GOVERNANCE AS A QUALITY PARADIGM

by

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DECLARATION

I, Marlene Badenhorst, declare that the contents of this dissertation represent my own unaided work, and that the dissertation has not previously been submitted for academic examination towards any qualification. Furthermore, it represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

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Signed   **Date**

ABSTRACT

Corporate governance is viewed as one of the topical issues of the 21st century. Little focus has however been directed to date at the specific application of corporate governance to Information and Communication Technology (ICT) outsourcing companies. The research problem, which was researched reads as follows: "The application of inadequate or poorly formulated governance mechanisms within ICT outsourcing companies invariably lead to poor service delivery and sub-standard quality of outsourced deliverables, and which could ultimately lead to the outsourcing contract being cancelled at a significant loss of jobs and revenue to the industry". The research question which was researched to mitigate the research problem, reads as follows: "Can a generic governance framework be formulated to address the specific governance requirements of ICT outsourcing organisations?" As a result, the objective of the research was to assess the extent to which known governance reference models, frameworks and standards address the specific governance requirements of ICT outsourcing companies.

The case study research method was utilised for the research as this type of research method allows for the establishment of in-depth data concerning the current governance mechanisms within the target organisation. The research study was supported by a governance efficiency survey conducted on a South African subsidiary of a multinational ICT outsourcing company, where the director's duties in respect of IT governance, were assessed. The questionnaire used in this research comprised of closed questions, based on the well known Likert scale. Primary data gleaned from the research survey was analysed using descriptive and inferential statistics.

The survey returned that, although best practices pertaining to 'governance' are mature, openly available and clearly described in literature, they are not necessarily widely adopted. This implies that in many organisations, there is significant room for improvement in the IT governance domain. The research furthermore returned that current known governance reference models, frameworks and standards to a limited extent, address the specific governance requirements of ICT outsourcing companies.

A generic IT Governance Framework was developed, providing a valuable contribution to the improvement of customer satisfaction levels, by suggesting practical models for the integration of processes, the organisation design of the service provider and outsource client, and the relationship between 'governance' and 'quality'.

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GLOSSARY

Terms/Acronyms/Abbreviations	Definition/Explanation
BIS	Bank of International Settlements.
BSC	Balanced Scorecard.
CARS	The function(s) in the enterprise responsible for compliance, audit, risk and security.
COBIT	Control Objectives for Information and related Technology.
ISO/IEC	International Organization for Standardization and International Electrotechnical Commission.
ITGI	IT Governance Institute.
ITIL	Information Technology Infrastructure Library.
GAAP	Generally Accepted Accounting Practise.
OGC	Office of Government Commerce.
OLA	Operational Level Agreement.
PRINCE	Projects in Controlled environments.
PgMO	The programme management office is responsible for supporting programme managers and gathering, assessing and reporting information about the conduct of their programmes and constituent projects.
PMO	The project management office is a staff function supporting the chief information officer, developed in response to complex project management requirements in larger organisations. The PMO manages the project portfolio and the project managers, sets and enforces project management standards, manages priority and resource conflicts, review project deliverables and reports on consolidated project results. It is often combined with the Business PMO, which has a similar function within the business environment.
Risk philosophy	The board's position or stance on the risks in its business environment.
SLA	Service Level Agreement.
SPI	Service Provider Interface.
Stakeholder approach to corporate governance	Corporate governance models around the world differ on who the board is responsible to. The King Reports opt for a stakeholder model of governance, which emphasises that the board is accountable not only to the company, but should take account of the legitimate

expectations and interests of its stakeholders in its decisions. A stakeholder approach to corporate governance looks after the interests of all the company's stakeholders, thus ensuring the cooperation and support of all stakeholders on which the company depends for its sustainable success. In this way, the company creates trust between itself and its internal and external stakeholders, without whom no company can operate sustainably. More specific, stakeholders entrust the company with its licence to operate.

VAL IT

Value Information Technology Framework supporting the enterprise point of view of Information Technology (IT) governance, with a focus on value .

VPI

A Fujitsu term for an IT Infrastructure, that comprise assets owned by two or more organisations, but managed as a single entity.

CHAPTER ONE:
SCOPE OF THE RESEARCH

TITLE

The title for the dissertation reads: Governance as a quality paradigm.

1.1   BACKGROUND TO THE RESEARCH PROBLEM

The advent of the 21st century has brought about new challenges for the corporate world as it continues to evolve in adapting to ever-changing operating environments. According to Tchaka and Erakovic (2008:2) citing Tricker (2000), corporate governance is viewed as one of the topical issues for the 21st century. Just as the nineteenth century focussed on the 'era of the entrepreneur' and the twentieth century focussed on the 'era of management', in the twenty-first century the focus has paradigmatically changed to the governance of companies and the way power is exercised over what have now become 'the most significant organisations in the world'. This is underpinned in a remark made by the President of the World Bank which reads: "The proper governance of companies will become as crucial to the world economy as the proper governing of countries" (Wolfensohn, 1999 cited by the CACG, 1999:1).

The field of corporate governance has received wide media coverage in the last decade due to various high profile corporate collapses. In an attempt to regulate the quality of corporate governance within organisations, various legal bills and national codes were published, of which the Sarbanes-Oxley Act in the USA, the Cadbury, Greenbury and Hampel Reports in the UK, the Bosch Report in Australia, the King Reports in South Africa, and the Dey Report in Canada, serve as examples.

While much has been achieved with the formulation of corporate governance criteria applicable to product and service organisations, little focus has been directed to date at the specific application of corporate governance to Information and Communication Technology (ICT) outsourcing companies. As a result, the research in this dissertation will be focused on corporate governance within outsourcing companies, the latter a major source of work creation and foreign revenue for South Africa.

1.2   STATEMENT OF THE RESEARCH PROBLEM

Against the above background, the research problem to be researched within the ambit of this dissertation reads as follows: "The application of inadequate or poorly formulated governance mechanisms within ICT outsourcing companies invariably lead to poor service delivery and sub-standard quality of outsourced deliverables, and which could ultimately lead to the outsourcing contract being cancelled at a significant loss of jobs and revenue to the industry".

1.3 RESEARCH QUESTION, SUB-QUESTIONS AND OBJECTIVES

1.3.1 Research question

The research question to be researched within the ambit of this dissertation to mitigate the research problem, reads as follows: "Can a generic governance framework be formulated to address the specific governance requirements of ICT outsourcing organisations?"

1.3.2 Sub-questions

The following sub-questions will be researched in support of the research problem:

➢ What is the current state of governance practices within the target organisation? (The target organisation is the South African leg of an international ICT outsourcing company with a significant presence in the South African marketplace).

➢ To what extent do current known governance reference models, frameworks and standards address the specific governance requirements of ICT outsourcing companies?

➢ What long term impact does poor service delivery and sub-standard quality of outsourced deliverables have on the outsourcing company?

➢ What are the short term/ long term impact of poor service delivery and sub-standard quality of outsourced deliverables on the customer?

1.3.3 Objectives

The primary research objectives of the author with this dissertation are the following:

➢ That the impact of the research culminates in a paradigm shift in the current role of governance mechanisms of ICT outsourcing companies to operate on par with the governance applicable to traditional companies.

➢ That the contribution formulated within the ambit of this dissertation has a practical application orientation in assisting ICT outsourcing companies to increase its customer satisfaction levels through the structured application of corporate governance.

1.4 CURRENT STATUS OF THE RESEARCH AREA

According to Tchaka and Erakovic (2008:9), citing Rajan and Zingales (2000), the dominant focus of corporate governance, on which the national code publications are based, has been grounded on the agency theory, which focuses on strengthening the mechanisms of control over management by outside owners, i.e. the shareholders. Tchaka and Erakovic (2008:9) contend that, "there is a growing recognition

in the literature on the need to explore further governance challenges posed by factors other than the separation of ownership and control". This statement is underpinned, according to Tchaka and Erakovic (2008:9), by the following:

➢ Much of the research within the corporate governance field has specifically considered large, mature companies that operate in relatively stable environments. As a result, a potentially narrow view has arisen with regards to the issues of corporate governance of modern corporations (Filatotchev & Wright, 2005) cited by (Tchaka & Erakovic, 2008:2,9).

➢ The context of increasing technological intensity and complexity has created challenges for corporate governance. Dealing with such contextual ambiguities have posed difficulties for company boards. A board's legal and moral authority has always been derived from their representation of shareholders of the firm.

➢ There is a body of literature that suggests a discontinuity in the form of governance within knowledge-intensive firms.

➢ In terms of regulatory compliance requirements, the global trend is that regulations 'see through' the body corporate and specify individually identifiable accountable agents. There is thus a personal protection aspect as corporations seek to protect their individual employees, notably at the board level, by shifting certain functional responsibilities to third parties (ITGI, 2005a:5). This places a specific burden of performance on the outsourcing service provider.

➢ In the ICT outsourcing industry, the task of governance is exacerbated by complexity, as governance needs to span not only the organisation's own affairs, but also the relevant aspects of its outsourcing clients' operations. Add to this the continual state of organisational flux with which IT outsourcing service providers need to deal with as outsourcing contracts are commissioned and decommissioned on a regular basis.

From the above the obvious analogy can be drawn that clear tangent planes can be drawn between the concepts of governance and quality. By further evaluating the definitions of quality and governance as set out below, it can be deduced that quality is a cornerstone of governance on all levels of the organisation, with quality in turn requiring proper governance to be effective:

➢ According to Krajewski and Ritzman (1993:90-91), producer and consumer definitions of quality often differ. The authors are of the opinion that within an organisation, quality typically means 'conformance to specifications'. Furthermore, customers typically define quality as value, that is, how well the product or service serves its intended purpose.

➢ The most progressive view of quality is that it is defined entirely by the customer or end user, and is based upon that person's evaluation of his or her entire customer experience. The customer experience is the aggregate of all the touch points that customers have with the company's products and services, and is by definition a combination of these (Unknown. 2009b:**Online**).

➢ Corporate governance refers to the way in which companies are governed, and to what purpose. It is concerned with practices and procedures for trying to ensure that a company is run in such a way that it achieves its objectives. (Growth-Link Learning Technologies, 2005:11).

➢ ICT governance is the responsibility of executives and the board of directors, and consists of the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the organisation's strategies and objectives. The need for assurance about the value of ICT, the management of ICT-related risks and increased requirements for control over information are now understood as key elements of enterprise governance. Value, risk and control constitute the core of ICT governance (ITGI, 2007a:8).

The attention of the reader is drawn to the fact that this dissertation will not attempt to address the bigger evolutionary problems of corporate governance in its entirety, but will rather focus on the specific aspects in achieving the required outcomes as relevant to an ICT outsourcing service provider.

In the ICT outsourcing industry, the task of governance adds to complexity as governance needs to span not only the company's own affairs, but also the relevant aspects of its outsourcing clients' operations. Some of the reasons for the extended focus are:

➢ The specific governance challenges facing a knowledge-intensive organisation.

➢ The integrated nature of the ICT management processes. Processes needs to be managed end-to-end to achieve the desired outcomes.

