights into how indigenous Zimbabwean commercial banks deal with technology matters, in the context of policies and procedures relating to ITG, it will divulge information on organisation practices that oversees and leverages IT assets. Although banks are unique, there still is a major overlap and commonality in governance issues. Thus the study will be significant to players in the financial and other sectors. The study will also benefit the researcher as well as other corporates, academics, and researchers as it will contribute to literature on the ITG discipline.

1.7 Scope of Research

To address the research objectives, the researcher will cover the domains of ITG according to ITGI and common ITG frameworks. The study is targeted at the indigenous commercial banks in Zimbabwe with head offices operating from Harare, the total being 12. The unit of analysis is senior executive, CIO, head of IT, and IT manager in the indigenous commercial banks operating in Zimbabwe. The research will take six months to complete from August 2012 to February 2013.

1.8 Ethical Issues

The purpose of the ethical considerations is to ensure that none suffers harm, physical/psychological, or adverse consequences as a result of research undertakings. One ethical issue to be considered for this research is voluntary participation, i.e., respondents will not be pressured into participating. Informed consent will be ensured by clearly explaining the research details including objectives, rationale, and the procedures to the respondents. Confidentiality is another ethical issue considered, i.e. the respondents'identity information will not be revealed to anyone thereby enabling them to freely share their responses. The researcher will demonstrate honesty and objectivity in carrying out the research, results presentation and interpretations as well as conclusions drawn.
1.9 Limitations to the Study

i. Respondents may not disclose sensitive/controversial but relevant information due to fears of harm. To reduce non-disclosure, it will be explained and emphasized to respondents that the information provided will be used strictly for this research with personal information kept confidential.

ii. Respondents may give biased responses to paint a picture of compliance to ITG practices. The researcher will explain that the research is not for exposing anyone but rather have an overview on ITG in Zimbabwean indigenous commercial banks. The importance of honest responses will be emphasized.

iii. It may be hard to get responses from some sample elements like the senior executives. In such cases, possible replacements with the sought-after information will be approached.

1.10 Dissertation Structure

The dissertation is made up of five chapters:

**Chapter One:** Introduction, presents the research and clearly articulates the research problem, objectives, and significance.

**Chapter Two:** Literature Review, details the critical analysis and evaluation of the existing body of literature on ITG.

**Chapter Three:** Research Methodology, explains and justifies the chosen research methodology.

**Chapter Four:** Results and Discussion, presents, analyze data, and then discuss the results and interpretation of the findings.

**Chapter Five:** Conclusion and Recommendations, commends further studies for the future.
1.11 Chapter Summary

The chapter conveyed the general outline of the research, discussing the research problem statement, background, objectives, questions, and scope in a bid to understand the rationale behind it. Research ethical considerations are also discussed. The next chapter of the study focus on literature review providing a theoretical foundation of the study.
CHAPTER TWO

2.1 Introduction

The chapter examines the present works relating to the ITG discipline as recommended/practised in other organisations. The reviewed literature identifies a basis for the researcher to work from, offers a good framework to continue from and provides a degree of competence on the research area (Williams, 1998). It touches corporate governance, the parent to ITG, and discusses ITG, dwelling much on key areas of the subject and frameworks that exist for adoption by organisations.

2.2 Corporate Governance

Corporate governance is defined as the system by which the directing and controlling of companies is executed (Cadbury Committee, 1992). The board and executive management's set of duties and practices seeking to give the enterprise a strategic direction, achieve objectives, provide adequate risk management and guarantee responsible resources usage make up corporate governance (ITGI, 2003). The King Committee concludes that ethics constitute the corporate governance foundation and hypothetically, corporate governance is their practical expression (IODSA, 2009). The researcher concludes that corporate governance is concerned with proficient running of the business through stakeholder relationships, organisational structures, policies, and culture that promote commitment to equality and accountability to every stakeholder.

The corporate governance discipline is a broad subject consisting of other forms of sub-governances, such as Human Resource Governance, ITG, and Financial Governance (Von Solms, 2009). The research however focuses on ITG. Because of technology’s criticality to today’s businesses, failure to address ITG certainly makes corporate governance incomplete. Globally the pace of change is accelerating with business and IT executives facing pressures to reduce costs, be innovative, and demonstrate accountability (Selig, 2008).
IT in today’s business has been burdened to match with developments from events such as fast developing knowledge economy, rising stiff competition in the global economy, value maximization pressures and stakeholder expectations (Gomes, 2007). The conflicting developments noted by Selig and Gomes needs to be tackled and ITG has emerged as the source of solutions. Sharma asserts and highlights that ITG practices are being employed to balance these competing interests, i.e., the internally focused cost and control objectives and the externally focused business and customer needs (Sharma, n.d.).

2.3 ITG

2.3.1 ITG Definition

ITG, which is the obligation of the board and executives, is made up of the headship of IT, organisational structures, and processes liable for sustaining and extending of the organisation’s strategy and goals (ITGI, 2007). ITG is the strategic alignment between IT and business, formulation, and supporting of effective IT controls and accountability, performance, and risk management, so as to realize maximum business value (Webb, Pollard, & Ridley, 2006). From Drogou’s viewpoint, ITG, a subcategory discipline of
corporate governance, deals with performance of IT systems and management of related risks (Drogou, 2007). The definitions highlight IT and business alignment and the responsibilities, which include managing IT risk to meet organisational objectives and achieve business value. ITG recognises IT resources as part of corporate structures just as financial resources, instead of separate and independent assets (Lee, Lee, & Jeong, 2008). Nevertheless, ITG will naturally inherit some of the corporate governance general features, being a sub-component of it.

2.3.2 ITG vs. ITM

Some mistake ITG and ITM to mean the same and to them, if IT systems are managed, they are governed (Lin, Arshad, Mohamed, & Wah, 2009). It was noted that governance and management are synonymous to many people though they are not (Meuller, Magee, Marounek, & Phillipson, 2008). ITM emphasises on the well-organized daily provision of IT services and operations whereas ITG is broader and focuses on execution and transformation of IT to cater for the present and future business and customers’ needs (Spremic, 2012). According to Peterson, ITM focuses on internal IT services provision and can be delegated to external providers whereas ITG has both internal and external focus and cannot be delegated to external providers (Peterson, 2003). ITG and ITM also differ in timeframes, Figure 2.2.

![Figure 2.2 ITG and ITM (Peterson, 2003).](image-url)
ITG is about decision-making while ITM is concerned with executing governance processes, with the management process being an output from the governance process (Meuller, Magee, Marounek, & Phillipson, 2008). Thus ITG is much more than ITM (Lin, Arshad, Mohamed, & Wah, 2009). The difference between the two is best summed up by Salle as in Figure 2.3.

![Figure 2.3 ITG and ITM roles (Salle, 2004).](image)

Another notable difference between the two is that ITG relates to boards and executive management’s IT practices whereas ITM relates mainly to the IT function (Spremic, 2012), Figure 2.3.

![Figure 2.4 ITG and ITG responsibilities](image)
2.3.3 ITG Responsibility

Given the IT pervasiveness nature, whose responsibility precisely is ITG? ITG is the obligation of the board and executives (ITGI, 2007) and many researchers, including Spremic, agrees with that. That makes perfect sense because ITG sustains the organisation’s strategy and objectives and thus deserves attention from the hierarchy’s highest level. Interestingly, the board’s leading role in ITG is emphasised yet IT expertise at board level is low (De Haes & Van Grembergen, 2009). Compared with other disciplines IT requires more technical understanding, and it is this complexity that results in its inattention in boards’ agendas (Iliescu, 2010). Unfortunately, though ITG has received attention, it has stayed largely within the IT area because of the “IT” in the naming. Contacting the Chief Executive Officers (CEOs) for interviews on ITG often results in referrals to CIOs, and it is no surprise that ITG implementations are mainly driven by IT instead of the business (Van Grembergen & De Haes, 2005). However, for successful ITG implementations, a shift from this traditional way of leaving IT issues to IT experts is required.

To achieve board involvement in ITG, structures that support its implementations must be in place coupled with the business managers’ understanding of IT-related risks and opportunities and their implications on business (ITGI, 2005d). They are responsible for business performance and ignorance will never be enough excuse when IT risks or missed opportunities results in poor performance. The board should delegate though responsible, ITG implementation to management with the CEO appointing a CIO to bridge IT and business. An IT steering committee or like function may be appointed by the board to assist with ITG (IODSA, 2009). Preferably, there can be IT Strategy and IT Steering committees working at the board and executive level respectively (Van Grembergen, De Haes, & Guldentops, 2004). The researcher believes having these two committees with segregated responsibilities, specialising on the narrow but critical areas of focus brings better results. Schwertsik, Wolf, and Krcmar acknowledge that ITG requires horizontal linking mechanisms, e.g., committees, and an appropriate leadership role in form of a CIO, to function well (Schwertsik, Wolf, & Krcmar, 2010).
IT Strategy Committee

The committee is made up of both board and non-board members, and operates at the board level, assisting the board to govern and oversee the enterprise’s IT-related issues (Van Grembergen, De Haes, & Guldentops, 2004). The committee ensures the board has information required for achieving ITG objectives, focused decisions on IT resources are made, IT aligns with business strategies and delivers against the strategy (ITGI, 2003). Hardy notes that IT strategy committees often limit themselves to IT/business alignment yet they are well-placed to support the board with all ITG issues including monitoring strategic plans implementations (Hardy, 2003). The IT strategy committee has responsibilities in each of the five ITG domains, given in Figure 2.5.

![Figure 2.5 Key IT Strategy Committee responsibilities (Hardy, 2003).](image)

In carrying out its responsibilities, the IT Strategy Committee partners with other board and management committees that include the IT Steering Committee(s) (De Haes & Van Grembergen, 2004).
IT Steering Committee

Often an IT Steering committee is set up in reaction to a crisis or for specific project implementation. However, as a best practice the committee must be there always, with responsibilities including projects approval, priorities setting (Hertzberg, 2007), and IT strategy implementation (Van Grembergen, De Haes, & Guldentops, 2004). An IT Steering committee should focus on IT investments tracking, priorities setting, and scarce resources allocations (ITGI, 2003). To meet its mandate, the committee must be made up of the CIO, some senior executives typically the CEO or Chief Financial Officer (Hertzberg, 2007). The committee offers the CIO a platform to educate key players, i.e., executive management on key IT issues, garner support, and secure their participation on IT initiatives. ITGI distinguishes IT Strategy from IT Steering committees from three dimensions, responsibility, authority, and membership as in Table 2.1.
This is the most high-ranking connection between IT and the highest business management level, usually the board (ITGI, 2005d). Besides the board, he/she also interacts with appropriate board committees and executive management (IODSA, 2009). A CIO oversees current technology and information assets and together with

<table>
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<th><strong>IT Strategy Committee</strong></th>
<th><strong>IT Steering Committee</strong></th>
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<td><strong>Level</strong></td>
<td>• Board level</td>
<td>• Executive level</td>
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| **Responsibility** | • Provides insight and advice to the board on topics such as:  
  — The relevance of developments in IT from a business perspective  
  — The alignment of IT with the business direction  
  — The achievement of strategic IT objectives  
  — The availability of suitable IT resources, skills and infrastructure to meet the strategic objectives  
  — Optimisation of IT costs, including the role and value delivery of external IT sourcing  
  — Risk, return and competitive aspects of IT investments  
  — Progress on major IT projects  
  — The contribution of IT to the business (i.e., delivering the promised business value)  
  — Exposure to IT risks, including compliance risks  
  — Containment of IT risks  
  • Provides direction to management relative to IT strategy  
  • Is driver and catalyst for the board’s IT governance practices | • Decides the overall level of IT spending and how costs will be allocated  
  • Aligns and approves the enterprise IT architecture  
  • Approves project plans and budgets, setting priorities and milestones  
  • Acquires and assigns appropriate resources  
  • Ensures projects continuously meet business requirements, including reevaluation of the business case  
  • Monitors project plans for delivery of expected value and desired outcomes, on time and within budget  
  • Monitors resource and priority conflict between enterprise divisions and the IT function, and between projects  
  • Makes recommendations and requests for changes to strategic plans (priorities, funding, technology approaches, resources, etc.)  
  • Communicates strategic goals to project teams  
  • Is a major contributor to management’s IT governance responsibilities |
| **Authority** | • Advises the board and management on IT strategy  
  • Is delegated by the board to provide input to the strategy and prepare its approval  
  • Focuses on current and future strategic IT issues | • Assists the executive in the delivery of the IT strategy  
  • Oversees day-to-day management of IT service delivery and IT projects  
  • Focuses on implementation |
| **Membership** | • Board members and (specialist) nonboard members | • Sponsoring executive  
  • Business executive (key users)  
  • CIO  
  • Key advisors as required (IT, audit, legal, finance) |
other organisational leaders, strategically plans for the organisation’s future (Weiss, 2011). Over the years, the CIO position has transformed to a business executive from an IT expert (IBM Corporation, 2007), though adequate technological appreciation is still required (Takanen, 2008). Through understanding of information and processes, the CIO can take initiatives to guarantee the business’s long-term sustainability (ITG, 2005d). The CIO has to support business and IT alignment, and ensure IT deliver value to the business (Takanen, 2008).

For highly technology-dependent businesses, the CIO must be in the main executive committee and the board and participate in decision-making on strategic issues and where that is impossible, he/she must get regular opportunities to present to the board on IT issues (ITGI, 2005d). A CIO reporting to the CEO and playing active roles in board meetings has the power to influence the board and thereby affect the organisation’s strategic direction (Guillemette & Pare, 2012). It takes a skilled CIO to take advantage of the IT committees and facilitate changes in priorities (Hertzberg, 2007). Having IT committee(s) and the CIO answerable to the CEO or being an executive committee member are cited as some examples of perceived, effective best practices (De Haes, 2008).