➢ The role that the outsourcer play in the achievement of the client's business objectives.

➢ The role that the outsourcer fulfil in respect of compliance to legal requirements and industry standards.

1.5 THE RESEARCH PROCESS

According to Remenyi, Williams, Money and Swartz (2002:64-65), the research process consists of eight specific phases namely:

➢ Reviewing the literature.

➢ Formalising the research question.

➢ Establishing the methodology.

➢ Collecting evidence.

➢ Analysing the evidence.

➢ Developing conclusions.

➢ Understanding the limitations of the research.

➢ Producing management guidelines or recommendations.

Collis and Hussey (2003:16), list six fundamental stages in the research process, namely:

- ➢ The identification of the research topic.
- ➢ Definition of the research problem.
- ➢ Determining how the research is going to be conducted.
- ➢ Collection of the research data.
- ➢ Analysis and interpretation of the research data.
- ➢ Writing up of the dissertation or thesis.

The research process to be followed in this dissertation is the following:
- ➢ Determine the 'field of study' for the proposed research.
- ➢ Identify a specific complex problem within a researchable application area.
- ➢ Conduct a holistic survey of the functional area in which the complex problem exists, to determine the impact of the problem on the specific area of application and the value the proposed research may bring.
- ➢ Conduct an abbreviated literature review on the subject matter being investigated. The purpose being to not only provide insight into the complexity of the problem, but also to provide insight into the literature pertaining to the field of study of the proposed research.
- ➢ Describe and formulate the research problem.
- ➢ Describe and formulate the research question, and associated investigative questions.
- ➢ Select an appropriate research design and methodology, which includes the data collection design and methodology.
- ➢ Determine the key research objectives for the proposed research.
- ➢ Document the research process, which will be followed for the proposed research and formulate an associated work plan.
- ➢ Identify the limitations, which may impact on the proposed research.
- ➢ Based on the above, formulate a formal research proposal and submit for approval.
- ➢ Establish a structured working relationship with the allocated supervisor.
- ➢ Conduct an in-depth literature review on the subject being researched.
- ➢ Collect, analyse and interpret the research data.
- ➢ Write up the dissertation.
- ➢ Proofread the dissertation and submit for formal vetting.

1.6   RESEARCH DESIGN

Yin (1994:19), defines a research design as, "… the logical sequence that connects the empirical data to the study's initial research question and ultimately to its conclusions. According to Collis and Hussey (2003:55), the term 'methodology' refers to the overall approaches and perspectives to the research process as a whole and is concerned with the following main issues:
- ➢ **Why** you collected certain data.

- ➤ **What** data you collected.
- ➤ **Where** you collected it.
- ➤ **How** you collected it.
- ➤ **How** you analysed it.

According to White (2003), cited by Sammy (2008:6), there are three types of research functions, namely basic research, applied research and evaluation research. According to Collis and Hussey (2003:66-67), descriptive research refers to research which describes phenomena as they exist, while analytical research is a continuation of descriptive research, and aims to understand phenomena by discovering and measuring causal relations among them. De Vos (2001:69), cited by Sammy (2008:6), describes applied research as research directed towards providing solutions or shedding light on practical problems. Collis and Hussey (2003:66-67), describes applied research as the type of research in which the results or findings can be used to solve a specific, existing problem. Based on the definitions of De Vos and Collis and Hussey, the proposed study to be conducted within the ambit of this dissertation will be a combination of 'descriptive' and 'applied' research.

Research has indicated that there is much overlap between qualitative and quantitative research methods. Babbie (2005:25), expresses the opinion that, "... recognizing the distinction between qualitative and quantitative research doesn't mean that you must identify your research activities with one to the exclusion of the other. A complete understanding of the topic often requires both techniques". Against this background, the research study will be conducted within the ambit of the 'social world'. A theoretical research approach will primarily be followed, while both the positivistic as well as the phenomenological research paradigms will be employed.

The case study research method will be utilised for this research study, as it is a type of research method, which is suitable specifically as in the case of the research, where in-depth data concerning the current governance mechanisms within the target organisation can be established. It promises to allow for an in-depth, detailed understanding of this specific phenomenon within a bounded system.

Collis and Hussey (2003:68-70), point out that case studies are often described as exploratory research, used in areas where there are few theories or a deficient body of knowledge. The following types of case studies can be identified:
- ➤ **Descriptive case studies:** Where the objective is restricted to describing current practice.
- ➤ **Illustrative case studies:** Where the research attempts to illustrate new and possibly innovative practices adopted by particular companies.
- ➤ **Experimental case studies:** Where the research examines the difficulties in implementing new procedures and techniques in an organization and evaluating the benefits.

➤ **Explanatory case studies:** Where existing theory is used to understand and explain what is happening.

The author is of the opinion that the descriptive case study will be the most suitable option for the research to be undertaken.

According to White (2003:88) cited by Sammy (2008: 10), a questionnaire is an instrument with open and closed questions or statements to which a respondent must react. The questionnaire used in this research will comprise of closed questions only, based on the well known Likert scale (Likert, 1932:1-55).

Collis and Hussey (2003:122) point out that a unit of analysis could refer to the following:
➤ An individual.
➤ An event.
➤ An object.
➤ A body of individuals.
➤ A relationship.
➤ An aggregate.

The unit of analysis in this case study, is the current governance structure as a body of individuals within the target organisation.

Collis and Hussey (2003:152-153), explain that the identification of variables refer to an attribute of the entity one has chosen as the unit of analysis. A 'quantitative variable' refers to a numerical attribute of an individual or object, while a 'qualitative variable' refers to a non-numerical attribute of an individual or object. The qualitative variables in the study include the directors' governance tasks of 'evaluate', 'direct' and 'monitor'; measured against the six ISO/IEC 38500 principles for good governance, i.e. responsibility, strategy, acquisition, performance, conformance and human behaviour.

Due to the perceived limited understanding by stakeholders for what constitutes the term governance, this author is of the opinion that only a few role players will be capable of providing meaningful input to the case study. The target population forming the sampling frame is made up of eight role players within the current governance structure of the target organisation. A research survey will be conducted involving all these role players. Primary data gleaned from the research survey will be analysed using descriptive and inferential statistics (Cooper & Schindler, 2006:463-468;492,711).

1.7 DELINEATION OF THE RESEARCH

The research will be conducted on the South African subsidiary of a multinational ICT outsourcing company. The subsidiary's main operations are conducted in South Africa. The research will be limited to the personnel directly responsible for specific areas of governance within the organisation or their delegates appointed, namely:

➢ The Company Secretary,

➢ the Chief Information Officer (CIO),

➢ the Chief Financial Officer (CFO),

➢ the Quality Manager,

➢ the Business Manager: Commercial,

➢ the Business Manager: IT Operations Business Management, and

➢ the Account Directors of two major outsourcing contracts.

No interviews with customers will be conducted.

1.8 CONTRIBUTION OF THE RESEARCH

The research will contribute to the existing body of knowledge by delivering a generic framework, which will address the specific governance requirements of ICT outsourcing organisations.

1.9 OUTLINE OF CHAPTERS

The chapters of this dissertation are set out as follows:

➢ **Chapter 1:** Scope of the research. In this chapter, a high level background is provided of the proposed research. In particular, the focus is centred on the research problem, the research question and the proposed research design and methodology to be applied.

➢ **Chapter 2:** Literature review. This chapter will firstly provide definitions and an assessment of the application of the following concepts of Corporate Governance, IT Governance, Governance of Outsourcing, Governance within Knowledge-Intensive firms, Information Security Governance, Quality and Value. This will provide a theoretical and practical underpinning to the research study. Secondly, a literature review of the selected Codes, Frameworks, Standards and Best Practices will be undertaken. The third and final section of the literature review will address a cross-section of the elements of IT governance and the governance of outsourcing.

➢ **Chapter 3:** Survey design and methodology. This chapter discusses the methods and procedures employed in developing a design for a survey of the current governance practices within the target organisation.

- ➢ **Chapter 4:** Data analysis and interpretation of survey results. In this chapter, a data analysis and subsequent interpretation of results will be conducted on the data gleaned from the research survey.
- ➢ **Chapter 5:** Conclusion. In this chapter, the research will be conducted and a generic governance framework will be proposed to address the research problem.

CHAPTER TWO:

ICT OUTSOURCING: A LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will firstly provide definitions and an assessment of the application of the following concepts, which will provide a theoretical and practical underpinning to the research study:

➢ Corporate Governance,

➢ Governance within Knowledge-Intensive firms,

➢ IT Governance,

➢ Information Security Governance,

➢ Quality,

➢ Value, and

➢ Governance of Outsourcing.

Secondly, a literature review of selected Codes, Frameworks, Standards and Best Practices will be undertaken, which will include the following:

➢ Code of Governance Principles for South Africa: The King Reports (I-III).

➢ International Standard ISO/IEC 38500: Corporate governance of information technology.

➢ Control Objectives for Information and related Technology (COBIT) 4.1.

➢ Information Technology Infrastructure Library (ITIL) v3.

➢ International Standard ISO/IEC 27002: Information Technology—Code of Practise for Information Security Management.

➢ Enterprise value: Governance of IT investments – The Val IT Framework 2.0.

➢ IT Governance Domain Practices and Competencies: Governance of Outsourcing.

The third and final section of the literature review, will address a cross-section of the elements of IT governance and the governance of outsourcing, in the following areas:

➢ Domains:

    ➢ Strategic alignment.

    ➢ Value delivery.

    ➢ Resource management.

    ➢ Risk Management.

    ➢ Performance Management.

➢ Processes.

➢ Organisational structure.

The attention of the reader is drawn to the fact that the terms 'board of directors', 'board', 'company board', and 'board members' will be used interchangeable and refers to, "a group of people who officially administer a company" (Collins Dictionary, 2007:183).

2.2   GOVERNANCE, QUALITY AND VALUE

"Whilst management processes have been widely explored, relatively little attention has been paid to the processes by which companies are governed. If management is about running businesses, governance is about seeing that it is run properly. All companies need governing as well as managing" (Tricker, 1984 cited by Growth-Link Learning Technologies, 2005:12).

2.2.1   Corporate governance

Corporate governance is concerned with how powers are shared and exercised by different groups, to ensure that the objectives of the company are achieved. Aspects of corporate governance involve the rights of shareholders and other interest groups in the likes of employees and how powers are shared and exercised by the directors. Furthermore, how the holders of power in a company should be held accountable for their omissions and actions (Growth-Link Learning Technologies, 2005:14). According to Tricker (2008:7), the basic board processes consist of:

➢   Providing accountability,

➢   strategy formulation,

➢   policy making, and

➢   monitoring and supervising.

As depicted in Figure 2.1, the basic board process can be classified as inward- or outward-looking, and are either past- and present-focused, or future-focused.
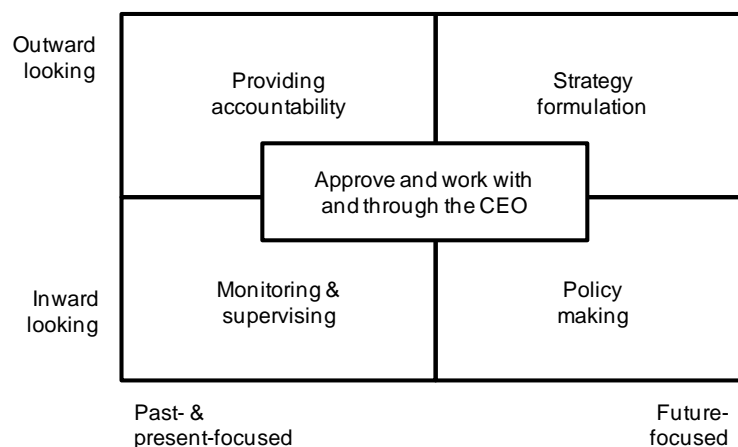
Figure 2.1: The basic board processes. (**Source:** Tricker, 2008:7)

Tricker (2008:10-12), further expresses the view (summarised in Table 2.1), that boards do not spend the appropriate proportions of time on the processes as depicted in Figure 2.1.

Table 2.1: Board time allocation. (**Source:** Tricker, 2008:10,12)

Process	How should boards spend their time?	How do boards spend their time?
Providing accountability	15%	20%
Strategy formulation	45%	10%
Policy making	15%	20%
Monitoring and supervising	25%	50%

"Essentially, directors need to look outwards, beyond the company, seeing the business in its competitive, commercial context. They must also look inwards at the component parts of the company. They need to be able to focus on the future of the business in both the medium and the long-term; and they must centre their focus on the present position and recent performance. It is every director's responsibility to ensure the business decisions are in line with the policies, procedures and plans that have been board sanctioned and approved. Directors have the ultimate responsibility to monitor the activities of the top management and furthermore to act if not satisfied" (Tricker, 1996: **Online**).

2.2.2 Governance within knowledge-intensive firms

Traditionally, the two widely recognised capitals are 'physical' and 'financial' capital. However as of late, a third type of 'capital' has been added to the definition, namely that of 'knowledge' capital. "Knowledge capital is used to refer to the capabilities of managers and other employees to contribute knowledge that can be converted into value and revenues for the organisation" (Tchaka & Erakovic, 2008:2).

According to Tchaka and Erakovic (2008:3) citing Rajan and Zingales (2000), the growing importance of knowledge and innovation as creating and sustaining a competitive advantage for the firm has meant that knowledge/intellectual capital has gained significantly over any other form of capital. In contrast with 20th-century-type companies, where most of the firm value is embedded in tangible assets that are owned by the firm, knowledge-intensive firms derive their value from assets that cannot be easily appropriated. Innovation comes from human capital, and not from inanimate assets. Reciprocally, it has now become less clear who owns this critical asset of the organisation as traditional ownership rights no longer represent control over the firm's assets.

Knowledge-intensive firms are said to be dependent on expert talent in the form of 'knowledge workers', who trade in the concept of knowledge itself. A firm cannot create knowledge without people. The process of knowledge generation involves a 'cyclical' or 'iterative' transformation

process, involving individual learning. This in turn contributes to group learning and ultimately organisational knowledge, that allows companies to compete through employee know-how. The 'real asset' within the knowledge-intensive firm is the knowledge of the employees, their formal skills, education, experience and social ability" (Starbuck, 1992; Grandori, 2004, Lahti & Beyerlein, 2000 and Sveiby, 1992 cited by Tchaka & Erakovic 2008:5).

Information sharing, though critical in extracting the value of different sources of knowledge, may not occur, especially where the firm has yet to develop knowledge management processes. Trustful relationships at and between different organisational levels are crucial for this development. Trust within the organisation, and between organisational members, can improve and enhance organisational learning and transformation of tacit knowledge to organisational practices/systems. The emphasis on trust is also important in the boardroom, between inside and outside directors, and in board-management relationships (Huse, 2007 cited by Tchaka & Erakovic, 2008:6).

The complexity associated with knowledge-intensive firms create a number of paradoxical situations for knowledge workers, managers and the board of directors. Corporate governance decision-making in such firms require a high level of information exchange between management and governance structures. Moreover, governance by definition limits the power of organisational members, but at the same time the boards of knowledge-intensive firms should develop systems that will empower (and retain) knowledge-workers (Tchaka & Erakovic, 2008:8).

"The major purpose of governance in 'the new enterprise' is to build complimentary links between the knowledge workers and the firm; that is, between 'individual-level' knowledge and 'firm-specific' knowledge, and between 'empowering employees' and 'protecting company's interests'. Complementarities result in a situation where the firm and employees create more value together as opposed to acting 'independently'. It is the task of the governance structure to ensure that these complementarities are firm specific. In terms of conceptual clarity, 'firm specific complementarities' need to bind the individual to the firm and, at the same time, enable the firm to govern its empowered knowledge-workers" (Rajan & Zingales, 2000 cited by Tchaka & Erakovic, 2008:12).

2.2.3 IT governance

IT governance is the responsibility of executives and the board of directors, and consists of the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the organisation's strategies and objectives (ITGI, 2007a:8).

An ever larger percentage of the market value of enterprises is transitioning from the 'tangible' (inventory, facilities, etc.) to the 'intangible' (information, knowledge, expertise, reputation, trust, patents, etc.). Many of these assets revolve around the use of IT (ITGI, 2003: 13).

Organisations should satisfy the quality, fiduciary and security requirements for their information, as for all assets. Management should also optimise the use of available IT resources, including applications, information, infrastructure and people. To discharge these responsibilities, as well as to achieve its objectives, management should understand the status of its enterprise architecture for IT and decide what governance and control it should provide (ITGI, 2007a:8). Leveraging IT successfully to transform the enterprise and create value added products and services has become a universal business competency. IT is fundamental for managing enterprise resources, dealing with suppliers and customers, and enabling increasingly global and dematerialised transactions (ITGI, 2003:13).

The use of IT has the potential to be the major driver of economic wealth in the 21st century. While IT is already critical to enterprise success, the concept provides opportunities to obtain a competitive advantage and offers a means for increasing productivity, it will do all this even more so in the future (ITGI, 2003:13). This new and fast-moving economy requires agile and adaptable enterprises, the latter which sense what is happening in the market; use knowledge assets to learn from that, and innovate new products, services, channels and processes. This is then followed by a rapid mutation to bring innovation to market or to repel challenges, and measure results and performance. At the heart of this emerging model is knowledge. IT is the enabling factor to collect, build and distribute knowledge (ITGI, 2003:64).

Figure 2.2 graphically depicts that successful enterprises monitor their environment on a continuous basis. They then leverage the information and knowledge they gain from their monitoring, to adapt and innovate. This even further stresses the need for boards and management to effectively direct and control IT (ITGI, 2003:64).
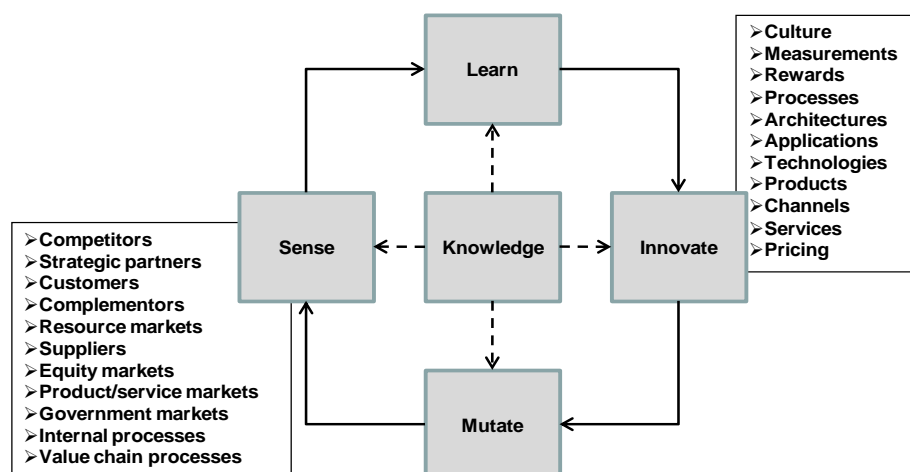
Figure 2.2: The emerging enterprise model. (**Source:** ITGI, 2003:64)

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ITGI (2003:7), points to the fact that that an increasingly educated and assertive set of stakeholders are concerned about the sound management of their interests. This has led to the emergence of governance principles and standards for overall enterprise governance. Furthermore, regulations establish board responsibilities and require that the board of directors exercise due diligence within the context of its roles. To facilitate these aspects, "boards and executive management need to extend governance to IT and provide the leadership, organisational structures and processes that ensure that the enterprise's IT sustains and extends the enterprise's strategies and objectives. IT governance is not an isolated discipline. It is an integral part of overall enterprise governance. The need to integrate IT governance with overall governance is similar to the need for IT to be an integral part of the enterprise rather than something practiced in remote corners or ivory towers" (ITGI, 2003:7).

2.2.3.1 Current Dispensation

ITGI, in conjunction with PricewaterhouseCoopers, conducted an IT governance survey from July 2007 until October 2007 and focused on specific topics such as IT risks and value delivery. The results were published in the IT Governance Global Status Report - 2008. According to the ITGI and PwC (2008:7-8), the purpose of the research was to reach members of the C-suite to determine their sense of priority and actions taken relative to IT governance, as well as their need for tools and services to help ensure effective IT governance. This high-level objective was translated into the following more detailed objectives:

➢ Survey and analyse the degree to which the concept of IT governance is recognised, established and accepted within boardrooms and especially by Chief Information Officers (CIOs).

➢ Determine what level of IT governance expertise exists and which frameworks are known and are (or will be) adopted.

➢ Measure the extent to which ITGI's own framework in terms of which Control Objectives for Information and related Technology (COBIT) are selected, and how it is perceived.

The 13 key elements that have been identified during the analysis of the survey reflect important findings from the results of the survey, and are elaborated upon below:

➢ Although championship for IT governance within the enterprise comes from the C-level, in daily practice IT governance is still very much a CIO/IT director issue. The few non-IT people in the sample have a much more positive view of IT, than do the IT professionals themselves.

➢ The importance of IT continues to increase.

➢ Self-assessment regarding IT governance has increased and is quite positive.

➢ Communication between IT and users is improving, however slowly.

➢ There is still substantial room for improvement in alignment between IT governance and corporate governance—as well as for IT strategy and business strategy.

> IT-related problems persist. While security/compliance is an issue, people are the most critical problem.

> Good IT governance practices are known and applied, but not universally.

> Organisations know who can help them implement IT governance, but appreciation for the available expertise and delivery capability is only average.

> Action is being taken or plans are underway to implement IT governance activities. A large increase is evident when compared to the 2006 report.

> Organisations use well-known frameworks and solutions.

> COBIT awareness has exceeded 50 percent, and adoption and use remain around 30 percent.

>> Twenty-five to 35 percent of respondents apply COBIT to the letter or are very strict.

>> Fifty percent of respondents indicate that COBIT is 'one of the reference sources'.