2.3.4 Need for ITG

There is a new focus on IT’s role following the recognition of knowledge as a driver of productivity and economic growth (Manuhwa, n.d.). In response, organisations are employing technology to create, communicate, and manage immaterial assets including knowledge and gathered information. For most organisations, information is business and consequently one vital component of doing business is access to reliable information (ITGI, 2006b). Organisations seeking to achieve their strategic objectives must satisfy the fiduciary, quality, and security requirements of the knowledge and information assets (ITGI, 2007). ITG helps management to enhance their understanding of the information security governance elements since the risks involved have become significant and subsequently, ensure better control and security. The capability of
organisations to take advantage of new prospects is reliant somewhat on the ability to provide secure information assets and service channels.

IT use has increased tremendously, especially in banking, with the adoption of services, such as Internet banking, mobile banking, and electronic payments. However, the advancement in technology brings high rates of technological obsolescence, especially in the case of banks, and therefore ITG cannot be less prominent. Banks are associated with huge infrastructure and the adoption of ITG will assist them have effective control and ensure better value is realized (IDRBT, 2010). ITG will promote creation of efficiencies and ensure the scarce financial resources are used efficiently.

2.3.5 ITG Domains

ITG is essentially about business getting value from IT and mitigation of IT risks stirred by IT/business strategic alignment and embedding accountability in the enterprise respectively. This result in five key ITG focus areas, given in Figure 2.6, all driven by stakeholder value (ITGI, 2003).

![Figure 2.6 ITG focus areas (ITGI, 2003).](image)

ITG is an unceasing life cycle without a fixed entry point, though it normally begins with the strategy and its alignment in the organisation, then value delivery as a result of its
implementation. The strategy is always under monitoring, with re-evaluation and re-alignment at any point when necessary (ITGI, 2003).

2.3.5.1 Strategic Alignment

2.3.5.1.1 Introduction

Strategic alignment seeks to establish if investments in IT are in accord with the business’s strategic objectives and goals, and thereby create competencies for delivering business value (ITGI, 2008a). It is meant to ensure IT investments are in sync with organisational strategies and help management to appreciate strategic IT concerns (Butler & Butler, 2010). In agreement, Iliescu says IT strategic alignment answers if the enterprise’s IT investments are coherent with its strategic objectives and also helps to ensure IT value delivery to the enterprise is visible (Iliescu, 2010). The importance of IT alignment with business is critical given that many organisations are struggling to get a clear picture regarding the value being delivered by their IT (Maur, Walbeek, & Batenburg, 2009). Put in other words, alignment involves using IT resources in the best way to meet the enterprise’s business objectives (Vargas, Plazaola, & Ekstedt, 2008).

2.3.5.1.2 Strategic Alignment: A Bi-directional Process

The various definitions of strategic alignment focus on IT alignment with business only yet alignment also entails business alignment with IT (Luftman & Rajkumar, 2007). Weiss and Anderson established that more IT professionals CIOs included, are taking more roles including change management, risk management, facing pressures to resolve business and technical challenges (Weiss & Anderson, 2004), apart from IT and business alignment. With IT leaders assuming such significant organisational roles, it does not follow that the IT strategy will be driven by the business strategy naturally, which has been the norm, traditionally. Generally, developments in IT can provide opportunities that can influence the business strategy, e.g., emerging technologies such
as e-business have capabilities like Just in Time to shape the organisation’s strategic direction (Smith, McKeen, & Singh, 2007). Thus for strategic alignment, business and IT strategy must be closely linked, with strategy development being a bi-directional process between the two as captured in Figure 2.5.

![Figure 2.7 IT and Business Alignment](image)

### 2.3.5.1.3 Strategic Alignment Benefits

IT alignment serves as a strategic, tactical, and operational tool that enables the enterprise to run smoothly, satisfying customer demands. The strategic component comes from anticipating and meeting the enterprise’s IT future requirements, tactical because of the enterprise-wide resource allocations, and operational because it allows for IT effectiveness and efficiency realization (Weiss & Thorogood, 2006). Wilkin and Chenhall concurs that IT alignment is strategic and also directs how IT functions are blended with the business’s strategic direction and risk management system (Wilkin & Chenhall, 2010). IT alignment enables companies to create strategic competitive advantage, grow their profitability, visibility, and efficiency, empowering them to compete in today’s shifting markets (Kearns & Sabherwal, 2007).
Researches confirm that superior performance is experienced in organisations with higher alignment compared to those with lower alignment (Oh & Pinsonneault, 2007), this emanating from the more focused and strategic use of IT (Gonzalez-Benito, 2007). Firms that use IT as a tool to discern and adapt to their customers’ changing needs tend to succeed in improving customer satisfaction (Smith, 2009). A study of 136 German banks confirms that business/IT alignment improves process performance (Wagner, 2008). Alignment also ensures IT and business managers communicate and have common understanding to facilitate mutual shaping of the business and IT (Maur, Walbeek, & Batenburg, 2009).

2.3.5.1.4 IT and Business Strategy Disconnect

Aligning IT with the needs of the business is not a question of thriving but rather survival for financial institutions. Many financial institutions are suffering from the effects of a disconnection between business and IT strategies as a result of shunning their IT departments, eliminating CIOs positions, and outsourcing some innovative technologies (PricewaterhouseCoopers [PwC], 2011). The lack of IT and business alignment creates unrealistic and inconsistent expectations (Bowen, Cheung, & Rohde, 2007). IT is heavily relied upon by banks, thus shaping the way they execute their operations, (Beccalli, 2007) and that explains why banks felt the impact of business and IT inconsistencies earlier compared with other sectors (De Haes & Van Grembergen, 2005).

2.3.5.2 Value Delivery

2.3.5.2.1 Introduction

ITG is mainly concerned about the business getting value from IT and this depends on the nature of practices in organisations (Zakaria, Solomon, & Hassan, 2012). Value differs from one organisation to the next and each organisation must define what value means to them though shareholder return and best services provision are usually used
to measure value for profit and non-profit making organisations respectively (ITGI, 2009a). Value delivery entails accomplishing value proposition during the entire delivery cycle, ensuring IT optimises costs and demonstrates value, and provides the expected benefits (ITGI, 2005a). According to the King Committee, value delivery involves supporting the business needs timeously, accurately, and cost effectively, through use of appropriate technology, processes, and people (IODSA, 2009). The underlining result of corporate governance is that a firm maximizes its share value eventually, with new IT investments expected to contribute to value addition through quality services provision, timely data delivery and expenses optimization (Gheorghe, 2010). Summarised, IT value delivery is concerned with ensuring that IT investments are completed on schedule within budget and bring expected benefits.

2.3.5.2.2 ITValue Realisation

Most organisations do not know if they are getting value as they hardly measure or attempt to measure the value of what they get from their IT spending, mainly because it is not easy (Barua, Brooks, Gillon, Hodgkinson, Kohli, Worthington, &Zukis, 2010). Despite IT being a key enabler in ensuring business growth and value creation, its contribution to business success is usually implicitly assumed, making it difficult to justify and measure (ISACA, 2009). The way IT creates value is complex making it hard to pinpoint the value it creates and predict the value to be generated by new investments(Barua, et al., 2010). To make it worse, most firms have high levels of immaturity in measuring value as they focus on providing working technical solutions rather than assessing the given investment’s potential benefits (ITGI, 2009a). In fact IT investments value has been argued for years, including Solow’s 1987 productivity paradox inferring that there are no tangible economic benefits despite the massive IT expenditures (Barua, et al., 2010). Carr also argues that IT is not a valuable resource but merely a utility and thus cannot be used as a basis of sustainable competitive advantage (Carr, 2003).
The signs of Solow’s productivity paradox fade when an IT investment aligns with the business strategy (Mallick&Ho, 2008) otherwise, the paradox becomes a reality. IT does create value only under certain conditions, which manifests in many ways and thus emphasis must be directed at understanding the necessary conditions and complimentary resources required (Kohli& Grover, 2008). According to ITGI, well managed and within an effective governance framework IT-dependent business investments provide ample value creation opportunities (ITGI, 2006a).

2.3.5.2.3 Why IT Value is Unrealised

There is no doubt that IT creates value (Barua, et al., 2010) though in many cases that value is unrealised (ITGI, 2008a). The benefits of IT are intermingled with aspects such as business processes and its relationships with partners including customers and suppliers. Today’s business setting hinges on these relationships; partners have to add value also to products/services through implementing complementary systems since the business’s IT investments alone will not automatically translate into value (Barua, et al., 2010). Apart from the business and partners links, those between resources within the business itself matters also. Sometimes IT investments cannot yield full value because organisations fail to invest simultaneously in complementary assets necessary for the unlocking of the value (Lin, 2007). In agreeing Atzeni and Carboninotes that the realization of potential benefits associated with IT investments hinges on an enterprise’s commitment to corresponding investments in physical capital, continuous workforce trainings, and business processes (Atzeni&Carboni, 2006). Ko and Osei-Bryson also records that to maximize returns, IT spending must be accompanied by investments in physical and human capital (Ko&Osei-Bryson, 2006). It is well established that technology itself does not bring value but rather, the way it links with other resources determines its ability to create strategic advantage (Barua, et al., 2010). Organisations may use the same technologies but deriving differing efficiency levels.

Often, IT and business stakeholders are non-aligned on IT value for enabling expression and measurement of IT investments in business terms (Ernst & Young LLP,
making visibility of the value impossible. Sometimes the different stakeholders may lack common/agreed expected benefits from IT investments, and this mismatch can lead to misperception of IT's achievements (Barua, et al., 2010). Occasionally the roles and responsibilities of IT and other business functions are unclear resulting in IT having authority on IT investments and thereby basing prioritization on their limited insights (ITGI, 2008a). The missing link has been due to the unavailability of a comprehensive structured framework built on demonstrated practices that can be employed by boards and management in making IT investments decisions to create value (ITGI, 2008a).

2.3.5.2.4 IT Spending

Organisations have invested heavily in IT, with the trend anticipated to continue (McAfee & Brynjolfsson, 2008). The continuous growth in IT expenditures reflects faith in the economic benefits of IT though in reality, organisations struggle to prove such benefits (Barua, et al., 2010). In reality, many companies’ IT structures have become significantly complex with evolution to accommodate issues like continuous product development, converged services delivery and increase of outsourced services from different vendors (Lee, Lee, & Jeong, 2008). Because of intensive reliance on information, industries including banking would profit more from investing in IT as compared to those not heavily dependent on information (Hu & Quan, 2005). Technological change is a key determinant in the banking industry structure dynamics and results in cost competitiveness (Leckson-Leckey, Osei, & Harvey, 2011). The implementation of information communication and technology (ICT) in banks is aimed at enhancing the productivity of banks thereby influencing positively on profitability (Stella, 2010).

Referring to the completed first phase of their wide area network connectivity project, Guvamatanga, the Barclays Zimbabwe Managing Director, acknowledged that technology is a vital element of their value delivery system (Barclays Zimbabwe, 2012). Banks that invest and integrate IT are most likely to enjoy market superiority (Magutu,
Muganda, & Ondimu, 2011), though the bid to secure the competitive advantage means channelling substantial amounts into IT resources (Leckson-Leckey, Osei, & Harvey, 2011). A number of Zimbabwean banks are upgrading their IT systems in a bid to enhance service delivery efficiency. Responding to the ever-changing business needs, matching with global IT trends; ZB Financial Holdings has invested over US$3m in upgrading its banking systems (Chimhangwa, 2011). Agribank has chosen not to lag behind and has completed the US$2.5m upgrade of its banking system in a bid to offer a wide range of products (“Agribank completes US$2.5m ICT upgrade”, 2012).

Managing IT costs has thus become more difficult with the increase in complexity, resulting in IT projects producing the biggest capital outflows. Then again, IT operational costs have also increased yearly with their administration becoming nightmares for most CEOs who do not understand them or the value of IT (Pabba & Singh, 2012). PricewaterhouseCoopers also notes that the high levels of complexity has led to high IT operational and projects costs (PricewaterhouseCoopers, 2008) and failure by most organisations to achieve economies of scale (Barua, et al., 2010). Some CEOs and senior managers have come to identify IT as a cost for the organisation or a value destroyer rather than a value creator (Epstein & Rejc, 2005). The most likely reason for such mind-set is lack of appreciation of IT and the role it plays in business. As a way forward, the business should manage IT as an asset to create value rather than a cost (Van Grembergen, 2010), but that can only come after understanding it.

2.3.5.2.5 Assessing IT investments

Despite consuming substantial resources, IT investments can translate into little real value or fail and many companies will testify to this (Motloutsi, 2009). In fact, when IT investments fail, the business costs can be huge (ITGI, 2008a), e.g., Disney and Nike lost $878m and $400 in the Go.com web portal and the chain management supply system failures respectively. The Standish Group conducted a research and found that 35% of all IT projects carried out were successful, with the remainder challenged somehow or total failures (ITGI, 2008a). The gap between expected return on IT
investments and the realized return remains huge with an estimate of only 60% of expected benefits realized (Gartner, 2012). It is not about how much is spent on IT but rather how IT assets are managed, which is important (Aubert & Reich, 2009). Thus the success of organisations depends on the effective management and control of IT to ensure the expected benefits are realized (Bowen, Cheung, & Rohde, 2007). The different levels in the organisation perceive IT value differently making it necessary to have adequate metrics at each level where IT is a business enabler (Iliescu, 2010).

IT acquisition and deployment is capital-intensive requiring comprehensive analysis and commitment to ensure success (Ekata, 2012). Unfortunately, for IT investments the level of vigour in analysing them is lower than that afforded to other discretionary investments (Hoving, 2007), attributable to IT’s pervasive nature and the difficulty in quantifying its returns (Ataay, 2006). Then, how best should organisation assess IT investments to ensure expected returns are obtained? Financial metrics including return on investment (ROI), internal rate of return (IRR), and net present value (NPV) are frequently employed for appraising IT investments proposals (ITGI, 2009a). Nevertheless it is clearly understood that the financial measures on their own do not always provide evidence beyond reasonable doubt, enough to justify acquisition and use of IT (Macada, Beltrame, Dolci, & Becker, 2012). The financial measures are limited to only tangible benefits of IT value (ITGI, 2005c). What about the intangible benefits?

A business case is one valuable tool management can use for guidance in business value creation as it helps to define key indicators, both financial and non-financial, and comprehensive risk assessment and appraisal (ITGI, 2006a). According to a consultant, Taurai Chinyamakobvu, few Zimbabwean banks invested millions of dollars on underperforming IT systems and some have since had to replace the core systems in fewer than three years after their installations (“US$4m ICT academy on cards”, 2012). Such developments raise questions on how the assessments of IT investments are carried out in the Zimbabwean banking institutions.
2.3.5.3 Risk Management

2.3.5.3.1 Introduction

The all-encompassing use of IT and its advancement has not only provided opportunities for growth and significant benefits but also stiffened competition between organisations and increased organisational risks (Voon-Choong, Hway-Boon, Kok-Thim, & Yeuh-Sin, 2010). While many organisations will certainly recognise the IT benefits, successful ones will go an extrastep of appreciating and managing the associated IT risks (Raghupathi, 2007). Most organisational processes use some form of automation resulting in heavy reliance on IT systems, and this coupled with the adoption of the Internet for ecommerce and electronic transactions introduces significant risks (IODSA, 2009). An enterprise faces different risk, which includes strategic, environmental, market, credit, operational compliance, and a risk component that can be found in all these, i.e., IT risk (ITGI, 2009b). Business traditionally focused on financial risk but due to regulation pressures, attention is on IT and information security risk also (Buckby, Best, & Stewart, 2009).

IT risks have evolved and the risks incidents have the potential to damage the organisation’s reputation, expose management’s weaknesses and diminish the organisation’s capability to compete (Westerman & Hunter, 2007). Not so long ago, IT risk was an insignificant part of operation risk but however that has shifted and now, the success of an institution may hinge on a wide array of IT risks (Savic, 2008). IT risk is a business risk, consisting of IT-related events that can affect the business and comes from the use, operation, influence, adoption, and ownership of IT within the business (ITGI, 2011). Risk management is thus a cornerstone of ITG, whose concern is to ensure that IT failures do not threaten the achievement of the business’s strategic objectives (ITGI, 2005b). The emphasis of risk management is to preserve business value created by the value delivery focus area through safeguarding of IT assets and non-interruption of business operations (Selig & Waterhouse, 2006).
2.3.5.3.4 IT Risks

Despite IT becoming central to business success, many organisations are yet to adjust their IT decision making and risk management processes (Gartner, 2007). While the other risks have been incorporated into these processes, the case is different for IT risk, which many executives relegate to technical specialists outside the boardrooms (ITGI, 2009b). Though merging of risk management, compliance, and governance processes is a challenge, it offers a remarkable opportunity to coordinate risk, control activities, and facilitate comprehensive reporting (Ernst & Young, 2008). In fact the King Committee recommends that IT risks be part of the organisation’s risk management activities (IODSA, 2009). IT risks always exist, even if they may not be detected or recognised (Risk IT, 2009) for consideration into the processes. IT is susceptible to many risks such as disruption of service, failed projects, and poor requirements and these can be costly, emanating from revenue loss, disgruntled customers, and non-compliance to regulation (Selig & Waterhouse, 2006).

Other IT risks include intellectual property loss, changes in regulation and market conditions, new technology, internal processes changes affecting service quality, natural disasters, virus outbreaks, and compromised credit cards and passwords (Savic, 2008). Of interest to observe is that the events pose as risks/opportunities and must therefore be assessed and responded to accordingly (ITGI, 2009b). Technology risks in the banking industry will not only affect the bank’s operations but can also aggravate other risks such as credit, compliance, security, and market risks, which ultimately have a potential to affect the entire banking system’s soundness (IDRBT, 2011).

2.3.5.3.3 Information Security Governance

Operation risks lie among the most destructive yet difficult to see risks, which can spell a financial institution’s end of life (Savic, 2008). The banking industry by its nature is a sensitive sector concerning clients and cannot do with unsoundness (Padmanabhan, 2012). At the same time, the sensitive customer information has become a prized
commodity to organized criminals of which its compromise can damage institutions’ reputations (Hasan, Underwood, Even, Pulse, Kondisetty, & Andrew, 2011). Consequently, business’s increasing dependence on IT increases risks that threatens information assets’ availability, confidentiality, and integrity (Butler & Butler, 2010). Breaches to information assets may result in huge financial implications emanating from business loss as customers lose trust. According to a 2007 survey in the UK, a data breach cost ranges from £84,000 to about £3.8 million (“Average cost of UK company data breach is £1.4m, says Ponemon”, 2008). To this regard, information security governance has been recognised as a cornerstone for risk management (Johnston & Hale, 2009).

Information leakage is always a concern for institutions yet on the other hand employees perceive increased information transferability and accessibility as facilitating efficiency. One bank’s IT function had to purchase software to limit the movement of files after discovering that critical data was also kept in spread sheet files instead of on their secure proprietary systems only (Sinclair, Smith, Trudeau, Johnson, &Portera, 2007). On the same note, a proper disposal of old equipment is critical for the minimization of security risks emanating from possible data leakages (Raghupathi, 2007). Information is a critical resource, fundamental for the business’s success and survival and must therefore be given the same treatment accorded to other critical business assets.

2.3.5.3.4 Risk Management System

It is noted that 70% of the operations risks in the banking sector emanate from IT risks and thus practising good IT controls will reduce the figure substantially (Padmanabhan, 2012). A typical bank has several branches spread over a wide geographical area and offers many products and services running on different IT systems accessible via channels such as Internet, mobile and phone banking, and ATMs. Because each component of the infrastructure adds a risk element, the 70% figure though high, is not surprising given the complexity of the bank IT infrastructure. While it is appreciated that
there cannot be complete protection for any risk, there are measures that can be taken to reduce the effects of the risks (Savic, 2008).

A sound risk management system able to identify, evaluate, monitor, and manage risk must be established (CPA Australia, 2005). Financial institutions must have comprehensive information risk management programs with detective, preventative, and corrective controls, able to secure, and ensure customer information confidentiality and anticipate future threats. Such programs can only be possible after an understanding of threats and risks in the organisation’s IT environment (Hasan et al., 2011). To note also is that risk control and preventative measures may mean incurring costs; therefore it is necessary to consider most relevant threats in the process (IDRBT, 2011). Cost will not cease to be a primary concern, but it is difficult to value the organisation’s reputation and its information (Hasan et al., 2011). Any new initiatives and changes to IT and business processes must be thoroughly subjected to the risk management system so as to protect information and business applications (IDRBT, 2011).

2.3.5.3.5 IT Risk Responsibility

The rising occurrences of IT incidents, such as fraud and hacking and their severity calls for senior management to work closely with the board and ensure the safety of organisations' information and technologies (Khan, 2006). Because IT risk has the potential to affect IT-enabled company objectives that make it too vital to be completely delegated to the IT function (Westerman& Hunter, 2007). In agreement, the King Committee recommends that the responsibility of the governance of risk lies with the board (IODSA, 2009); for the same reason that its influence on business will impede the attainment of objectives (Wilkin&Chenhall, 2010). It is however, unfortunate that most corporate boards do not have the essential knowledge to question and ensure safety of IT systems, and this places businesses at greater risks (Posthumus, Von Solms, & King, 2010). Many enterprises also have difficulties in facilitating communication between the business and IT on IT risks in a mutually meaningful way,
and ensuring business understands the impact of technology failures or underperformances (Westerman & Hunter, 2007).

In reality, the IT function and subsequently IT risk are less understood by key stakeholders, including the board, who ironically depend on IT for strategic objectives attainment and are accountable for risk management (ITGI, 2009b). Without that understanding, how can they be expected or how are they able to manage and prioritise IT and IT risk? The first recommendation is to promote risk awareness of the stakeholders (National Computing Centre, 2011) and establish supporting structures. The board must have a risk or audit committee assisting it in carrying out its risk duties and delegate to management, the planning, executing, and monitoring of a risk management plan (IODSA, 2009).

The Chief Risk Officer (CRO), who may be appointed by the CEO will assist with the execution of risk management processes and must have access to interact with the board and its applicable committees, and top management on strategic risk matters (IODSA, 2009). For some organisations, the CIO is responsible for the risks assessments, mitigation, and communication to stakeholders (ITGI, 2005b), probably because the CRO position is non-existent. The risk committee, composed of executive and non-executive directors have roles that include reviewing the progress, maturity, and effectiveness of the organisation’s risk management system as well as identifying significant risks facing the organisation and measures to address them (IODSA, 2009).

2.3.5.3.6 Risk Management Frameworks

A risk management framework incorporates the scope of risks to be managed, the processes and systems for their management, and the duties of people involved in the management (Bank of Tanzania, 2010). Adopting established standards and best practices will help facilitate speedy implementation and avoid the prolonged delays associated with re-inventing the wheels (National Computing Centre, 2011). At the same time, some of the frameworks’ components may not suit a particular
organisationand context, thereby requiring customization (ITGI, 2009b). According to an IT risk management survey conducted, organisations are designing and customising their frameworks along the various standards including Control Objectives for Information and Related Technology (COBIT) and International Organisation for Standardization (ISO) 27002 (Ernst & Young, 2008). The terminology used in the different frameworks may be different (ITGI, 2009b) yet an organisation may want to adopt different best practices from the different frameworks. In any case, realizing an effective process risk control framework requires that organisations create a shared risk language, leading to IT risks and controls being generally appreciated across the organisation (Ernst & Young, 2008). It is thus no surprise that organisations are taking the customization route. Above all, an effective IT risk management program is founded on the standardization of a risk control process framework revealing and paralleling processes, policies, controls, and risks of the business (Ernst & Young, 2008), which are different in organisations and addressed differently in the various frameworks.

2.3.5.4 Performance Management

2.3.5.4.1 Introduction

Performance measurement tracks and observes the execution of strategy, project accomplishment, the usage of resources, delivery of services, and the performance of processes with the assistance of tools including the balance scorecards, which transform strategy into action to attain measurable goals (ITGI, 2007). It seeks to identify and quantify IT costs and benefits (ITGI, 2005c). IT Service Managers, apart from their demanding responsibilities over varied and critical infrastructure, face pressures to reduce costs and bring business value (Gacenga, Cater-Steel, & Toleman, 2010). Consequently, firms world over have been for a long time, making substantial investments in IT in a bid to increase efficiency in both internal and external processes that include transactions with employees, customers, and partners (OECD, 2008). The IT initiatives have by far become the means of improving efficiency and reducing costs.
but still misunderstood as a business resource because of failure to measuresystematically IT performances and adopt ITG practices (Spremic, 2012). It is thus critical to investigate and be able to measure the benefits and value brought by these investments and how they affect business performance (Loukis, Sapounas, & Milionis, 2009).

2.3.5.4.2 Measuring Performance

Information systems are the pillar of any huge business; they go beyond recording transactions and drive the organisational main business processes. It is against this context that management worry about safeguarding assets, upholding data integrity, achieving set goals effectively through efficient consumption of resources among other elements (Sayana, 2002). Management must update the board on whether the IT function is on track to achieve its objectives, flexible to adapt to strategic needs, and adequately protected from risk or not (IODSA, 2009). Such updates can only be possible if IT has way of performance measurement.

Measuring performance of information systems is a relatively new concept and little attention has been given to establish the measurement metrics (Spremic, 2012). Besides being new, it is one of the most difficult tasks to accomplish, especially when there is no clarity on what IT infrastructure is meant to deliver and how it is supposed to influence business processes or objectives (IDRBT, 2009). Nonetheless, to ensure this successfully, a company need to set the IT success key drivers, the underlying relations between them, and formulate IT performance measures (Epstein & Rejc, 2005). Performance measurement involves establishing and monitoring measurable objectives that IT processes have to deliver, which is the outcome, and how to deliver it, i.e., the process ability and performance (ITGI, 2007). In short, IT performance measurement is all about setting prior performance, key goal indicators (KGIls), i.e., progress of what precisely is to be done and key performance indicators (KPIs), i.e., how well the task is to be done (IDRBT, 2009). Performance measuring becomes comparison of what is happening on the ground with what was set.
2.3.5.4.3 IT Audit

IT audit, the analytical part of ITG helps measure the performance of the systems and assess the information system quality (Spremic, 2009). IS quality is relative, based on current performance and required/ideal performance measures, with more discrepancy between the two implying less system quality (Spremic, 2012). To help define the required/ideal level of quality, regulation frameworks or some business-focused quality benchmarks may be employed (Spremic & Popovic, 2008). The main objectives of IT audits are to examine thoroughly the IT controls in business processes sustained by information systems, assess IT related risks, and measure overall IT performance in relation to business needs (Spremic, 2012).

Audit also seeks to offer executive management with suggestions to improve the IT risk management practices, warn about possible failures, and identify the key business processes that are IT reliant (Spremic, Zmirak, & Kraljevic, 2008). For the banking sector, the stiff competition and customers' awareness of service quality forces banks to evaluate and review their performances (Umar & Olatunde, 2011). In Indian banks, IT committees discuss and reviews progress monthly on metrics that include critical systems availability, IT budgets execution, project implementations, number and nature of customer complaints, systems capacities, and bandwidth utilisation (IDRBT & Ernst & Young, 2011).