>> In general, there is high appreciation of COBIT, as has been seen in prior reports.

> More than half of the respondents apply or plan to apply Val IT principles, but are not familiar with the Val IT brand itself.

> Major obstacles to adoption and use of Val IT principles include uncertainty regarding the Return On Investment (ROI), and lack of knowledge/expertise.

2.2.3.2   Disadvantages of inefficient governance practices

According to ITGI (2003:7-8), boards and executive management generally expect their enterprise's IT to deliver business value, i.e., provide fast, secured, high-quality solutions and services; generate reasonable ROI; and move from efficiency and productivity gains toward value creation and business effectiveness. In many enterprises, expectations of IT and reality often do not match, and boards are faced with the following issues:

> Business losses, reputational damage and a weakened competitive position.

> Inability to obtain or measure a return from IT investments.

> Failure of IT initiatives to bring the innovation and benefits they promised.

> Technology that is inadequate or even obsolete.

> Inability to leverage available new technologies.

> Deadlines that are not met and budgets that are overrun.

While boards usually look at business strategy and strategic risks, few boards have focused on IT, despite the fact that it involves large investments and huge risks. Among the reasons for this phenomenon according to ITGI (2003:14), are the following:

> IT requires more technical insight than do other disciplines to understand how it enables the enterprise and create risks and opportunities.

> IT has traditionally been treated as an entity separate to the business.

> IT is complex, even more so in the extended enterprise operating in a networked economy.

This view is also supported by the following authorities, who are of the opinion that:

➢ A lack of board oversight for IT activities is dangerous; it puts the firm at risk in the same way that failing to audit its books would (ITGI, 2008b:9).

➢ Ineffective IT governance is likely to be a root cause of the negative experiences many boards have had with IT (ITGI, 2003:14).

2.2.3.3 Advantages of efficient governance practices

The following advantages of efficient governance practices are evident:

➢ Investors have realised the importance of governance, because they are willing to pay a premium of more than 20 percent on shares of enterprises that have shown to have good governance practices in place (McKinsey, 2000 cited by ITGI, 2003:7).

➢ Enterprises with the most effective IT governance achieve 40 percent better returns from their IT investments (Weill & Ross, 2004 cited by ITGI, 2008b:10).

2.2.4 Information security governance

Information security governance is a subset of enterprise governance that provides strategic direction to the organisation, ensures that objectives are achieved, manages risks appropriately, uses organisational resources responsibly, and monitors the success or failure of the enterprise security programme. Furthermore, information security deals with all aspects of information (spoken, written, printed, electronic or any other medium) and information handling (created, viewed, transported, stored or destroyed). This is in contrast with IT security which is concerned with security of information within the boundaries of the network infrastructure technology domain (ITGI, 2006:17).

It is of importance for an organisation to note that the complexity and criticality of information security and its governance demand that it be elevated to the highest organisational levels. "As a critical resource, information must be treated like any other asset essential to the survival and success of the organization" (Hancock, s.a. cited by ITGI, 2006:2).

Information and the associated systems that handle it are paramount to the operation of virtually all organisations. Access to reliable information has become an indispensable element of conducting business. In a growing number of organisations, information can be considered to be 'the business'. This increasing dependence on information was apparent more than a decade ago when Peter Drucker stated: "The diffusion of technology and the commodification of information transforms the role of information into a resource equal in importance to the traditionally important resources of land, labor and capital" (Drucker, 1993 cited by ITGI, 2006:7).

2.2.4.1   Current Dispensation

Although 28 percent of all organisations in the Aberdeen study are operating security programmes at best-in-class levels, the findings indicated that less than 10 percent operate best-in-class security governance programmes (Aberdeen Group, 2005 cited by ITGI, 2006:13).

2.2.5   Quality

According to Krajewski and Ritzman (1993:90-91), producer and consumer definitions of quality often differ. Within an organisation, quality typically means 'conformance to specifications', while customers typically define quality as 'value'. "The most progressive view of quality is that it is defined entirely by the customer or end user and is based upon that person's evaluation of his or her entire customer experience. The customer experience is the aggregate of all the touch points that customers have with the company's product and services, and is by definition a combination of these. For example, any time one buys a product one forms an impression based on how it was sold, how it was delivered, how it performed, and how well it was supported" (Unknown. 2009b:**Online**).

To aggravate matters, consumers often change their perceptions of quality. For instance, changes in consumer life-styles and values in response to changing economic conditions can bring about a drastic change to the perception of quality. In general, business success depends on the accuracy of management's perceptions of customer expectations and the degree to which it can bridge the gap between consumer expectations and operating capabilities (Krajewski & Ritzman, 1993:92).

Suppliers recognise that quality can be an important differentiator between their own offerings and those of competitors (quality differentiation is also termed as the 'quality gap'). In the past two decades, this quality gap has been greatly reduced between competitive products and services. This is partly due to the outsourcing of manufacture to countries like India and China, as well internationalisation of trade and competition. These countries amongst many others, have raised their own standards of quality in order to meet international standards and customer demands (Unknown. 2009a:**Online**).

2.2.6   Value

2.2.6.1   Value creation through services

A service is a means of delivering value to customers by facilitating outcomes, which customers wish

to achieve without the ownership of specific cost and risks. Value is defined strictly in the context of business outcomes. Focus on business outcomes over everything else is a critical advance in outlook for many service providers. It represents a shift of emphasis from efficient utilisation of resources, to the effective realisation of outcomes. Efficiency in operations is driven by the need for effectiveness in helping customers realise outcomes. Customers do not buy services; they buy the fulfilment of particular needs. This distinction explains the frequent disconnection between IT organisations and the businesses they serve. What the customer values is frequently different from what the IT organisation believes it provides (Foster-Melliar, 2008:49).

2.2.6.2 Utility and warranty

From the customer perspective, the business value of a service is created by the combination of two elements, namely:

➢ **Utility**, which is the functionality offered by a product or service from a customer's perspective, and

➢ **Warranty**, which is a promise or guarantee that a product or service will meet the agreed requirements. This may culminate as a formal agreement such as a service level agreement or contract, or may be a marketing message or brand image.

There is scepticism about the value realised from services, when there is uncertainty in the service output (Foster-Melliar, 2008:50).

2.2.6.3 Value creation

According to Foster-Melliar (2008:51), and as graphically depicted in Figure 2.3 below, 'utility' is derived from the attributes of a service that have a positive effect on performance/outcomes, while 'warranty' is derived from the positive effect of being available when needed, in sufficient capacity or magnitude. If both conditions are met, value is created.
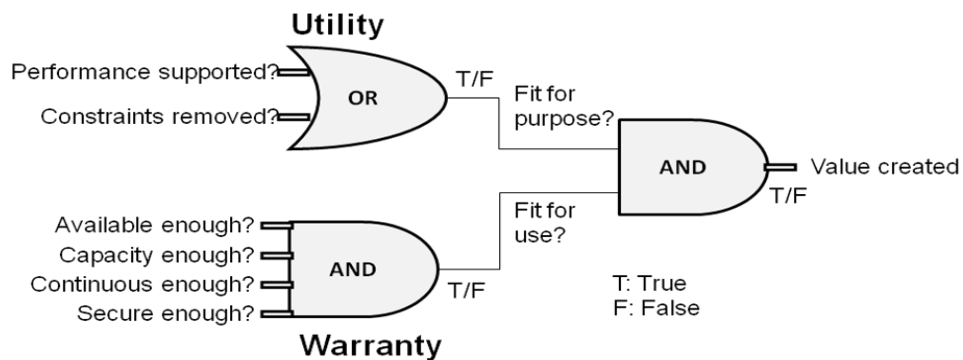
Figure 2.3: Value creation. (**Source:** Foster-Melliar, 2008:51)

2.2.6.4   The Value of IT

The basic principles of IT value are the 'on-time' and 'within-budget' delivery of appropriate quality, which achieves the benefits that were promised (ITGI, 2003: 24). Within the Val IT Framework, value is defined as the total life-cycle benefits net of related costs, adjusted for risk and (in the case of financial value), for the time value of money. In many cases however, value defies quantitative measurement. Value is complex, context-specific and dynamic. Value is indeed 'in the eye of the beholder'. The concept of value relies on the relationship between meeting the expectations of stakeholders and the resources used to do so (ITGI, 2008a:10).

According to ITGI (2008a:10), stakeholders may hold differing views of what represents value. The aim of value management is to optimise value by reconciling these differences and enabling an enterprise to:
➢   Clearly define and communicate its view of what constitutes value, and to whom.
➢   Select and execute investments.
➢   Manage its assets and optimise value with an affordable use of resources and an acceptable level of risk.

The ITGI regards value delivery as one of the five focus areas of IT governance. In addition to value delivery, the other four areas include strategic alignment, risk management, resource management and performance measurement. Value delivery depends on the other focus areas in that it requires strategic alignment, is enabled by risk management and resource management, and together with the other areas, are monitored by performance measurement.

2.2.6.5   Current Dispensation

In far too many cases, 'value' simply is not realised. ITGI (2008b:7), stated that in recent years, survey after survey has returned that from 20 to 70 percent of large-scale investments in IT-enabled change is wasted, challenged or fails to bring a return to the enterprise. The following according to ITGI (2008b:7) serve as examples:
➢   A 2002 Gartner survey found that 20 percent of all expenditures on IT is wasted, a finding that represents on a global basis an annual destruction of value totalling about US $600 billion.
➢   Research done in 2003 by the Cranfield School of Management suggests that less than 30 percent of the largest UK companies, actually have a formal benefits management process.
➢   A 2004 IBM survey of Fortune 1000 CIOs found that on average, CIOs believe that 40 percent of all IT spending brought no return to their organisations.
➢   A 2004 survey by Deloitte of 124 financial executives returned that almost 80 percent did not actively encourage value creation in their enterprise.

➢ A 2005 survey by the Butler Group measuring costs and value found that in many enterprises, less than 8 percent of the IT budget is actually spent on initiatives that bring value for the enterprise.

➢ A 2006 study conducted by The Standish Group found that only 35 percent of all IT projects succeeded while the remainder (65 percent) were either challenged or failed.

2.2.7 Governance of outsourcing

"It is no longer a company's ownership of capabilities that matters, but rather its ability to control and make the most of critical capabilities, whether or not they reside on the company's balance sheet" (ITGI, 2005a:5).

'Governance of outsourcing' is defined by ITGI (2005a:7), as "... the set of responsibilities, roles, objectives, interfaces and controls required to anticipate change and manage the introduction, maintenance, performance, costs and control of third-party provided services. It is an active process that the client and service provider must adopt to provide a common, consistent and effective approach that identifies the necessary information, relationships, controls and exchanges among many stakeholders across both parties".

According to ITGI (2005a:5) citing the Meta Group (2004), outsourcing is a US $180 billion-plus industry with more than 75 percent of IT organisations using it in some form or other. Outsourcing of some or all of the services within larger companies is seen as a way to contain, if not diminish, costs and simultaneously increase control over revenue utilisation. The increasing costs arise to a substantial extent from the difficulty of retaining internal technical expertise in a 24x7x365 global dynamic market. A strategic organisational response is to disaggregate the value chain and push the service provision out to third parties (ITGI, 2005a:5).