2.3.5.4.4 Balance Scorecard (BSC)

As highlighted, traditional financial measures are limited on IT valuations because of failure to capture intangible benefits generated by information systems. Value is perceived differently at different levels within the organisation as captured in the business value hierarchy (Broadbent & Weill, 1998). Any IT investment that impacts positively at all hierarchy levels is considered very successful; though the impact is
diluted by other factors, such as pricing decisions as one goes higher on the hierarchy (ITGI, 2005).

The BSC is one response to the traditional financial measures criticisms for knowledge-based organisations (Bose & Thomas, 2007). A BSC is an inclusive management system, performance measurement included that allows organisations to translate visions and strategies into actions providing feedback on business processes and outputs for continuous improvement (“Balance scorecard basics”, 2012). It gives a balanced view of organisational performance capturing both tangible and intangible IT benefits. The four perspectives namely; user orientation, business contribution, operational excellence, and future orientation makes up the generic IT BSC (ITGI, 2005c), as shown and summarized below.
- User orientation: Indicates the user’s assessment of IT
- Operational excellence: Denotes the IT processes used for creating applications
- Business orientation: Represents the business value derived from IT investments
- Future orientation: Signifies resources required by IT for future needs

The BSC provides a snapshot of the IT function at any point, provides an overview of the IT value delivered to the organisation and is critical for IT and business alignment (ITGI, 2005c)

### 2.3.5.5 Resource Management

This focus area is concerned with ensuring optimum investment in key IT assets namely; applications, information, infrastructure, and people, and their proper management
(Spremic, 2012). In simple, it is about how to best use and manage the organisation’s resources (Knutsson&Grewal, 2005). Resource management oversees investments, make use of and allocate IT resources in alignment with current and future business strategic objectives and needs (ITGI, 2007). The overseeing and allocations are made possible through regular assessments carried out on the critical IT resources. ITG does not view IT resources as autonomous assets, but rather as part of corporate resources, equally as financial resources (Lee, Lee, &Jeong, 2008).

Typical key questions that can be asked in ensuring the critical IT resources are managed well include:

i. How are IT projects managed so as to guarantee accountability?
ii. What procedures are used to ensure the skills that manage IT are appropriate?
iii. What strategies are used to provide training for people working with IT systems?
iv. What strategies are employed for allocation of IT resources?
v. What processes are used for managing the infrastructure configurations, service contracts, software usage, among other?

An ITG framework with resource management will provide answers to these typical questions.

Resource management focus on monitoring at the board level of IT resources and expenditures in a bid to guarantee that IT assets are suitable to satisfy the daily demands of the business (Buckby, Best, & Stewart, 2009). In agreement, the King Committee also recommends that the board should be responsible for ITG framework that supports proficientIT resources management to allow for achieving of company objectives (IODSA, 2009). If the board is involved in ITG, the chances of resources being channelled to purposes that align with the company’s objectives are high.

2.4 ITG Indicators

According to Williams, the following listing notes some of the indicators that show good ITG and problems in ITG (Williams, 2012).
2.5 Obstacles to ITG

ITG implementation is not an event but a process and a difficult task that requires huge resources such as time, money, and effort. Research has shown that despite the availability of a range of clear standards and frameworks promoting effective ITG, many organisations have not adopted any (Othman, Chan, Foo, Nelson, & Timbrell, 2010). An ITGI survey found that the adoption level of these frameworks and standards is even lower for organisations in developing countries (ITGI, 2008b). According to the global
status report, the main challenges experienced in ITG implementation include communication issues, change management, lack of top management support and commitment and difficulty in demonstrating value and benefits (ITGI, 2011). Some of the factors that inhibit the successful implementation of ITG are explained below.

**Lack of Top Management Buy-in**

Given any organisation, people can make or break initiatives and the same goes for ITG where the people factor is perhaps the biggest obstacle to its successful implementation. The ITG initiative must start from the top because if top management is uncommitted to the implementation, the rest of the organisation will not be (Sylvester, 2009). A number of studies collaborates that top management backing in commitment, guidance, and understanding are critical for the success of IT initiatives (Othman, Chan, Foo, Nelson, & Timbrell, 2010). Management must themselves understand what ITG entails, be passionate about it, become the change agents and be able to influence other key players (Sylvester, 2009).

**Non-fusion of ITG with IT Strategy**

In most cases, ITG and IT strategy are viewed as isolated projects, which compete for resources and eventually, ITG is disregarded as part of daily work and considered an additional burden for another time in future. To implement ITG successfully, it has to be part of everyone’s work that is achieved through fusing it with the IT strategy and making it the framework within which the IT strategy is implemented (Sylvester, 2009).

**Lack of Communication**

For any successful implementation of any new practice or standard, communication at all levels within the organisation is critical. Lack of common understanding and knowledge will affect any new implementations (Othman, Chan, Foo, Nelson, & Timbrell, 2010). Lack of both formal and informal communications is noted as an obstacle to the
successful implementation of ITG (ITGI, 2008b). Organisation contextualised awareness on ITG must be done throughout the organisation to promote it effectively, for example, a demonstration of poor performance by IT projects thereby substantiating the need for ITG. The communication can use materials such as research data, news, legislation (Sylvester, 2009) and practical experiences within or outside the organisation.

**Resistance to Change**

ITG practices will bring significant changes to the work procedures involving processes re-engineering, possible job losses or relocations (Othman, Chan, Foo, Nelson, & Timbrell, 2010). In agreement, Sylvester records that it may involve restructuring the IT functions, redefining of job descriptions and updating of performance contracts in a bid to re-align IT function with the new direction (Sylvester, 2009). People are usually comfortable with the way they have been doing things and any new initiative that brings change to the status quo will most certainly face resistance.

**Complexity and Cost**

Organisations are reluctant to implement more difficulty initiatives due to higher uncertainty of their success (Othman, Chan, Foo, Nelson, & Timbrell, 2010). The ITG initiative is not exempted from this complexity fear and consequently, its adoption is affected (Barlette & Fomin, 2008). Cost has been demonstrated to hinder adoption of initiatives, ITG included (Winniford, Conger, & Erickson-Harris, 2009). ITG implementations require a formal budget for costs that include the required tools and trainings of personnel.

**Lack of Regulatory Environment Support**

At times, relevant standards and frameworks like ITG are not implemented because organisations are not aware of their existence, making awareness critical
(Barlette & Fomin, 2008). In other cases, incentives in form of financial assistance and grants can be extended to create environments that promote adoption of standards and frameworks (Othman, Chan, Foo, Nelson, & Timbrell, 2010).

2.6 ITG Frameworks

From a study, it is established that better ITG practices translates to improved results (ITGI, 2009c). This has seen the development of many ITG frameworks, varying in content but sharing a common goal of improving IT efficiency (Othman, Chan, Foo, Nelson, & Timbrell, 2010). These include the IT Infrastructure Library (ITIL), COBIT, and ISO/IEC 27000 Series, among many others.

2.6.1 ITIL

The appreciation of a service and service management are both critical for the understanding of ITIL. A service is viewed as a way by which value is delivered to customers, making it possible for them to achieve wanted outcomes without owning specific costs and risks (Cartlidge, Hanna, Rudd, Macfarlane, Windebank, & Rance, 2007). It is through service management that a service provider gets an understanding of the provided services, customer requirements, the costs, and risks associated with the services provision. ITIL is thus defined as an IT service management framework for recognising, designing, providing, and supporting IT services required for the fulfilment of the business expectations (“What is ITIL?”, 2012).

ITIL Service Lifecycle Phases

ITIL supports transformations in business environments through viewing an IT service as a lifecycle with five distinct stages namely, service strategy, service design, service transition, service operation, and continual service improvement (Erhardt, 2011) as in Figure 2.10. Erhardt describes each phase of the lifecycle as given below.
i. **Service strategy**: The heart of the IT service lifecycle, it entails the strategic and financial planning of the IT service and the value intended for provision to the customer.

ii. **Service design**: This is concerned with the designing and developing of services and processes as required by the customer.

iii. **Service transition**: At this stage, various processes, functions, and systems are used to build, test, and deploy a service before it moves to operation.

iv. **Service operation**: The service is first made available to customers at agreed upon service levels.

v. **Continual service improvement**: It is an all-encompassing and continual phase of the lifecycle, which is applicable at any point in the lifecycle.

In short, ITIL revolves around the service desk as a communication platform giving huge concern to the value of IT services provided to the customer at all phases of the life cycle.
ITIL Strengths and Weaknesses

ITIL’s strength lies on delivering and supporting management processes but however weak on security controls and processes.

2.6.2 COBIT

COBIT 5, the latest, is an inclusive framework that assists enterprises to realize their goals and deliver value through effective governance and management of enterprise IT. With COBIT, IT is governed and managed holistically within the enterprise, considering the end to end business, and IT functional areas of responsibility, optimizing risk levels, and resource usage (“COBIT 5 FAQs”, 2012). According to ISACA, in governing and managing enterprise IT, COBIT 5 is based on five key principles (ISACA, 2012) as given in Figure 2.11. ISACA explains each principle according to the following descriptions.

![COBIT 5 Key Principles Diagram](image)

**Figure 2.11 COBIT 5 key principles (ISACA, 2012).**

1. Meeting stakeholder needs: Creating value means different and sometimes conflicting things to the different enterprise’s stakeholders. A governance system must thus consider those differences in decisions pertaining to benefits, resources, and risks assessments. COBIT 5 translates the stakeholder needs
into tangible goals and objectives within the enterprise’s context and IT related goals.

ii. Covering the enterprise end to end: COBIT 5 incorporates governance of IT into enterprise governance thereby addressing governance and management of IT from an enterprise-wide perspective.

iii. Applying an integrated framework: COBIT 5 aligns with other latest, relevant enterprise, and IT-related standards and frameworks, like the Committee of Sponsoring Organisations (COSO), ITIL, and PRojects IN Controlled Environments (PRINCE2) and can thus be employed as a framework integrator.

iv. Enabling a holistic approach: COBIT 5 considers an interconnected set of seven enablers that makes it possible to achieve its objectives, shown in Figure 2.12 below.

![Figure 2.12 COBIT 5 enablers (ISACA, 2012).](image)

v. Separating governance from management: COBIT clearly distinguishes governance from management in terms of activities, organisational structures, and purposes. Figure 2.13 below captures the different processes of the two.
COBIT Strengths and Weaknesses

COBIT is more business-focused and provides best practice that allows the business to have control over IT. It is strong on controls and clearly defined measurement metrics and also provides a more inclusive view of IT processes within an enterprise. The formal and consistent structure coupled with its common language makes COBIT easier to use. In terms of cost, COBIT is also cheaper. However, COBIT lacks the security module.

2.6.3 ISO/IEC 27000 Series

This is a series of sets of standards on information security management systems jointly published by the International Electrotechnical Commission (IEC) and ISO. The series offers best practice recommendations on risks, controls, and information security management within a comprehensive information security management system (ISMS). A listing of published standards include ISO/IEC 27001, ISO/IEC 27003, and ISO/IEC 27004 dealing with ISMS requirements, ISMS implementation guidance, and ISMS measurement respectively (“An introduction to ISO 27001, ISO 27002....ISO 27008”, 2009).
ISO/IEC Strengths and Weaknesses

ISO is strong on security controls provision. Its major weaknesses include failure to provide guidance on security implementations and to address how the processes incorporate into the overall IT management processes.

2.6.4 ITG Frameworks Summary

The different ITG frameworks have found places in organisations. A survey of CIOs worldwide found that more than 95% of the participants use one major ITG framework with a few using customised frameworks and a minority not using any. COBIT and ITIL accounted for 63% and 60% respectively with others like PRINCE2, COSO, and ISO used to lesser degree. In 65% of the cases, combinations of mainly COBIT and ITIL are in use (PwC, 2006). In the case of South African banking sector, there is a diversified use of these frameworks, with a minority of banks for the idea of integrating best practices from the different frameworks into one (Tshinu, Botha, & Herselman, 2008). The use of the different frameworks is enough evidence that none of them is supporting ITG holistically, and there is therefore room for improvements in the frameworks.

2.7 ITG Maturity Model

For an organisation to know how it is faring and be able to identify weak areas for improvement on ITG matters there has to be a basis of comparison. ITGI proposes the use of a maturity model, which provides a structured approach for measuring the extent of development of an organisation’s processes against an established scale (ITGI, 2003). Refer to Appendix A for more on this model

In summary, any organisation can be able to measure and grade itself against the benchmarks and be able to identify gaps that need attention and the corresponding actions required to facilitate the move to the desired level.
2.8 Chapter Summary

In this chapter, the researcher discussed some relevant literature from various sources on ITG practices as recommended and practised. The five domains of ITG namely IT strategic alignment, value delivery, risk management, performance management, and resource management are discussed extensively as they make the basis of the research framework. The literature also dwells on the self-assessment that an organisation can do to determine its ITG maturity level and some of the issues to watch out for as organisations embark on ITG implementations. Various ITG frameworks that are available for adoption by organisations are also conversed.
CHAPTER THREE

3.0 Research Methodology

3.1 Introduction

A research process will naturally involve collecting, analysing, and interpreting data to answer research questions. Research methodology establishes the design for data gathering, measurement, and analysis (Cooper & Schindler, 2003). The chapter establishes the system of data collection for the research (“Research Methodology”, 2010), and provide a comprehensive plan for guiding and focusing the research (Hussey & Hussey, 1997). Research methodology seeks to answer the why, what, how, and where questions, e.g., explain what data will be gathered and how it will be evaluated. The research process, including the research philosophy, research strategy, description of population, sampling, data collection, and research limitations is discussed.

3.2 Research Design

A research is a systematic and rigorous enquiry process of investigating a specific problem to increase knowledge (Collins & Hussey, 2003). The research design gives a plan of action for the examination process for obtaining answers to the problem under investigation (Kumar, 2010). A research design is a systematic and orderly approach implemented to facilitate raw data collection from which information is obtained (Fraenkel & Wallen, 1996). The research design essentials are:

- it is a time-based plan of activity founded on the research question
- it guides the selection of information types and sources
- it is a framework defining the variables under study’s relationships
- it details every research activity’s steps (Cooper & Schindler, 2003)

The research design’s main functions are to identify and develop procedures and logistics that make it possible to conduct the research and to ensure the procedures
guarantee validity, accuracy, and objectivity of the process (Kumar, 2011). Generally, the research design development involves selection of research method(s), sampling method(s), determination of size of sample, data collection methods, instruments development, data collection, analysis, and presentation plan (Pawar, 2004).

3.3 Research Philosophy

Two prominent alternatives, positivist and phenomenological research philosophies exist (Hussey & Hussey, 1997), Figure 3.1.

![Research philosophy alternatives](image)

The positivist approach is objective and statistical whereas the phenomenological approach is subjective and uses language and description rather than numerals and figures (Williams, 1998). Positivist approach eliminates personal bias when conducting research with the research following a strict set of guidelines (Wilson, 2010). The phenomenological approach views the world as complex and interconnected, and the research must maintain the complexity for the explanation to be trustworthy with the observer possessing a perspective (Maykut&Morehouse, 1994). The positivist approach generally seeks to deduce cause-and-effect relationships to predict conduct patterns and therefore the research purpose is likely to be causal or predictive whereas the phenomenological research is mainly exploratory and descriptive in purpose (Williams, 1998). Easterby-Smith, Thorpe, and Lowe summarised the two as below.
The research adopted the two approaches, though largely phenomenological. The phenomenological approach produced narrative/qualitative data from the questionnaires and open-ended questions from the interviews held, which fitted well with the adopted case study design. The data collected is rich and subjective because of the researcher's involvement level. Also, the phenomenological approach is best suited for this research because it is characterised by a lower but informative sample for provision of in-depth insight, and it is not as rigid as the positivist approach. The positivist approach was also employed through the adoption of surveys containing closed-ended questions and secondary data, for collection of numerical data. The approach also came in handy when quantifying the results through use of inferential statistics.

### 3.4 Research Strategy

A research strategy is a methodology, a decision about the data collection tactics to be employed, e.g. conducting a survey, case study, an experiment or action research. It
defines the general approach to the research investigation (Walsh & Wigens, 2003). The types of research strategies are experimental, survey, action research, case study, grounded theory, ethnography, and archival research (Saunders, Lewis, & Thornhill, 2007). The research strategy alternatives include experimental, survey, case study, grounded theory, ethnography, action research, operational research and modelling (Hussey & Hussey, 1997), as shown below.

![Figure 3.2 Research design alternatives](image)

**Case Study**

It is a factual inquiry examining a present phenomenon within its real-life setting, particularly if there is some obscurity between the boundaries of entity of study and its context (Yin, 2003). A case study can examine an individual, group, community or institution to answer specific research questions using different kinds of evidence in the case setting (Gillham, 2000). It is beneficial when the phenomenon under study is broad and multifaceted, characterised by insufficient existing body of knowledge, and the phenomenon cannot be studied outside its occurrence setting (Benbasat, Goldstein, & Mead, 1987). Yin explains that case studies are suitable when the research addresses either a descriptive/explanatory question, collection of data in natural settings as compared to relying on ‘derived’ data is preferred and when conducting evaluations (Yin, 2012). Emphasis is put on not disturbing the ‘natural’ setting under study.
Surveys

A survey is a systematic gathering of primary data through the use of structured questionnaires and communication in a reasonably large number and highly representative sample of respondents (Wegner, 1993). If the sample, which is a fraction of the population under study, is representative, it is possible to demonstrate the possibility of the sample’s characteristics as also found in the population. Wimmer and Dominick records descriptive and analytical surveys and explain that the former seeks to describe or document the prevailing conditions whereas the latter attempts to describe and explain why situations exist and usually involve relationships between two or more variables (Wimmer & Dominick, 2011).

Ethnography

Ethnography comprises the study of a logically defined integral group in its usual setting for a continual time interval with the researcher either observing only or being a participant observer (Creswell, 1994). Goetz and LeCompte describe ethnography as a critical narrative of social scenes and groups, which recreate shared beliefs, practices, folk knowledge, and people behaviours for the reader (Goetz & LeCompte, 1984). This strategy is time-consuming and laborious, starting with identification of the general research questions, which are refined continually to become more focused. Data collection devices such as participant observation, ethnographic interviews, and artifact collection can be used with the interpretations open to being grounded and triangulated (Leedy, 1997). Data analysis happens as data is gathered, with the researcher coding and classifying the data into meaningful taxonomy. As new data is captured, patterns are noted and with the process being iterative, the researcher is can make affirmations, telling the subjects’ perspectives. The findings are communicated in research-based rich assertions with descriptions of participants experience and perceptions.
Grounded Theory

Grounded theory is an inductive theory learning methodology where the researcher develops a notional explanation of the subject’s common features and ground the account empirical interpretations or evidence simultaneously (Glaser & Strauss, 1967). In a bid to improve a grounded theory, the researcher approaches the investigation with an open and rational mind regarding the theory type forming the study (Remenyi, Williams, Money, & Swartz, 1998). The relationships that exist among conceptions are persistently refined through the iterative data collection and analysis processes so as to facilitate theory improvement. Through the iteration, newer data is used to improve, eliminate or create questions, and deductions. The researcher strives to deduce patterns from the associations among the different subjects by linking two or more data categories logically.

Experimental

Experiments are conducted systematically, either in a laboratory or in a natural setting allowing identification of causal relationships through manipulating the independent variable and observing the result on the dependent variable. This strategy is appropriate when the researcher wishes to discover if certain variables produce effects in other variables. Some of the advantages of experiments are that data collected tend to have high reliability, it can be duplicated in the same circumstances, and it permits statistical analysis and comparisons between changes in experimental circumstances. The limitations of experiments include the inflexibility given that data is collected on a specific and narrow subject involving two variables, questionable data validity because the researcher is uncertain of controlling non-experimental variables, and the ethical issues that result from using human beings in experiments.
**Action Research**

Action research is an approach that assumes that the social world is constantly changing with the research, and the researcher being part of the change. The strategy is an applied research type seeking to bring about a conscious transformation in a partially controlled setting effectively. Action research’s main goal is to step into a situation, endeavor to transform it, and observe the outcomes. In the situation, practices are critically examined so as to make changes to those practices based on the research results.

**Adopted Research Strategy**

The research used the case study and survey strategies. The cases under examination being, the indigenous commercial banks in Zimbabwe. The case study strategy has its shortcomings, which include that it produces ‘soft’ qualitative data not good for statistical comparisons, access to the case study setting requires negotiating, and the presence of the researcher may influence the ‘natural’ behaviour of the setting. However, it was selected because it permits data collections in complex situations, it does not have control imposition as in other strategies, and it is generally manageable because of the defined focus setting. The case study is also appropriate for multi-perspectival analysis, i.e., it allows the researcher to consider the interaction between individuals and groups within and outside the organization, e.g., employees, customers, regulators. The survey strategy was selected because it is appropriate for investigating realistic settings and it allows collecting large amounts of information from various respondents with ease at a reasonable cost.

**3.5 Population and Sampling Techniques**

The research’s target population consisted of senior executives, CIOs, IT managers, and Heads of IT from the indigenous commercial banks in Zimbabwe operating from Harare. Involving several hundreds of people in the research would make the
collection and examination of data from each element impossible in the allotted time of the research. Thus for this research, the sampling units were senior executives, CIOs, IT managers, and Heads of IT from the indigenous Zimbabwean commercial banks.

There are two major sampling types, probability and non-probability sampling (Sekaran & Bougie, 2010). Probability sampling is founded on the notion of random choice, a well-ordered process ensuring that a known non-zero chance of selection is allocated to each population element. The research used non-probability sampling, where the population elements’ chances of being chosen as sample subjects is not dependent on some attached probabilities. Despite the element of bias in non-probability sampling, it was adopted because it met the sampling objectives. In this case, there was no need to generalize to a population parameter and thus the issue of the sample fully reflecting the population was of less concern. Another reason for using non-probability sampling was that it is cheaper and less time-consuming compared to probability sampling.

Non-probability sampling is has different methods, which include convenience, quota, dimensional, judgemental, snowball, and volunteer sampling (Austin & Pinkleton, 2006). Judgemental sampling where the sample members meet some special needs of the study is adopted. This will allow the sampling units that have limited information to refer the researcher to knowledgeable people. The other methods were not chosen for the reason that they do not facilitate targeting only the specific knowledgeable people for information (Sekaran & Bougie, 2010).

### 3.6 Data Collection Methods

There are several methods for data collection with different effects on the appropriateness, quality, quantity, and adequacy of the data (Pawar, 2004). The methods include surveys, structured or semi-structured interviews, observations, focus groups, and historical or archival research (William & Pearce, 2006). The method for
use is usually influenced by factors including financial implications, nature of the research problem, time, data availability, and access to the data.

Observation involves systematically collecting data by observing observable phenomena with the data received by human senses combined for processing and interpretation. For a survey, the key feature is a set of standardized closed and/or open-ended questions compiled in a questionnaire. Employing focus groups allows for eliciting of people’s experiences, opinions, concerns, and wishes from different types of groups. Meaningful research can be undertaken by collecting historical/archival data, i.e. information gathered by others and kept somewhere in certain form, e.g., journals, magazines, reports, and e-mails. In an interview, the interviewer asks the respondent questions and records the responses through either direct, i.e., face-to-face or indirect interaction, e.g., over the telephone. One broad category of interviews, the structured interview employs an interview schedule consisting of a set pattern of questions that must be followed without any flexibility. With semi-structured interview, the researcher has the opportunity to ask more relevant questions probing for more information when necessary.

**Adopted Data Collection Methods**

Case studies permit the usage of various data collection approaches, including questionnaires, interviews, observations, and documents analysis. Another school of thought views a survey as a research method for gathering information from a chosen group of people using standardized questionnaires or interviews. Adopting that thought, the researcher employed the survey method, i.e., questionnaires and interviews for data collection. Basing a case study on several sources of data makes it more conclusive and accurate especially when the sources collaborate with each other.

Questionnaires have long turnaround times, are time consuming, have low response rates, do not allow probing and often generate varying conclusions depending on who interprets the responses. However, questionnaires were selected because they give respondents time to carefully consider their responses without interference from the
researcher; they are cost-effective allowing many respondents to be provided with questionnaires simultaneously; they force standardized responses for close-ended questions; they permit anonymity thereby promoting divulging of more information. Questionnaires also allow gathering of huge amounts of data and eliminate bias that can occur during interviews.

Case study research views interviews as a vital source of information (Yin, 1994). Interviews are essentially the primary source of data and serve well for interpretive case studies because researchers have access to case participants’ opinions and understandings of actions and proceedings (Walsham, 1995). However, interviews can be time-consuming if mostly structured; they can reduce data comparability if mostly unstructured and may appear impersonal if highly structured. However, well-organised interviews allowed the researcher to obtain feedback, yield some information that respondents may not have brought forth in writing, and gave the researcher an opportunity to increase participation rates by elucidating the research and its worth. Interviews are also flexible with regards to locations for their conducting thereby improving respondents’ commitment to the research hence their adoption for the research.

3.7 Research Procedure

Questionnaires and interviews have been adopted as data collection methods. Gaining access to the research participants usually require the approval of the institutions’ ‘gatekeepers’. Permission was sought from the institutions’ higher authorities where necessary, through an official letter from the Graduate School of Management. Research participants were identified and voluntary consent obtained. Questionnaires were sent for completion by the participants and follow-up interviews conducted to gain in-depth knowledge and clarity on the subject at hand.

Questionnaires
In questionnaire formulation, reference is made to the research objectives to determine the information required. Other considerations include the question content and wording, the desired format of responses, the structure, and layout of the questionnaire. The questionnaire had three segments, the administrative section containing purely administrative questions, and body subdivided into two addressing the research objectives. The questionnaire had clear, non-leading, and short but precise questions, each one addressing an issue. Emotive and overly sensitive questions were avoided. A blend of yes/no, ranking, multiple choice, and intensity scaled questions were formulated. The questionnaire’s introductory section addressed confidentiality, and detailed instructions of completing it. A draft questionnaire subject to revision was subjected to a pre-test made up of four sample elements to check its reliability and validity. The ultimate questionnaire version was distributed to participants for completion and collected for analysis.

Interviews

For the interviews, the right expectations for the interviewees were set by giving them an interview brief in advance so they could be in the right head space. The researcher and the interviewees’ schedules were synchronized right ahead of time because most of the interviewees have busy schedules. Conducive meeting places that allow interviewees to be relaxed and open were chosen. In cases in which face-to-face interviews were impossible, telephone interviews were used. A one-size-fits-all interview script could not work considering the different participants involved and therefore questions were tailored to reflect their subject matter expertise. A hybrid of structured and semi-structured questions were used to accommodate collection of standard data as well as allowed pursuing of issues as they arose. A standard form for capturing notes during the interviews for use as a basis for subsequent analysis was developed and used. At close of each interview day, the notes gathered were presented in a report summarising and interpreting the information. This approach promotes learning as it allows one to reflect on new information that has been received. The insights developed as the summaries were done provided some initial notions, which were accepted,
refuted or modified with subsequent interviews. An archiving system with duplication for storing the notes and reports was established.