A decision to outsource is a 'strategic' and not merely a 'procurement' decision. The organisation that outsources is effectively reconfiguring its value chain by identifying those activities that are core to its business, retaining them and making noncore activities candidates for outsourcing. Understanding this in the light of governance is key, not only because well-governed organisations have been shown to increase shareholder value, but more important, because every organisation is competing in an increasingly aggressive, global and dynamic market (ITGI, 2005a:7).

The majority of organisations who conduct outsourcing contracts include basic control and service execution provisions; however one of the main objectives of the outsourcing governance process, as defined in the outsourcing contract, is to ensure continuity of service at the appropriate levels, profitability and value-add to sustain the commercial viability of both parties. Research has shown that

many companies make assumptions about what is included in the outsource proposition. While it is neither possible nor cost-effective to define contractually every detail and action, the governance process provides the mechanism to balance risk, service demand, service provision and cost (ITGI, 2005a:8).

According to the ITGI (2005a:9), 'IT governance' can be defined as, "... the leadership and organisational structures and processes that ensure that the organisation's IT sustains and extends the organisation's strategies and objectives". The governance of outsourcing according to ITGI (2005a:9), extends both parties' (i.e., client and supplier) responsibilities into:

➢ Ensuring contractual viability through continuous review, improvement and benefit gain to both parties.

➢ Inclusion of an explicit governance schedule to the contract.

➢ Management of the relationship to ensure that contractual obligations are met through Service Level Agreements (SLAs), Operating Level Agreements (OLAs), service credit regimes and gainshare.

➢ Identification and management of all stakeholders, their relationships and expectations.

➢ Establishment of clear roles and responsibilities for decision making, issue escalation, dispute management, demand management and service delivery.

➢ Allocation of resources, expenditure and service consumption in response to prioritised needs.

➢ Continuous evaluation of performance, cost, user satisfaction and effectiveness.

➢ Ongoing communication across all stakeholders.

In recent years the initial concept of full IT outsourcing has evolved into the wider concept of sourcing. These concepts are elaborated upon by the Gartner Group (2003:4.2) as follows:

➢ **Outsourcing:** The delegation of one or more IT service or IT-intensive business processes to an external provider. Often the service was previously performed internally by the client and the deal included the transfer of the client's assets.

➢ **Sourcing:** The dynamic delivery of internal and external, business and IT-oriented resources and services to ensure that business objectives are met.

According to the Gartner Group (2003:4.6), a number of different sourcing models are possible, e.g. multisourcing, brand service company, prime contractor, mixed joint venture, outsourcing joint venture, best-of-breed consortium, internal delivery, insourcing, client organisation consortium, full outsourcing, etc.

2.2.7.1   Current Dispensation

In 2004, the IT Governance Institute, in conjunction with Lighthouse Global according to ITGI (2005a:5,12,13), surveyed 200 IT professionals from 14 countries in the Americas, Asia-Pacific and Europe. This survey found that the required levels of governance are not reliably extended into the relationships with the service provider when service provision is outsourced. The findings of this survey are consistent with other research showing that outsourcing benefits are no longer just about price. They include service quality improvements, scalability, better risk management and the freeing up of internal resources to focus on core, value-adding activities. The following key elements according to ITGI (2005a:5,12,13), resulted from the survey:

➢ Around 30 percent of outsourcing contracts must be substantially (i.e., up to 50 percent) renegotiated. It is evident that it is far more cost-effective to recognise this likelihood and include a governance provision to enable the contracts to be brought into line with a continuously changing environment.

➢ It is important to understand that contractual performance is not necessarily the same as providing good service to an end user. Less than one-third of provider assessment was concerned with the user perception of services provided. This implies that business alignment should be driven by the service end user. The increasing use of this approach is reflected in the ITGI survey.

➢ In reference to the concept of first-pass contract governance processes tending to be inflexible, the ITGI research found that only one-quarter of respondents have a defined governance system in place to manage and control the outsourcing contract. It is generally accepted that outsourcing is more about managing the services, their demand and consumption, and less about buying them.

➢ Regarding the contractual IT governance, approximately 10 percent of the survey's respondents introduced it as a result of a crisis and a further one-third implemented it only for specific outsourcing contracts. This clearly indicates that governance should be pre-planned and built into the contract as part of the service cost optimisation. The defined governance processes should evolve as the needs and conditions of the outsourcing relationship adapt to changes to service demand and delivery and to technology innovation.

The most recent EquaTerra quarterly service provider Pulse survey found service providers consistently citing governance and change management as the biggest challenge buyers face in their outsourcing efforts. Furthermore, 55 percent of service providers polled was of the opinion that change management problems is a key element of transition that should be addressed as it is one of the biggest threats to outsourcing efforts, exceeded only by inadequate management support (cited by 59 percent of service providers) (Equaterra, **s.a.**:7).

2.2.7.2 Disadvantages of inefficient governance practices

Many early generation outsourcing relationships are marked with misaligned commercial objectives, disincentives for collaboration, over-reliance on the contract, and mutual distrust—all leading to transaction value leakage or worse, transaction dissatisfaction (Sak, 2008 cited by Violino, 2008:3).

According to Equaterra (**s.a.**:2), the impact of not implementing effective outsourcing management and governance can become significant. As indicated in Figure 2.4 below, there are many ways that the value leaves the organisation. Left unchecked, this can approach 50 to 60 percent of the outsourcing contract value.
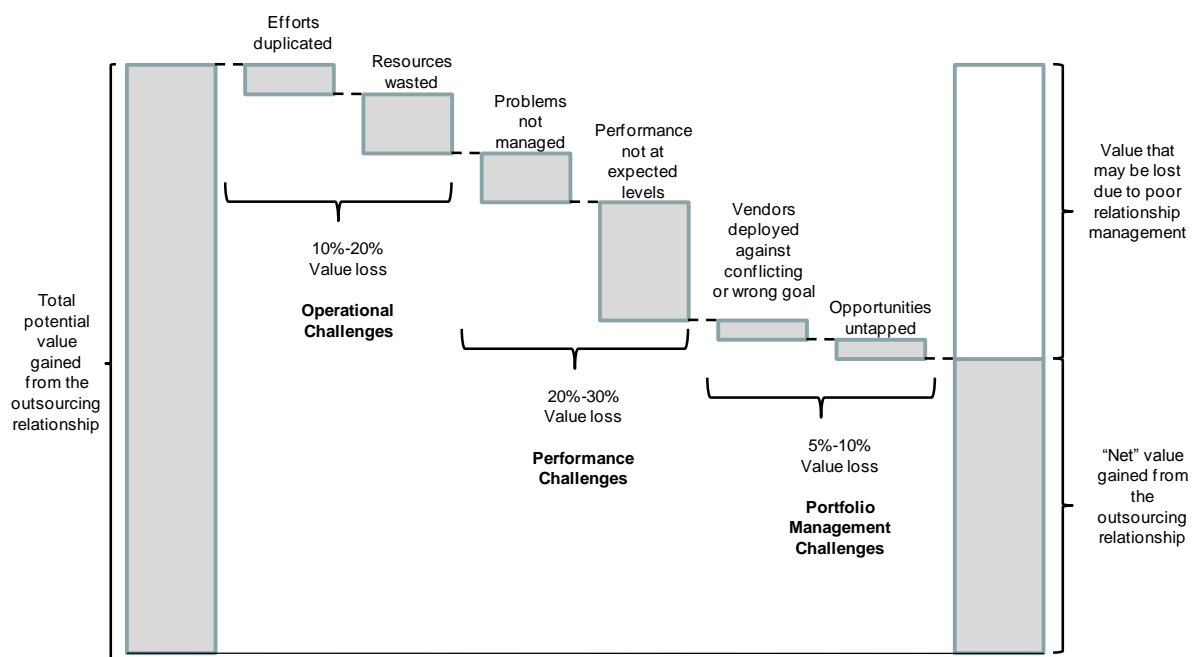
Figure 2.4: Loss of outsourcing value from ineffective vendor management. (**Source:** Equaterra, **s.a.**:2)

2.2.7.3 Advantages of efficient governance practices

Effective governance can lead to several key benefits for outsourcing buyers. The ability to see whether the service provider is consistently delivering on promises over the lifetime of the agreement, and whether the buyer organization is actually getting what it's paying for serve as examples of key benefits. Another is that governance provides a set of guidelines for the outsourcing relationship. It also offers a forum for dealing with legal and service level issues, and create ways for buyers to measure the success of the relationship as business conditions change (Sak, 2008 cited by Violino, 2008:3).

**2.3   LITERATURE REVIEW OF SELECTED CODES, FRAMEWORKS,
         STANDARDS AND BEST PRACTICES**

2.3.1   Code of Governance Principles for South Africa

The South African King Reports of 1994 (King I), 2002 (King II), and the newly released 2009 Draft Report on Governance in South Africa (King III), emphasise the need for enterprise with integrity in the interest of the society, environment and stakeholders. "Emphasis is laid on the need for management to be accountable to the Board of Directors, while building relationships with and developing the interests of stakeholders, which include shareowners, employees and lenders" (Growth-Link Learning Technologies, 2005:12).

According to the King Committee on Governance (2009:6,19), King III became necessary because of the new Companies Act and changes in international governance trends, and will become effective from 1 March 2010. In contrast to the King I and II codes, King III applies to all entities regardless of the manner and form of incorporation or establishment.

2.3.1.1   The link between governance principles and law

Corporate governance mainly involves the establishment of structures and processes, with appropriate checks and balances that enable directors to discharge their legal responsibilities (King Committee on Governance, 2009:10). The common law duties of directors according to the King Committee on Governance (2009:11-12), can be grouped into:

➢   The duty of care, skill and diligence, in terms of which directors must manage the business of the company as a reasonably prudent person would manage his own affairs.

➢   Fiduciary duties, being the duty to act in the best interests of the company, to avoid conflicts, to not take corporate opportunities or secret profits, to not fetter their votes and to use their powers for the purpose conferred and not for a collateral purpose.

In assessing the standard of appropriate conduct, a court of law will take into account all relevant circumstances, including what is regarded as the 'normal' or 'usual' practice in the particular situation (King Committee on Governance, 2009:10).

Criteria of good governance, governance codes and guidelines will be relevant in the determination of what is regarded as an appropriate standard of conduct. The more established certain governance practices become, the more likely a court of law would regard conduct that conforms with these practices as meeting the required standard of care (King Committee on Governance, 2009:10).

Corporate governance practices, codes and guidelines 'lift the bar' of what are regarded as appropriate standards of conduct. Consequently, any failure to meet a recognised standard of governance, albeit not legislated, may render a board or individual director liable at law (King Committee on Governance, 2009:10).

Around the world hybrid systems are being developed. More specific, some of the principles of good governance are being legislated. In an 'apply or explain' regime, principles override practices. Now some principles and practices are law and there has to be compliance with the law (King Committee on Governance, 2009:10).