**Data Analysis Techniques**

Data in their present form are useless, not usable, and as such managers require information for decision making. Data analysis transforms data obtained into information, and often involves reducing it into a manageable size, summarizing, and observing patterns. The findings need to be interpreted with regard to the research question after which recommendations can be made. A coding scheme was used to capture data and categorise it for meaning analysis to be done. The data was captured into Statistical Package for the Social Sciences (SPSS) software for analysis. Data was organised in tables and graphs, including bar charts, pie charts, and pictograms for analysis. The data obtained was of nominal, ordinal, ratio, and interval data types.

**3.8 Research Limitations**

About 70% of the senior executives did not have time to complete the questionnaires because of their busy schedules. In such cases, reference to people knowledge about the subject was sought. There is a possibility that some respondents may have given responses that put their organisations in good light as far as ITG is concerned. The researcher however, explained on the importance of honesty so as to make a valid conclusion and that the research only generalise the ITG status in the indigenous commercial banks in Zimbabwe. It is possible that some potential respondents may have been afraid to complete the questionnaires or expose their organisations’ shortcomings. It was explained and emphasized to respondents that the information provided was to be used strictly for this research with personal information kept confidential.

**3.9 Chapter Summary**
Chapter three discussed the research design, the various research strategies available for use and the adopted strategies as well as the justifications for their adoption. The chapter also discussed on the research population and the adopted sampling technique as well as the available and adopted data collection methods. The means for collecting the data and analysing it was also highlighted as well as the limitations that were or may have been encountered in trying to have the data at hand. The next chapter analyses and presents the results obtained.
CHAPTER FOUR

4.0 Results and Discussion

4.1 Introduction

This chapter analyses, summarises and presents data gathered during the data collection stage. Data analysis is guided by the research questions identified in Chapter 2. Both descriptive and inferential statistics are used. Inferential statistics is used to make inferences about IT governance in the indigenous commercial banks of Zimbabwe based on the sample analysed.

4.2 Response Rate

This section discusses the overall survey response rate and the response rate based on the respondents’ job functions.

4.2.1 Overall Response Rate

Each of the 12 indigenous commercial banks was given 4 questionnaires, giving a total distribution of 48 questionnaires. A total of 30 questionnaires were completed and returned giving a response rate of 62.5%. The responses are shown below.
The questionnaires response rate is known to be typically low, with anyone getting above 75% regarded very fortunate and 50% considered acceptable (Ray, 2011). Nonetheless, the credibility of a survey is connected to the response rate; the higher it is, the more credible are the results (Groves, Fowler, Couper, Lepkowski, Singer, &Tourangeau, 2009). Given that, 62.5% can be considered an adequate rate for making conclusions.

### 4.2.2 Response Rate by Job Functions

The 30 individuals that responded consists of executives, CIOs and IT Management staff, each making up 6.67%, 6.67% and 86.67% respectively. About 70% of executives approached delegated the responding to IT management staff. At this point, it is tempting to agree with Van Grembergen and De Haes that IT governance has stayed mainly in IT function, with executives referring any IT related questions to the IT function (Van Grembergen& De Haes, 2005). The explanation provided was that executives have busy schedules and could not manage to respond to questionnaires.
4.3 Results

The results are evaluated in relation to the set research objectives and questions in Chapter 1.

4.3.1 Research Objective 1: To establish the awareness of IT governance in Zimbabwean indigenous commercial banks from 2007 to 2013

This is established by considering the importance attached to IT in achieving of strategic objectives, the understanding of the strategic value of IT by the business managers, the consideration of IT governance as an integral part of corporate governance and the IT governance implementation statuses in the banking institutions. Top management support or lack of it in implementing ITG in organisations also contributes to the measure of its awareness

4.3.1.1 Understanding of IT and ITG

All the 30 respondents acknowledged that IT plays a very important role in enabling achievement of strategic objectives in their organisations. Out of the 30 respondents, 97% agreed that the board and executive management in their organisations understand the strategic value of IT with only 3% disagreeing as shown in Figure 4.2 below. The understanding of IT by the board and executive management is critical for IT
governance as it creates an environment that makes its awareness and implementation possible. Top management comprehension and consequently support are prerequisites for IT governance implementation (ITGI, 2005d). ITG implementation is a difficult journey requiring change in culture and transformation, commitment from various levels of the organization and therefore calls for comprehensive understanding (Selig, 2008).

![Figure 4.2](image)

**Figure 4.2:** Question 12 - The board and executive management in my organisation understand the strategic value of IT?

The 30 respondents all indicated that IT governance is considered an integral part of corporate governance in their organisations. The observed trend of IT being integral in good corporate governance practices in the banking institutions is in sync with the pervasive nature of IT as noted by Bhattacharjya and Chang (Bhattacharjya & Chang, 2007) and the King Committee (IODSA, 2009).

From the 30 respondents, 93% indicated that lack of top management support is not a challenge while 7% indicated that it is a challenge in implementing ITG in their organisations.

![Figure 4.3](image)

**Figure 4.3** Question – Is lack of top management support a challenge in implementing IT governance in your organisation?
4.3.1.2 ITG Implementation Status

From the 30 respondents, 83.3% have already implemented IT governance practices with 16.7% at the implementation stage as shown below. From the results, every indigenous commercial bank in Zimbabwe has at least done something concerning ITG practices.

![Pie chart showing ITG implementation status]

**Figure 4.4** Question 6 - How would you describe your organisation’s position concerning implementation of improved IT governance practices?

4.3.2 Research Objective 2: To evaluate IT governance as practiced in Zimbabwean indigenous commercial banks

To evaluate this, responses were sought to establish if recommended practises are in place.

4.3.2.1 IT on Board or Executive Committee Agendas

The 30 responses received shows that 23% of them always have IT on their boards or executive committees’ agendas, 27% of them regularly with 37% at times, depending on projects at hand. According to Iliescu, IT is neglected by boards on their agendas because of its complexity (Iliescu, 2010), but however that has to change if any business is to take advantage of IT and realise value. The board and executive committees must engage the CIO and the IT Strategy committee to help them understand IT issues and ensure IT contributes to the institutions’ strategic direction.
Also, it matters what IT issues are on the boards and executive committee’s agendas. As an example, a Cylab 2012 report indicated that boards and executives do not have a clue on managing privacy and cyber risks (Westby, 2012).

![Pie chart showing frequency of IT inclusion in board or executive committee agendas.]

**Figure 4.5** Question 13 - How frequently is IT included in your organisation’s board or executive committee agendas?

### 4.3.2.2 Existence of IT Strategy Committee

Despite the emphasis of IT governance being led by the board, it was noted that IT expertise at board level is low (De Haes & Van Grembergen, 2009) hence the need for the IT Strategy committees to assist the board on IT issues. Out of the 30 respondents, 80% of them have the IT Strategy committees in their organisations, with the remaining 20% not having them.

![Pie chart showing existence of IT Strategy committees.]

**Figure 4.6** Question 14 - Does your organisation have an IT Strategy Committee that reviews major IT investments on behalf of the board and executive management and advises the board on strategic IT decisions?
Generally the banking institutions are in the right direction here, given that 80% have the committee. The IT Strategy committee provides strategic direction and alignment between business and IT, determines if management has adequate measures to address risks, approve IT business architecture for maximum value delivery and ensure IT funding is adequate among other (Hardy, 2003). Given these critical roles, one can only wonder how those without this committee are managing.

### 4.3.2.3 IT Strategy Committee Chairperson

According to ITGI, the committee should be chaired by the CEO preferably, or a senior director at least, with the CIO representing IT (ITGI, 2005d). Out of the 25 respondents who have the IT strategy committees in their organisations, 58.3% of them are chaired by IT executives and 41.7% by non-IT executives.

![Figure 4.7](image)

**Figure 4.7** Question 15 – Who chairs the IT Strategy Committee in your organisation?

A number of banking institutions are not doing well on this, according to the best practices. Having a non-executive chairing this committee will help ensure decision makers, i.e. business managers take ownership of IT governance issues.

### 4.3.2.4 ITGSponsor/Key champion

From the 30 respondents, one did not know the IT governance key champion/sponsor in his/her organisation. A total of 10 respondents have IT executives as the key champions/sponsors while the remaining 19 respondents have business executives or the board as their key champions/sponsors. The championship role must be carried out by the business key decision makers (Sylvester, 2009). Thus 33% of the respondents
indicate that a significant number of banking institutions are not following the recommend practices in this area.

![Figure 4.8 Question 16 - Who is the key champion/sponsor of IT governance within your organisation?](image)

4.3.2.5 CIO Position

Of the 30 respondents, 63% have the CIO position in their organisations while 37% do not have. This role is necessary for the bridging of the business with IT and ensures alignment between the two. The role has become critical given that IT has become more than just a means of decreasing costs and enhancing efficiency but rather, a prime enabler of business innovation with the CIO driving the IT and business collaboration (Selig, 2008).

![Figure 4.9 Question 17 - Does your organisation have the CIO position?](image)

A significant number, 63%, shows that a number of indigenous banking institutions are not in line with the recommended best practices.
4.3.2.6 IT Head Supervisor

From the 30 respondents, 26.7% indicated that the IT heads in their organisations report to the finance executive and the 73.3% indicating that they report to the Group CEO, CEO, Chief Operations Officer and MD. The head of IT reporting to the most senior executive is cited as one of the best practices so the institutions are generally doing well on this aspect. All the 30 respondents also indicated that the heads of IT in their organisations are part of the senior management team thus giving IT an opportunity to contribute to the strategic direction of the organisation.

![Graph showing IT Head Supervisor roles distribution](image)

**Figure 4.10** Question 18 – To whom does the Head of IT in your organisation report to?

4.3.2.7 ITGAspects Addressed by Executives

Out of the 30 respondents, 93.3% indicated that IT resource and budget management is addressed by the board or executive committee in a structured manner. Eighty three percent of the same respondents said that IT risk management is addressed by the board or executive committee in their organisations. From the 30 respondents, 66.7% highlighted that IT value delivery is addressed by the board or executive committee in their organisations. IT and business strategy alignment and IT strategy formulation from 63.3% and 60% respectively of the respondents is addressed by the board or executive committee in an organized manner. IT performance management and disaster recovery
and business continuity seems to receive the least attention from the board or executive committee, as evidenced by the 36.7% and 43.3% respectively from the 30 respondents.

IT governance is the responsibility of the board and executives (ITGI, 2007) and deals with IT systems, their performance, and risk management (Drogou, 2007) in order to realize maximum business value (Webb, Pollard, & Ridley, 2006). The aspects specified above are some major components of IT governance and therefore have to be addressed by the board and executive management. The indigenous commercial banks in Zimbabwe have a long way to go in addressing these vital IT governance components.

**Figure 4.11** Question 20 - Which of following IT governance aspects are addressed by the board or executive committee in a structured manner?

IT governance is the responsibility of the board and executives (ITGI, 2007) and deals with IT systems, their performance, and risk management (Drogou, 2007) in order to realize maximum business value (Webb, Pollard, & Ridley, 2006). The aspects specified above are some major components of IT governance and therefore have to be addressed by the board and executive management. The indigenous commercial banks in Zimbabwe have a long way to go in addressing these vital IT governance components.
4.3.2.8 Management Involvement in IT Initiatives

From the 30 respondents, 57% indicated that management contributes in decision making while 47% said management leads in decision making in IT-enabled business projects. IT governance is about decision making (Meuller, Magee, Marounek, & Phillipson, 2008) and happens to be the obligation of the board and executives (ITGI, 2007). Thus management has to be fully responsible for decision making on IT-enabled business initiatives and not lead or contribute as is the case now. Based on the results, all indigenous commercial banks need to improve on this aspect.

![Bar chart showing management involvement in decision making](image)

**Figure 4.12** Question 22 - How would you describe business management’s level of involvement in governing IT-enabled business initiatives?

4.3.2.9 Communication of Potential Business Opportunities

Of the 30 respondents, 10% indicated that their IT functions always communicate potential business opportunities arising from new technologies while 43% said the communication is on regular basis. The remaining 47% highlighted that the communication is dependent on projects at hand. Given the argument of strategic
alignment between business and IT being bi-directional (Luftman & Rajkumar, 2007), it is therefore critical that IT communicates any business opportunities that may arise from new technology. The indigenous banks are generally not meeting this recommended best practice.

![Bar chart showing IT performance measurement responses]

**Figure 4.13** Question 24 - How often does your IT function communicate to the business potential business opportunities that arise as a result of new technologies?

### 4.3.2.10 IT Performance Measurement

Of the 30 respondents, 37% indicated that IT performance measurement lies within the IT unit and another 37% said it is the responsibility of both the IT and business units. Twenty three percent pointed out that IT performance measurement lies within the business unit while 3% did not know where it lies.
IT performance management is the responsibility of the board delegated to the IT strategy committee for execution by the CIO. The implemented IT balanced scorecard is signed off by the business executives for review by the IT strategy committee and the board (ITGI, 2003). Thus the actual measuring lies within the IT function though governed by the business unit.

**4.3.2.11 IT Projects and Investments Evaluations**

Return on investment is the most widely used measure followed by the IT balanced scorecard, each making up 73% and 27% from the 30 respondents respectively. Payback period is used by 17% of the 30 respondents while net present value is not used by any of the respondents.
As highlighted earlier, financial metrics that include ROI, NPV, and IRR on their own do not produce conclusive evidence, enough to justify acquisition and use of IT (Macada, Beltrame, Dolci, & Becker, 2012) as they do not reflect intangible benefits (ITGI, 2005c). The BSC eliminates the traditional financial measures' weaknesses, capturing both tangible and intangible benefits (ITGI, 2005c). Are the indigenous commercial banks using both financial measures and BSC then?