2.3.1.2   'Comply or else' versus 'apply or explain'

According to the King Committee on Governance (2009:6), the governance of corporations can be on a statutory basis, as a code of principles and practices, or a combination of the two. The United States of America has chosen to codify a significant part of its governance in an act of Congress known as the Sarbanes-Oxley Act (SOX). This statutory regime is 'comply or else'. More specific, there are legal sanctions for non-compliance.

There is an important argument against the 'comply or else' framework. A 'one size fits all' approach cannot logically be suitable because the scales of business carried out by companies vary to such a large degree. The cost of compliance is high, both in time and money. Furthermore, the board and the management become focused on compliance rather than the business of the enterprise. It is the duty of the board of a trading enterprise to undertake risk for reward and to endeavour to improve the economic value of a company. If the board follows a narrow focus on compliance, the board's responsibility towards enterprise and its ultimate responsibility namely performance, may be diluted (King Committee on Governance, 2009:7). The King Committee on Governance (2009:19), recommends that all entities should disclose which principles and/or practices they have decided not to apply and explain why. This level of disclosure will allow stakeholders to comment on and challenge the board to improve the level of governance In this regard, the 56 countries in the Commonwealth, including South Africa and the 27 states in the EU including the United Kingdom, have opted for a code of principles and practices on a 'comply or explain' basis, in addition to certain governance issues that are legislated.

The Johannesburg Stock Exchange (JSE), requires listed companies to comply with King II. However, there are examples in South Africa of companies listed on the JSE that have not followed practices recommended, but have explained the practice adopted and have prospered. In these examples, the board ensured that acting in the best interests of the company was the overriding maxim, subject

always to proper consideration for the legitimate interests of all stakeholders, including actual and potential investors and creditors (King Committee on Governance, 2009:8).

For all these reasons, the King Committee continues to believe that there should be a code of principles and practices on an 'apply or explain' basis. Boards have to comply with their duties such as acting in good faith and in so doing, have to apply their minds in the best interests of the company in regard to any recommended practice, subject to the above qualification (King Committee on Governance, 2009:8).

South African listed companies are regarded by foreign institutional investors as being among the best governed in the world's emerging economies and organisations must strive to maintain that high ranking. South Africa has benefited enormously as a result of its listed companies following good governance principles and practices, as was evident by the significant capital inflows into South Africa prior to the global financial crisis of 2008 (King Committee on Governance, 2009:8-9).

2.3.1.3   King III and IT governance

IT governance is comprehensively being addressed within the ambit of the King III report. Information systems were used as an enabler to business, but have now become pervasive in the sense that it is being built into the strategy of the business. The risks associated with information technology (IT) governance have become significant. There is no doubt that there are operational risks which manifest when one has a service provider, as confidential information leaves the company. In IT governance, one seeks confidentiality; integrity and availability of the functioning of the system; possession of the system, authenticity of system information; and assurance that the system is usable and useful. Concerns are unauthorised use and or access, disclosure, disruption or changes to the information system (King Committee on Governance, 2009:17-18).

In exercising their duty of care, directors should ensure that prudent and reasonable steps have been taken with respect to IT governance. Legislation in terms of IT governance will not provide a solution to the issue of enforcing the concept. International guidelines such as COBIT or ITIL may be used as a check or audit, however it is not possible to have a 'one size fits all' (King Committee on Governance, 2009:18).

Appendix A contains an extract of the King III principles relevant to IT governance. According to the King Committee, the principles have been drafted on the basis that, if they are adhered to, any entity would have practised good governance.

2.3.2   Frameworks, standards and best practices addressing IT governance

The ISO/IEC 38500 Standard, "... provides a framework for effective governance of IT, to assist those at the highest level of organizations to understand and fulfil their legal, regulatory, and ethical obligations in respect of their organizations' use of IT" (ISO, 2008:5).

COBIT can be used at the highest level of IT governance, providing an overall control framework based on an IT process model that is intended by the ITGI to generically suit every organisation. There is also a need for detailed, standardised practitioner processes. Specific practices and standards, such as the Information Technology Infrastructure Library (ITIL) and ISO/IEC 27002, cover specific areas and can be mapped to the COBIT framework, thus providing a hierarchy of guidance materials (ITGI & OGC, 2008:7). More specific, COBIT provides insight into what one should monitor and control. ITIL describes how to go about implementing the required processes. ISO/IEC 27002 dictates a process for securing the predetermined services and addressing legal requirements (Greenfield, 2007:1).

The Value Information Technology (Val IT) framework is closely aligned with and complements COBIT. While COBIT sets good practices for the means of contributing to the process of value creation, Val IT sets good practices for the process outcomes, by providing enterprises with the structure they require to measure, monitor and optimise the realisation of business value from investment in IT. Val IT complements COBIT from a business and financial perspective (ITGI, 2008a:6).

The ITGI and OGC (2008:8), assert that IT best practices have become significant due to a number of factors, namely:

➢   Business managers and boards demanding better returns from IT investments, i.e. that IT delivers what the business needs to enhance stakeholder value.
➢   Concern over the generally increasing level of IT expenditure.
➢   The need to meet regulatory requirements for IT controls in areas such as privacy and financial reporting, e.g., the US Sarbanes-Oxley Act, and in specific sectors such as finance, pharmaceutical and healthcare.
➢   The selection of service providers and the management of service outsourcing and acquisition.
➢   Increasingly complex IT-related risks, such as network security.
➢   IT governance initiatives that include the adoption of control frameworks and best practices to help monitor and improve critical IT activities to increase business value and reduce business risk.
➢   The need to optimise costs by following where possible, standardised rather than specially developed approaches.

- ➢ The growing maturity and consequent acceptance of well-regarded frameworks such as the Information Technology Infrastructure Library (ITIL), Control Objectives for Information and related Technology (COBIT), ISO/IEC 27002, ISO 9002, Capability Maturity Model(CMM®), Projects in Controlled Environments (PRINCE), Managing Successful Programmes (MSP), Management of Risk (M_O_R) and Project Management Body of Knowledge (PMBOK®).
- ➢ The need for organisations to assess how they are performing against generally accepted standards and against their peers (benchmarking).
- ➢ Statements by authoritative analysts like Gartner recommending the adoption of best practices, for example: Strong framework tools are essential for ensuring IT resources are aligned with an enterprise's business objectives, and that services and information meet quality, fiduciary and security needs. COBIT and ITIL are not mutually exclusive and can be combined to provide a powerful IT governance, control and best-practise framework in IT service management. Enterprises who wish to place their ITIL program into the context of a wider control and governance framework, should use COBIT.

According to the ITGI and OGC (2008:12), the effective adoption of best practices will help to realise value from IT investments and IT services by:
- ➢ Improving the quality, responsiveness and reliability of IT solutions and services.
- ➢ Improving the achievability, predictability and repeatability of successful business outcomes.
- ➢ Gaining the confidence and increased involvement of business sponsors and users.
- ➢ Reducing risks, incidents and project failures.
- ➢ Improving the business' ability to manage and monitor IT benefit realisation.

The ITGI and OGC (2008:12), found that the enterprise will also benefit from increased efficiencies and reduced cost by:
- ➢ Avoiding the reinvention of proven practices.
- ➢ Reducing dependency on technology experts.
- ➢ Increasing the potential to utilise less-experienced, but properly trained staff.
- ➢ Overcoming 'vertical silos' and nonconforming behaviour.
- ➢ Increasing standardisation leading to cost reduction.
- ➢ Making it easier to leverage external assistance through the use of industry-standard processes.

The research of the ITGI and OGC (2008:12) furthermore returned that, in a climate of increasing regulation and concern about IT-related risks, best practices will help to minimise compliance issues and the concerns of auditors by:
- ➢ Making compliance and the application of internal controls 'normal business practise'.
- ➢ Demonstrating adherence to accepted and proven industry practices.
- ➢ Improving trust and confidence from management and partners.
- ➢ Creating respect from regulators and other external reviewers.

Adherence to best practice also helps strengthen supplier/customer relations, make contractual obligations easier to monitor and enforce, harmonise multi-supplier outsourcing contracts, and improve the market position of those service providers seen to be compliant with accepted global standards such as ISO/IEC 20000 and ISO/IEC 27002 (ITGI & OGC, 2008:12).

2.3.2.1   ISO/IEC 38500

According to ISO (2008:2), the purpose of this standard is to promote effective, efficient, and acceptable use of IT in all organisations by:

➢   Assuring stakeholders (including consumers, shareholders, and employees) that, if the standard is followed, they can have confidence in the organisation's corporate governance of IT;

➢   informing and guiding directors in governing the use of IT in their organisation; and

➢   providing a basis for objective evaluation of the corporate governance of IT.

The standard sets out six principles (refer to Table 2.2), for good corporate governance of IT, which are applicable to most organisations. The principles express preferred behaviour to guide decision making. The statement of each principle refers to what should happen, but does not prescribe how, when or by whom the principles would be implemented. These aspects are dependent on the nature of the organisation implementing the principles, and these principles must be enforced by company directors (ISO, 2008:6).

Table 2.2: ISO 38500 principles for good governance of IT. (**Source:** ISO, 2008:6)

	Principle
1.	**Responsibility:** Individuals and groups within the organisation understand and accept their responsibilities in respect of both supply of, and demand for IT. Those with responsibility for actions also have the authority to perform those actions.
2.	**Strategy:** The organisation's business strategy takes into account the current and future capabilities of IT; the strategic plans for IT satisfy the current and ongoing needs of the organisation's business strategy.
3.	**Acquisition:** IT acquisitions are made for valid reasons, on the basis of appropriate and ongoing analysis, with clear and transparent decision making. There is appropriate balance between benefits, opportunities, costs, and risks, in both the short term and the long term.
4.	**Performance:** IT is fit for purpose in supporting the organisation, providing the services, levels of service and service quality required to meet current and future business requirements.
5.	**Conformance:** IT complies with all mandatory legislation and regulations. Policies and practices are clearly defined, implemented and enforced.
6.	**Human Behaviour:** IT policies, practices and decisions demonstrate respect for Human Behaviour, including the current and evolving needs of all the people in the process.

In terms of the ISO 38500 directives (ISO, 2008:7), directors should govern IT through three main tasks, namely:

➢ Evaluate the current and future use of IT.

➢ Direct preparation and implementation of plans and policies to ensure that use of IT meets business objectives.

➢ Monitor conformance to policies, and performance against the plans.