4.3.2.12 Payback Period and BSC

Out of 5 respondents whose organisations use payback period, none of them uses the IT BSC. Of the 8 respondents who use the IT BSC, none of them uses the payback period measure.

Figure 4.15 Question 28 - Which methods are you used to measure the value of IT projects and investments in your organisation?
From the 22 respondents who use the ROI measure, none uses the IT BSC. Of the 8 respondents that use the IT BSC, none uses the ROI measure.

<table>
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<th>Yes</th>
<th>No</th>
<th>Don't know</th>
<th>Total</th>
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<td>5</td>
<td>5</td>
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<tr>
<td></td>
<td>No</td>
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<td>17</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Don't know</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>6</td>
<td>22</td>
<td>30</td>
</tr>
</tbody>
</table>

**Figure 4.16 Payback period and BSC**

### 4.3.2.14 ROI and Payback Period

Out of 22 respondents that use the ROI measure, 5 use the payback period as well.

<table>
<thead>
<tr>
<th>Payback period is used to measure the value of IT projects and investments in my organisation</th>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return On Investment is used to measure the value of IT projects and investments in my organisation</td>
<td>Yes</td>
<td>5</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>0</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Don't know</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5</td>
<td>25</td>
<td>30</td>
</tr>
</tbody>
</table>

**Figure 4.18 ROI and payback period**
In summary, IT projects and investments evaluations in the institutions are inadequate since most of them use only financial measures, measures not able capture intangible benefits.

4.3.3 Research Objective 3: To establish the effectiveness of the current ITG implementations in Zimbabwean indigenous commercial banks

4.3.3.1 ITG Practices Effectiveness

Of the 30% respondents, 43.3% believe the implemented IT governance practices have been highly effective, 50% feel they have been partially effective and 3.3% do not know the effectiveness of the practices. One respondent felt he/she could not make a judgement from the implementations of IT governance done so far.

![Pie Chart: ITG Practices Effectiveness](image)

Figure 4.19 Question 10 - If you have implemented IT governance practices, how effective have they been?

4.3.3.2 IT Understanding of Business

From the 30 respondents, 73.3% feel the IT function understand and support business needs to a large extent with 26.7% saying to some extent. IT understanding of the business is required for the alignment between the two, which is a key component of IT governance.
One may ask, is the IT understanding of the business translating to effective IT governance practices? Figure 4:20 shows that out of 22 respondents, 6 and 1 respondent(s) who indicated that their IT functions understand and support business to a large extent rate the IT and business strategy alignment as average and poor respectively. This may be a sign that despite IT understanding business, the IT strategy formulation processes themselves are weak, resulting in failure to align with the business strategy to a large extent.

<table>
<thead>
<tr>
<th>How would you describe the alignment between IT strategy and the business strategy of your organization?</th>
<th>Very good</th>
<th>Good</th>
<th>Average</th>
<th>Poor</th>
<th>Very poor</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td>Count</td>
<td></td>
</tr>
<tr>
<td>To what extent does your IT function understand and support business needs?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To a large extent</td>
<td>6</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>To some extent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not really</td>
<td>0</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Not at all</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Don't know</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>6</td>
<td>13</td>
<td>9</td>
<td>2</td>
<td>6</td>
<td>30</td>
</tr>
</tbody>
</table>

**Figure 4.21 IT understanding of business and alignment**

### 4.3.3.3 Value Delivered by IT

Out of the 30 respondents, 66.7% feel IT is delivering substantial value and 33.3%, some value. While there is an appreciation that IT is delivering some value at least,
there is room for improvement given that in some institutions IT and business are not in alignment. The value that matters is that which is in line with the business requirements.

4.3.3.4 IT Costs: Driver vs. Outcome

Twenty three respondents had managing IT-related costs as a driver for IT governance implementation and out of that only 1, i.e. 4.3% indicated that their organisation has realised that with 21 not have realised that meaning the IT governance practices have not been effective in this area. In fact IT spending is expected to grow, despite the investments already done (McAfee & Brynjolfsson, 2008).

Figure 4.22 Question 25 - How much value do you think IT is delivering to the organisation e.g. lower costs, adequate risk management, and customer satisfaction?

<table>
<thead>
<tr>
<th>Lower IT costs has been an outcome of implementing IT governance</th>
<th>Count</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower IT costs has been an outcome of implementing IT governance</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>To help manage IT-related costs is a driver of IT Governance implementation</td>
<td>1</td>
<td>21</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>28</td>
</tr>
</tbody>
</table>
4.3.3.5 IT-related Negative Incidents: Driver vs. Outcome

Preventing IT-related negative incidents was a driver of IT governance implementation for 15 respondents’ organisations and 14, i.e. 93.3% of them said they have accomplished it, with 1 not having realised it. The IT governance practices have been very effective in addressing this need.

![Figure 4.24 IT-related negative incidents: driver vs. outcome](image)

4.3.3.6 Compliance to Regulation: Driver vs. Outcome

Out of 14 respondents whose organisations had ensuring compliance with legal and regulation requirements as an IT governance implementation driver, 9 i.e. 64.3% indicated that their organisations have achieved it. The IT governance practices have been slightly effective in ensuring compliance.

![Figure 4.25 Compliance to regulation: driver vs. outcome](image)

4.3.3.7 IT and Business Strategy Alignment: Driver vs. Outcome

Out of 24 respondents whose organisations implemented IT governance with the intention of ensuring IT is aligned with current business needs, 62.5% indicated that the
alignment is at least good, 29.2% average and 8.3% poor. The implemented IT governance practices have been partially effective in ensuring IT and business alignment.

<table>
<thead>
<tr>
<th>How would you describe the alignment between IT strategy and the business strategy of your organisation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very good</td>
</tr>
<tr>
<td>Count</td>
</tr>
<tr>
<td>To ensure IT is aligned with current business needs is a driver for IT governance implementation</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

**Figure 4.26 IT and business strategy alignment: driver vs. outcome**

4.3.3.8 IT-related Risks: Driver vs. Outcome

Twenty respondents said their organisations intended to manage IT-related risks from IT governance implementation and 80% indicated that they succeeded, 15% did not and 5% are still at implementation. The practices put in place have been effective given that 80% achieved their goal.

**Figure 4.27 IT-related risks: driver vs. outcome**

4.3.3.9 IT Strategy Committee vs. IT Business Alignment

Of the 25 respondents that have the IT strategy committee, 6 of them described their IT and business alignment as very good, 13 as good and 6 as average. Of the 5 respondents who do not have the IT strategy committee, 3 described the IT business alignment as average and 2 as poor. One of the roles of the IT strategy committee is
ensuring IT and business align (Hardy, 2003) and those that have this committee in place are seeing that alignment.

![Image](image_url)

**Figure 4.28 IT strategy committee vs. IT business alignment**

### 4.3.3.10 IT Projects Failures

From the 30 respondents, 20 i.e. 67% of them indicated that their organisations experience premature terminations of IT-related projects, with the 33% not experiencing them.

![Pie Chart](chart_url)

**Figure 4.29 Question** - Does your organisation experience premature termination of IT-related projects?

From the 20 respondents who experience these terminations, 3% attributes them to projects falling behind schedule, 7% to projects exceeding budgets, 13% to projects not supporting business strategy, 30% to projects failing to deliver as promised and 63% to changing business needs.

From the 30 respondents who had managing costs as a driver, only 4.3% indicated they achieved this as the outcome meaning 95.7% did not achieve this. Practises put in
place were therefore not effective. From those who sought to prevent IT-related negative incidents, 93% managed to attain that implying that the ITG practices put in place for this were effective. Some had compliance with legal and regulation requirements as a driver for ITG implementation and out of those 64.3% managed to achieve that implying the practices implemented for that were partially effective. The ITG practices put in place for ensuring IT is aligned with current business needs were also partially effective given that 62.5% managed to achieve it. Others had managing IT-related risks as their driver for ITG implementations and applied practices were effective given that 80% of them realised it. ITG practices when well implemented will ensure projects failure rates are kept low or eliminated in the best case scenario, but results show that there is still a lot to be done given that 67% still experience project failures.

From the interviews conducted, it was revealed that most of the projects that fail because of changing business needs and not supporting business strategy, the major root cause is the non-alignment between the IT and business strategies. Because of the
isolated two strategies, when business decides to shift focus, some of the IT projects implemented or underway fail to fit into the new direction and becomes obsolete. Without this alignment, organisations are not able to use IT resources in the best way to meet the enterprise’s business objectives (Vargas, Plazaola, & Ekstedt, 2008), also creating unrealistic and inconsistent expectations (Bowen, Cheung, & Rohde, 2007). Another reason attributable to these failures is that most organisations rely on financial measures only for evaluating IT initiatives yet IT has some intangible benefits which cannot be captured by these measures.

4.3.4 Research objective 4: To recommend ITG frameworks for use by Zimbabwean indigenous commercial banks?

4.3.4.1 Adopted ITG Frameworks/Standards

From the 30 respondents, 10% have adopted ITIL, another 10% COBIT, 17% ISO, 53% internally developed, and 6.7% both ITIL and COBIT as their IT governance framework.

![Bar chart showing the adoption of ITG frameworks](image)
4.3.4.2 ITGFrameworks Adequacies
Out of the 30 respondents, 33% believed their adopted IT governance framework is very adequate, 10% feel it is adequate, 27% barely adequate while 13% believe it is inadequate.

![Bar chart showing ITG Frameworks Adequacies](image)

**Figure 4.32 Question 32** - How adequate is the IT Governance framework/standard adopted by your organisation in addressing IT issues?

4.3.4.3 ITG Frameworks Recommendations
From the 30 respondents, 30% indicated they will definitely recommend their adopted IT governance framework to others, 13% will probably recommend, 27% will probably not, 23% will definitely not and 7% do not know yet.
4.3.4.4 ITGFrameworks: Adopted vs. Adequacy

The 3 respondents whose organisations adopted ITIL find it very adequate and the same goes for the 3 respondents who implemented COBIT. From the 5 respondents who adopted ISO, 3 indicated that it is adequate while 2 it is barely adequate. 16 respondents whose organisations use internally developed frameworks indicate that only 12.5% feel they are very adequate, 37.5% barely adequate, 25% inadequate while another 25% does not know yet. The 2 respondents who have implemented both ITIL and COBIT indicated that the frameworks are very adequate.
4.3.4.5 ITGFrameworks: Adopted vs. Recommended

Out of the 3 respondents who implemented ITIL, 2 will definitely recommend it while 1 will probably recommend it. All the 3 respondents that have adopted COBIT will definitely recommend it. Three of the 5 respondents who implemented ISO will probably recommend it while 2 will not probably recommend it to others. Out of the 16 respondents who employed internally developed frameworks, only 2 will definitely recommend them, while 5 will probably not, 7 will definitely not and 2 do not know yet. The 2 respondents that have adopted both ITIL and COBIT will definitely recommend them.

<table>
<thead>
<tr>
<th>Framework/Standard</th>
<th>Definitely</th>
<th>Probably</th>
<th>Definitely</th>
<th>Do not Know Yet</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITIL</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>COBIT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ISO</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Internally Developed</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>2</td>
<td>11</td>
</tr>
<tr>
<td>None</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Do not know ITIL &amp; COBIT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>30</td>
</tr>
</tbody>
</table>

Figure 4.35 IT governance frameworks: adopted vs. recommended

4.3.4.5 Challenges to ITG Implementation

From the 30 respondents, 70% indicated that most challenge in ITG implementation is high implementation costs followed by high complexity in the implementation process with 60%. From the 30 respondents, 43% highlighted the difficulty in demonstrating the ITG benefits with 33% citing lack of communication.
Figure 4.36 Question 8 - What are the challenges experienced or being experienced in implementing IT Governance in your organisation?

4.4 Chapter Summary

The chapter reported on the key survey findings and an analysis of these findings. These findings point to some areas where ITG practices have been implemented/ not implemented and where some of the practices have been effective or ineffective in the Zimbabwean indigenous commercial banks. These findings form the basis of the conclusions and recommendations to be presented in the following chapter.
CHAPTER 5

5.0 Conclusions and Recommendations

5.1 Introduction

This chapter presents the research’s main findings based on the research objectives and makes recommendations to the banking institutions and for future research.

5.2.1 ITG Awareness

The appreciation of the strategic value of IT and consequently ITG by the executives, the attention ITG is afforded and the ITG implementation statuses serve as enough evidence to conclude that there is awareness of ITG in Zimbabwean indigenous commercial banks. Also, the results indicate that the majority of top management support ITG implementations also confirming that there is awareness of it, otherwise they would not support an initiative which they do not have insight of, considering that it involves resources.

5.2.2 ITG Practices

- The role of the IT strategy committee is appreciated as seen by its existence in the majority of institutions as seen from the results, with its chairmanship however mostly in the hands of IT.
- The ITG key champion/sponsorship role is mostly in the hands of the business executives though a considerable percentage is in the hands of IT.
- The CIO role is critical yet a considerable percentage indicated that it does not exist in their organisations. In the majority of cases, the Head of IT reports to the most senior executive.
- Management is not taking full responsibility in IT-enabled business initiatives but is either leading in decision making or contributing to the process.
- In IT performance measurement, most organisations have not adopted the IT balance scorecard relying mostly on the inadequate financial measures.
- IT risk management and IT resource and budget management are addressed by the board or executive committee in almost all the organisations.
- IT performance management and Disaster recovery and business continuity are neglected by the board or executive committee in the majority of the organisations.
- IT and business strategy alignment and IT value delivery are being addressed by the board or executive committee in the majority of the organisations.
- The internally developed ITG frameworks are not adequate.
- The procedures for addressing ITG elements are mainly in place but the enforcement by the board is weak.