Figure 2.5 depicts the IT Governance model and the cycle of Evaluate-Direct-Monitor. The text following Figure 2.5 explains the elements and relationships depicted as explained by ISO (2008:7-8).
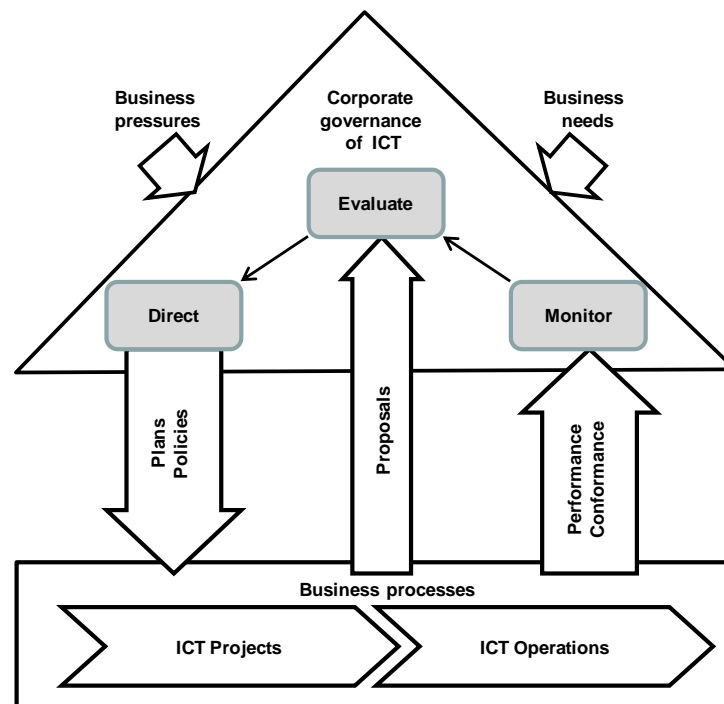
Figure 2.5: Model for Corporate Governance of IT. (**Source:** ISO, 2008:7)

➢ **Evaluate:**

    ➢ Directors should examine and make judgement on the current and future use of IT, including strategies, proposals and supply arrangements (whether internal, external, or both). In evaluating the use of IT, directors should consider the external or internal pressures acting upon the business, such as technological change, economic and social trends, and political influences.

    ➢ Directors should undertake regular evaluations continually, as pressures change.

    ➢ Directors should also take into account both current and future business needs in terms of the current and future organisational objectives that they must achieve, such as maintaining competitive advantage, and the specific objectives of the strategies and proposals they are evaluating.

> **Direct:**
> > Directors should assign responsibility for and direct preparation and implementation of plans and policies. Plans should set the direction for investments in IT projects and IT operations. Policies should establish sound behaviour in the use of IT.
> > Directors should ensure that the transition of projects to operational status is properly planned and managed, taking into account impacts on business and operational practices, as well as existing IT systems and infrastructure.
> > Directors should encourage a culture of good governance of IT in their organisation by requiring managers to provide timely information. This to comply with direction and to conform with the six principles of good governance.
> > If necessary, directors should direct the submission of proposals for approval to address identified needs.
> **Monitor:**
> > Directors should monitor, through appropriate measurement systems, the performance of IT. They should reassure themselves that performance is in accordance with plans, particularly with regard to business objectives.
> > Directors should also ensure that IT conforms with external obligations (regulatory, legislation, common law, contractual) and internal work practices.

Responsibility for specific aspects of IT may be delegated to managers within the organisation. However, accountability for the effective, efficient and acceptable use and delivery of IT by an organisation, remains with the directors and cannot be delegated (ISO, 2008:8).

2.3.2.2 COBIT

According to the ITGI and OGC (2008:14), COBIT is a globally accepted framework for IT governance based on industry standards and best practices. Once implemented, executives can ensure IT is aligned effectively with business goals and better direct the use of IT for business advantage. COBIT provides a common language for business executives to communicate goals, objectives and results with audit, IT and other professionals.

Developed and promoted by the IT Governance Institute, COBIT starts from the premise that IT needs to deliver the information that the enterprise needs to achieve its objectives. ITGI (2003:62), asserts that in addition to promoting process focus and process ownership, COBIT looks at fiduciary, quality and security needs of enterprises, and provides seven information criteria that can be used to generically define what the business requires from IT, namely effectiveness, efficiency, availability, integrity, confidentiality, reliability and compliance.

COBIT further divides IT into 34 processes, which maps to four domains, namely 'Plan and Organise' [PO], 'Acquire and Implement' [AI], 'Deliver and Support' [DS], and 'Monitor and Evaluate' [ME]) as depicted in Table 2.3.

Table 2.3: COBIT processes. (**Source:** ITGI, 2007a:29-168)

Process		Process	
Plan and Organise [PO]		**Deliver and Support [DS]**	
PO1	Define a Strategic IT Plan	DS01	Define and Manage Service Levels
PO2	Define the Information Architecture	DS02	Manage Third-Party Services
PO3	Determine Technological Direction	DS03	Manage Performance and Capacity
PO4	Define the IT Processes, Organisation and Relationships	DS04	Ensure Continuous Service
PO5	Manage the IT Investment	DS05	Ensure System Security
PO6	Communicate management Aims and Direction	DS06	Identify and Allocate Costs
PO7	Manage IT Human Resources	DS07	Educate and Train Users
PO8	Manage Quality	DS08	Manage Service Desk and Incidents
PO9	Assess and Manage Risk	DS09	Manage the Configuration
PO10	Manage Projects	DS10	Manage Problems
Acquire and Implement [AI]		DS11	Manage Data
AI1	Identify Automated Solutions	DS12	Manage the Physical Environment
AI2	Acquire & Maintain Application Software	DS13	Manage Operations
AI3	Acquire & Maintain Technology Infrastructure	**Monitor and Evaluate [ME]**	
AI4	Enable Operation and use	ME1	Monitor and Evaluate IT Performance
AI5	Procure IT Resources	ME2	Monitor and Evaluate Internal Control
AI6	Manage Changes	ME3	Ensure Regulatory Compliance
AI7	Install and Accredit Solutions and Changes	ME4	Provide IT Governance

According to the ITGI (2007a:29-168), the COBIT framework addresses information security issues of concern in more than 20 processes. However, the four processes that are most directly related to information security are:

➢ PO6—Communicate management aims and directions.

➢ PO9—Assess and manage IT risks.

➢ DS4—Ensure continuous service.

➢ DS5—Ensure systems security.

For each process, a high-level control objective is defined, namely:

➢ Identifying, which information criteria are most important in a particular IT process.

➢ Listing, which resources will usually be leveraged.

➢ Providing considerations on what is important for controlling a particular IT process.

COBIT furthermore provides more than 200 detailed control objectives, as well as management guidelines and maturity models building on these objectives. The management and governance layer provides management, according to ITGI (2006:36), with:

➢ Performance measurement elements (outcome measures and performance drivers for all IT processes).

➢ A list of key activities that provides succinct, non-technical best practices for each IT process.

➢ A maturity model to assist in benchmarking and decision making for control over IT.

The ITGI and OGC (2008:13), are of the opinion that executives can expect the following results from the adoption of COBIT:

➢ IT staff and executives will understand more fully how the business and IT can work together for successful delivery of IT initiatives.

➢ Full life-cycle costs of IT will become more transparent and predictable.

➢ IT will deliver better quality and more timely information.

➢ IT will deliver better quality services and more successful projects.

➢ Security and privacy requirements will be clearer, and implementation more easily monitored.

➢ IT-related risks will be managed more effectively.

➢ Audits will be more efficient and successful.

➢ IT compliance with regulatory requirements, will be a normal management practice.

2.3.2.3 ITIL

The UK's Office of Government Commerce (OGC) has documented ITIL to assist with provisioning and managing IT services to meet the needs of an organisation. It is not a standard, but a description of good practices to be adopted by an organisation and adapted to meet its specific needs.

ITIL is intended to underpin but not dictate the business processes of an organisation. " The role of the ITIL framework is to describe approaches, functions, roles and processes, upon which organisations may base their own practices. The role of ITIL is to give guidance at the lowest level that is applicable generally. Below that level, and to implement ITIL in an organisation, specific knowledge of its business processes is required to tune ITIL for optimum effectiveness" (ITGI & OGC, 2008:14).

According to Foster-Melliar (2008:29), the ITIL Core consists of five publications. Each provides the guidance necessary for an integrated approach as required by the ISO/IEC 20000 Standard specification. The five publications are:

➢ Service Strategy,

➢ Service Design,

➢ Service Transition,

➢ Service Operation, and

➢ Continual Service Improvement.

Each publication addresses capabilities having direct impact on a service provider's performance. The structure of the Core is in the form of a lifecycle. It is iterative and multidimensional. It ensures that organisations are set up to leverage capabilities in one area for learning and improvement in others. The Core is expected to provide structure, stability and strength to Service Management capabilities, with durable principles, methods and tools. This serves to protect investments and provide the necessary basis for measurement, learning and improvement.
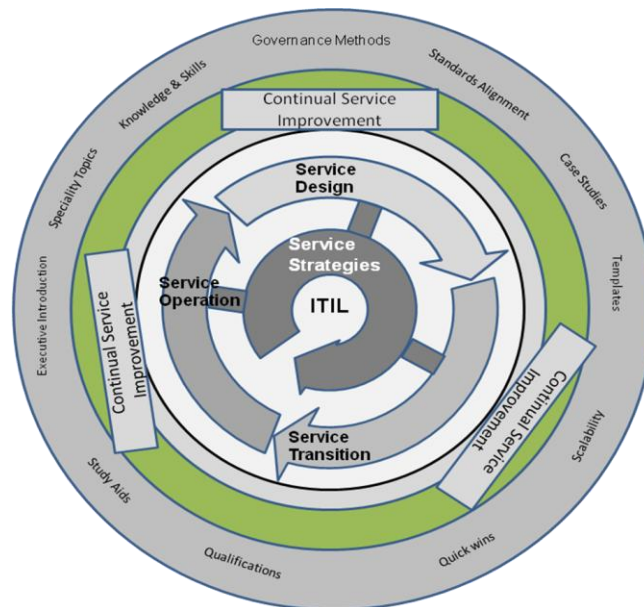
Figure 2.6: ITIL Service Lifecycle. (**Source:** Foster-Melliar, 2008:29)

Each volume in the Core is represented in the Service Lifecycle (refer Figure 2.6), and consists of:

➢ Service Strategy (SS), which represents policies and objectives.

➢ Service Design (SD), Service Transition (ST) and Service Operation (SO) are progressive phases of the lifecycle that represent change and transformation.

➢ Continual Service Improvement (CSI) represents learning and improvement.

2.3.2.4   ISO/IEC 27002

The ITGI and OGC (2008:17), asserts that the goal of ISO/IEC 27002:2005 is to provide information to parties responsible for implementing information security within an organisation. It can be seen as a best practice for developing and maintaining security standards and management practices within an organisation to improve reliability on information security in inter-organisational relationships. It defines 133 security controls strategies, under the auspices of 11 major headings. The standard emphasises the importance of risk management, and makes it clear that it is not necessary to implement every stated guideline, only those that are relevant. The guiding principles in ISO/IEC 27002:2005 are the initial points for implementing information security. They rely on either legal requirements or generally accepted best practices:

- ISO/IEC 27002:2005 measures based on legal requirements include:
  - Protection and non-disclosure of personal data,
  - protection of internal information, and
  - protection of intellectual property rights.
- Best practices mentioned in the standard include:
  - Information security policy,
  - assignment of responsibility for information security,
  - problem escalation, and
  - business continuity management.