The conclusion from survey results and interviews conducted is that most indigenous commercial banks in Zimbabwe are at the defined stage of the ITG maturity model. There are guidelines from which some specific procedures for key governance activities have been formulated. Some of the procedures are still being developed with some that have been developed being slowly enforced. A few of the institutions have slowly migrated to the managed and measurable phase were getting the best out of IT through strengthened relationship between IT and the business is the focus.

**5.2.3 ITG Effectiveness**

The different institutions had different drivers for implementing ITG and they put in place structures to help support the implementations. Generally, the practices have been fairly effective but with room for improvement. Precisely, practices put in place for managing costs have not been effective at all, with those for ensuring IT alignment with business and managing projects partially effective.
5.2.4 Recommended ITG Frameworks

The respondents who have implemented COBIT, ITIL or both, indicate that they are adequate and strongly recommend them to others. The researcher would recommend both frameworks prioritising COBIT in case of limited funding. In a bid to implement ITG organisations must be aware of the associated high implementation costs and complexity of the process which were cited as the major implementation challenges.

5.3 Recommendations

- The chairmanship role of the IT strategy committee must be held by the CEO preferably, or a senior director at least, with the CIO representing IT in the committee.
- The ITG key champion/sponsorship role must be carried out by the key business decision makers i.e. board members or senior executives at least and not IT staff.
- The organisations must have the CIO role in their organograms, reporting to the CEO.
- Management must take full responsibility in IT-enabled business initiatives.
- Organisations need to implement the IT balance scorecard for IT performance measurement.
- The boards and executive committees need to take full responsibility in all the ITG domains; IT value delivery, IT performance management, Risk management, Strategy alignment and Resource management and make sure procedures for supporting these are in place and enforced via executive committees.
- The boards and executive committees need to enforce the laid down ITG procedures and practices.
- The banking institutions must adopt the standard frameworks, COBIT and ITIL, given their adequacy compared to the internally developed frameworks.
5.4. Areas for Further Study

- An evaluation of the state of ITG can be conducted in non-commercial banks and other financial institutions.
- A study can be carried out specifically on the regulator, RBZ to establish how they monitor and ensure banks have adequate systems with regards to ITG practices.
- A case study can be carried out on one banking institution that has successfully implemented the standard frameworks such as COBIT and ITIL so that its experiences can be shared with those using inadequate internally developed frameworks and considering moving to the standard frameworks.
- The impact of ITG on profitability in the banking sector institutions can be examined.
- Cloud computing is one emerging technology and it will be of interest to find out how banks are in co-operating it in their systems and what governance practices are put in place to accommodate it given the benefits/risks it brings.

5.5 Chapter Summary

The chapter makes conclusions based on the set research objectives and the obtained research results. It also makes recommendations based on the shortcomings noted in the ITG implementations in the Zimbabwean indigenous commercial banks and records areas for further study.
References


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Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory*


Tsumba, L. L. (2002). Corporate governance country case experience - Perspectives and practices.


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APPENDICES

Appendix A: ITG Maturity Model

According to ITGI, the maturity model provides maturity scales shown and described below.

<table>
<thead>
<tr>
<th>Non-existent</th>
<th>Initial</th>
<th>Repeatable</th>
<th>Defined</th>
<th>Managed</th>
<th>Optimised</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

LEGEND FOR SYMBOLS USED
- Enterprise current status
- International standard guidelines
- Industry best practice
- Enterprise strategy

LEGEND FOR RANKINGS USED
- 0 Nonexistent: Management processes are not applied at all
- 1 Initial: Processes are ad hoc and disorganised
- 2 Repeatable: Processes follow a regular pattern
- 3 Defined: Processes are documented and communicated
- 4 Managed: Processes are monitored and measured
- 5 Optimised: Best practices are followed and automated

0. Non-existent

Senior management oversight of ensuring IT goals add value to the organisation and IT risks are well-managed is non-existent (ITGI, 2003). The organisation does not recognize that there is an issue that needs attention and naturally, there is no communication concerning the matter (De Haes, & Van Grembergen, 2004).

1. Initial/Ad Hoc

ITG exists informally with management oversight seen on some specific cases of IT-related issues. ITG practices are dependent on the initiatives and familiarity of the IT management team with the involvement of top management when major problems or successes are experienced (ITGI, 2003). Management’s approach is unstructured and inconsistent because there are no standardized processes (De Haes, & Van Grembergen, 2004). IT performance measurement is restricted to technical measures found in the IT function (ITGI, 2003).
2. Repeatable

The need for a more formalised oversight of IT requiring top management support is realised though the initiative still lies with the IT management team (ITGI, 2003). Management has identified some ITG measurements and assessments methods with IT management defining some standards and processes (De Haes, & Van Grembergen, 2004). Project teams are established to tackle identified problems with still no formal communication on governance standards (ITGI, 2003).

3. Defined

The need to act on the ITG subject is understood and accepted (De Haes, & Van Grembergen, 2004). An ITG framework, including main governance undertakings such as target establishing, performance reviews, and projects planning has been defined for management’s oversight after the guidance issued by the board (ITGI, 2003). Metrics are being used to monitor processes by individuals, and it is unlikely that the deviations will be detected by management (De Haes, & Van Grembergen, 2004).

4. Managed

All levels of the organisation are formally trained and clearly understand ITG together with their defined responsibilities. There is alignment of IT processes with the IT strategy and the enterprise (De Haes, & Van Grembergen, 2004). The common goal is to maximise IT value delivery and manage IT-related risks (ITGI, 2003). ITG practices are being embedded into the overall enterprise governance process, with continuous improvement getting attention (De Haes, & Van Grembergen, 2004).

5. Optimised

ITG practices have been competently developed, such that there is clearness on IT activities, and the board comfortably controlling the IT strategy (ITGI, 2003). Continuous
improvement results and external best practices have been cooperated resulting in refined practices of ITG responsible for the provided quality and effective tools. A strategic link between the enterprise and ITG results in leveraging of technology, human, financial, among other resources, thereby increasing the organisation’s competitive advantage (De Haes, & Van Grembergen, 2004). The organisation can demonstrate first-class performance to external partners and service providers and also deservedly demand best practices in return (ITGI, 2003).
Appendix B: Questionnaire


I am an MBA student with the Graduate School of Management, University of Zimbabwe, carrying out a research on the state of IT governance in the indigenous commercial banks in Zimbabwe for the period 2007-2013.

Please do not provide your name and details. All the information you provide will be treated in the strictest confidence.

I thank you in advance for taking your time to complete the questionnaire. If you have any queries, please call Andrew Sanangurayi on 0772 805 647

Instructions to answer the questions
i. Please check/tick the suitable box(es) and fill the blanks where appropriate
ii. Please attempt to answer all 33 questions

Section A
1. What is your position in your organisation?

________________________________________________________________________

2. What is the main role of your position?

________________________________________________________________________

3. How many employees does your organisation employ?

Less than 250  □
251 – 500    □
501 – 1000   □
4. What is the organisation’s annual turnover?
   - $1m - $2m □
   - $2.1m – $5m □
   - More than $5m □

Section B

5. Is IT governance considered integral part corporate governance in your organisation?
   - Yes □
   - No □
   - Don't know □

6. How would you describe your organisation’s position concerning implementation of improved IT governance practices?
   - Have implemented □
   - In the process of implementing □
   - Considering implementing □
   - Not considering implementing □
   - Don't know □

7. What are or have been the drivers for IT Governance implementation in your organisation?
   - To help manage IT-related costs □
   - To ensure IT is aligned with current business needs □
   - To ensure IT can support future changes in business □
   - To prevent IT-related negative incidents □
   - Compliance with legal and regulation requirements □
   - Gain strategic advantage through effective use of IT □
   - To help manage IT-related risks □
   - Improve relationships with external service providers □
8. What are the challenges experienced or being experienced in implementing IT Governance in your organisation?

- Lack of top management support
- Separation of IT strategy from IT governance
- Lack of communication
- Difficulty in demonstrating its value and benefits
- Resistance to change
- High implementation costs
- High complexity of the process
- Others – please specify ___________________________ ____________________

9. What have been the outcomes of implementing IT governance in your organisation?

- Not applicable (Not yet implemented)
- Improved returns on IT investments
- Improved management of IT-related risks
- Lower IT costs
- Reduction of IT-related negative incidents
- Compliance to regulation and requirements
- Others – please specify ___________________________ ____________________

10. How effective has the implemented IT governance practices been?

- Not applicable
- Highly effective
- Partially effective
- Ineffective
- Don’t know

Section C
11. How important is the role of Information Technology in enabling your organisation to achieve its strategic objectives?

- Very important  
- Important  
- Of little importance  
- Unimportant  
- Donot know  

12. The board and executive management in my organisation understand the strategic value of IT

- Fully agree  
- Agree somewhat  
- Do not agree  
- Donot know  

13. How frequently is IT included in your organisation's board or executive committee agendas?

- Always  
- Regularly  
- Sometimes – depends on projects  
- Never  
- Donot know  

14. Does your organisation have an IT Strategy Committee that reviews major IT investments on behalf of the board and executive management and advises the board on strategic IT decisions?

- Yes  
- No  

15. Who chairs the IT Strategy Committee meetings in your organisation?

- Chief Executive Officer  

137
16. Who is the key champion/spoonor of IT governance within your organisation?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chief Executive Officer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Information Officer / IT Director/Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chief Finance Officer / Finance Director/Manager</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't know</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other – please specify</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Does your organisation have the Chief Information Officer position?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>No</td>
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</tbody>
</table>

18. To whom does the Head of IT in your organisation report to?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
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</thead>
<tbody>
<tr>
<td>Chief Executive Officer</td>
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<tr>
<td>Finance Director/Manager</td>
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<tr>
<td>Other – please specify</td>
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</tbody>
</table>

19. Is the Head of IT a member of the senior management team?

<table>
<thead>
<tr>
<th>Option</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
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<tr>
<td>No</td>
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</tbody>
</table>

20. Which of following IT governance aspects are addressed by the board or executive committee in a structured manner?

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT value delivery</td>
<td></td>
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</tbody>
</table>
IT strategy formulation
IT and business strategy alignment
IT performance management
IT resource and budget management
IT risk management
Disaster recovery and business continuity

21. How would you describe the alignment between IT strategy and the business strategy of your organisation?
Very good
Good
Average
Poor
Don't know

22. How would you describe business management’s level of involvement in governing IT-enabled business initiatives?
Management is fully responsible
Management leads in decision making
Management contributes in decision making
Management is less involved
Management is not involved but kept informed
Don't know

23. To what extent does your IT function understand and support business needs?
To a large extent
To some extent
Not really
Not at all
Don't know
24. How often does your IT function communicate to the business potential business opportunities that arise as a result of new technologies?

- Always
- Regularly
- Sometimes – depends on projects
- Never
- Don't know

25. How much value do you think IT is delivering to the organisation e.g. lower costs, adequate risk management, and customer satisfaction?

- Substantial value
- Some value
- No value at all
- Don't know

26. If your organisation experiences premature termination of IT-related projects, what are the reasons?

- No premature terminations experienced
- Projects falling behind schedule
- Projects exceeding budget
- Projects failing to deliver as promised
- Changing business needs
- Projects not supporting business strategy
- Don't know
- Others – please specify ___________________________ ___________________________

27. Where does the responsibility of measuring the performance of the IT function lie within your organisation?

- In the IT function
- In the business unit
- In both the business unit and IT function
Don't know
Other – please specify ____________________________ ____________

28. Which methods are you used to measure the value of IT projects and investments in your organisation?
- Return on Investment
- Payback period
- Net Present Value
- Balanced scorecard
- None
- Don't know
Others – please specify ____________________________ ____________

29. How important do you think IT risk management is to your organisation?
- Very important
- Important
- Of little importance
- Unimportant
- Don't know

30. How well are the following IT practices implementations in your organisation?

<table>
<thead>
<tr>
<th>IT Governance Practice</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Not good</th>
<th>Not applied</th>
<th>Do not know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The board has oversight of IT governance</td>
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<tr>
<td>The board reviews IT budgets and plans regularly</td>
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<tr>
<td>IT investments are driven by business needs</td>
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<tr>
<td>IT scorecard which is understood by the business is used to measure IT performance</td>
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</tr>
<tr>
<td>IT Governance Practice</td>
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<td>Fair</td>
<td>Not good</td>
<td>Not applied</td>
<td>Do not know</td>
</tr>
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<td>IT resource requirements are identified based on business priorities</td>
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<td>IT resource management covers assets and contracts including Service Level Agreements</td>
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<td>IT audits are regularly done</td>
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<td>A risk management framework clearly communicated to staff members exists</td>
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<tr>
<td>Risk management is rooted in management processes and is consistently applied</td>
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</tbody>
</table>

31. Which of the IT Governance frameworks/standards has your organisation adopted?

- ITIL
- COBIT
- ISO
- Internally developed
- None
- Do not know
- Others – please specify ________________________________

32. How adequate is the IT Governance framework/standard adopted by your organisation in addressing IT issues?

- Very adequate
- Adequate
- Barely adequate
- Inadequate
- Do not know
33. Would you recommend the IT governance framework/standard used in your organisation to other organisations?

<table>
<thead>
<tr>
<th>Option</th>
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<tbody>
<tr>
<td>Definitely</td>
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<tr>
<td>Probably</td>
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<tr>
<td>Probably not</td>
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<tr>
<td>Definitely not</td>
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</table>

The end. Thank you for completing the questionnaire.