2.3.2.5   Val IT

According to ITGI (2008a:8), boards and executive management need to gain an understanding that IT is not an end to itself, but a means of enabling business outcomes. IT is no longer about implementing technology. It is about unlocking value through IT-enabled organisational change.

Just as important is a strategic, leadership-sponsored commitment to establishing a comprehensive IT governance capability. Ensuring that value is sustained or increased from IT-enabled investments is an essential component of enterprise governance. It involves selecting investments wisely, and managing them throughout their full economic life cycle, including the initial investment and the resultant IT services and other IT assets or resources. What has been amiss for many years, has been ready access to a structured approach based on a comprehensive, proven, practice-based structured governance framework, that can provide boards and executive management teams with practical guidance in making IT investment decisions and using IT to create enterprise value (ITGI, 2008a:8).

Until the development of Val IT, COBIT was the only framework dealing with IT governance. However, COBIT provides the IT governance framework from the point of view of the IT function even though in recent years, it has recorded management practices that straddle the IT and business areas, and started recognising the need for practices beyond IT. Val IT provides a framework that responds to that recognition and need, and is the first framework to support the enterprise point of view of IT governance with a focus on value (ITGI, 2008a:24).

According to the ITGI (2008a:9) citing Thorpe (2003), Val IT and COBIT provide business and IT decision makers with a comprehensive framework for the creation of value from the delivery of high-quality IT-based services. Understanding the relationship between these two frameworks, is vital.

Val IT takes the enterprise governance view. It helps executives focus on two of four fundamental IT governance-related questions (Refer Figure 2.7):

> ➤ 'Are we doing the right things?' (the strategic question)
> ➤ 'Are we getting the benefits?' (the value question).

The strategic question. Is the investment:
➤ In line with our vision
➤ Consistent with our business principles
➤ Contributing to our strategic objectives
➤ Providing optimal value, at affordable cost, at an acceptable level of risk

The architecture question. Is the investment:
➤ In line with our architecture
➤ Consistent with our architectural principles
➤ Contributing to the population of our architecture
➤ In line with other initiatives

Are we doing the right things?

Are we getting the benefits?

Are we doing them the right way?

Are we getting them done well?

The value question. Do we have:
➤ A clear and shared understanding of the expected benefits
➤ Clear accountability for realising the benefits
➤ Relevant metrics
➤ An effective benefits realisation process over
➤ the full economic life cycle of the investment

The delivery question. Do we have:
➤ Effective and disciplined management, delivery and change management processes
➤ Competent and available technical and business resources to deliver:
➤ The required capabilities
➤ The organisational changes required to leverage the capabilities

Figure 2.7: The Four 'Ares'. (**Source:** ITGI, 2008a:9, citing Thorpe, 2003)

COBIT in turn, takes the IT view, helping executives focus on answering the following questions:

> ➤ 'Are we doing them the right way?' (the architecture question), and
> ➤ 'Are we getting them done well?' (the delivery question).

COBIT sets good practices for the IT functions' means of contributing to the process of value creation. Val IT sets good practices for the ends (the outcomes), thereby enabling enterprises to measure, monitor and optimise value, both financial and non-financial, from IT-enabled investments. The consistency between methods and terminology used in Val IT and COBIT improves communications and the interrelationship between decision makers, the IT function, and the business functions accountable for delivering the planned value (ITGI, 2008a:9).

ITGI (2008a:12-25), describes furthermore that Val IT provides an enterprise-level perspective on the creation of business value. Specifically, the primary focus of Val IT domains is on delivering business value through:

> ➤ **Value Governance (VG):** Establishing governance practices that provide for clear and active linkage between the enterprise strategy, the portfolio of IT-enabled investment programmes that execute the strategy, and the portfolios of resulting IT services, assets and other resources.
> ➤ **Portfolio Management (PM):** Managing the overall investment portfolio to optimise value to the enterprise.
> ➤ **Investment Management (IM):** Managing the results of individual investment programmes, including business, process, people, technology and organisational change enabled by the business and IT projects that make up the programmes.

IT-enabled change typically requires multiple sets of sequential and parallel initiatives, as shown in Figure 2.8, from programme design through benefit realisation to value creation. Val IT provides the

framework for the investment and ongoing value management aspects of all the initiatives and a framework for the execution of programme design and initiation and benefit realisation. COBIT in turn provides the framework for the execution of the IT-related aspects of programmes, including IT solution delivery, IT operational implementation and IT service delivery. The attention of the reader is drawn to the fact that the execution of the business-related initiatives of business change delivery, integration and operation fall outside the scope of 'IT governance' (i.e., COBIT), however fall within the scope of enterprise governance of IT (i.e., Val IT).
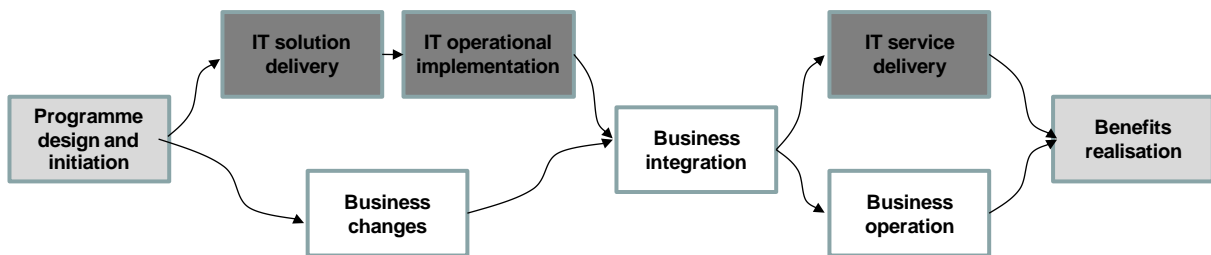
Figure 2.8: Val IT/COBIT – Sequence of initiatives. **(Source:** ITGI, 2008a:25)

The links between COBIT and Val IT are enabled by portfolio mechanisms and investment management, and provided in the IT processes that deal with 'strategy and portfolios' (PO1), 'investment and budgets' (PO5), 'solution delivery' (PO10), 'service management' (DS1) and 'performance reporting' (ME1). Comparing how COBIT and Val IT focus on governance, processes and portfolios further helps to understand the relationship between the two frameworks as shown in Figure 2.4.

Table 2.4: Comparison of Val IT with COBIT. **(Source:** ITGI, 2008a: 25)

	Governance Focus	Process Focus	Portfolio Focus
Val IT	Enterprise governance of IT	➤ Programme design and initiation ➤ Benefit realisation ➤ Investment and ongoing value ➤ management aspects of all processes	➤ Manage the investment portfolio ➤ Provide the overall view of portfolio performance
COBIT	IT governance	➤ IT solution delivery ➤ IT operational implementation ➤ IT service delivery	➤ Manage the IT project portfolio in support of investment programmes ➤ Manage the IT service, asset and other resource portfolios ➤ Provide information on the performance of the IT service, asset and other resource portfolios

To fulfil the Val IT value management goal of enabling the enterprise to realise optimal value at an affordable cost with an acceptable level of risk from IT-enabled investments, the Val IT principles need to be applied within three domains, namely:

➤ Value governance,

➤ portfolio management, and

➤ investment management.

Each domain comprises a number of processes, which are elaborated upon in Table 2.5:

Table 2.5: Val IT processes. (Source: ITGI, 2008a:16-18)

Process		Process	
Value Governance (VG)		**Investment Management (IM)**	
VG1	Establish informed and committed leadership	IM1	Develop and evaluate the initial programme concept business case
VG2	Define and implement processes	IM2	Understand the candidate programme and implementation options
VG3	Define portfolio characteristics	IM3	Develop the programme plan
VG4	Align and integrate value management with enterprise financial planning	IM4	Develop full life-cycle costs and benefits
VG5	Establish effective governance monitoring	IM5	Develop the detailed candidate programme business case
VG6	Continuously improve value management practices	IM6	Launch and manage the programme
Portfolio Management (PM)		IM7	Update operational IT portfolios
PM1	Establish strategic direction and target investment mix	IM8	Update the business case
PM2	Determine the availability and sources of funds	IM9	Monitor and report on the programme
PM3	Manage the availability of human resources	IM10	Retire the programme
PM4	Evaluate and select programmes to fund		
PM5	Monitor and report on investment portfolio performance		
PM6	Optimise investment portfolio performance		

2.3.2.6 Domain Practices and Competencies: Governance of Outsourcing

According to the ITGI (2005a:14-16), all outsourcing initiatives follow a path similar to that outlined in Figure 2.9. For the organisation to adopt best practice, the outsourcing life cycle must be understood operationally and strategically, as this supports control across each of the life cycle stages.
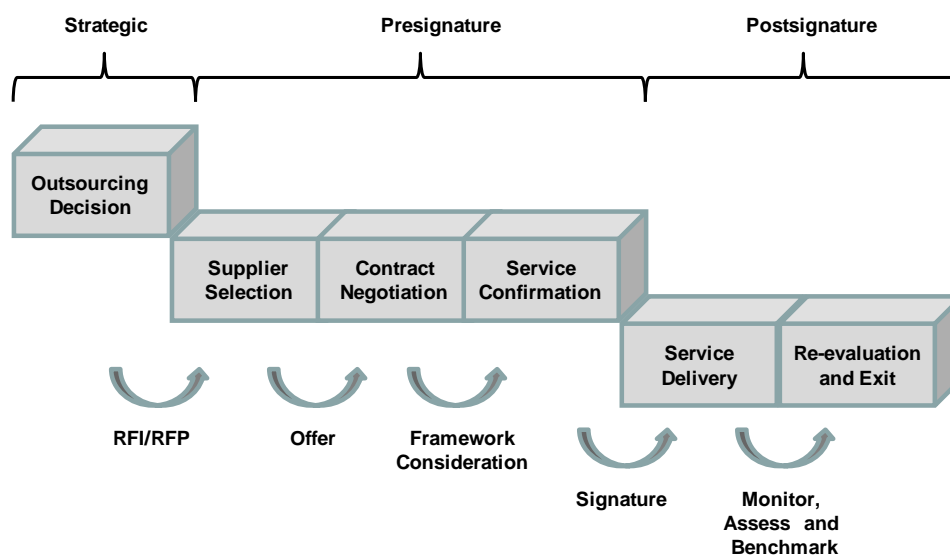
Figure 2.9: Outsourcing lifecycle. (**Source:** ITGI, 2005a:14)

Armed with this widely accepted life cycle model, the organisation will be better able to manage, govern and allocate resources effectively across the following areas:

➢ Asset Management.
➢ Contract Management.
➢ Relationship Management.
➢ SLAs and OLAs.
➢ Due Diligence.
➢ Baselining and Benchmarking.
➢ Governance Processes.

All assets utilised by the client must be managed through a governance environment. This environment consists of content against which to govern (contract schedules, service level agreements, policies, etc.) and process (automated workflow supporting all decision making, benchmarking and communication activities).

Governance processes are required to identify, manage, audit and disseminate all information related to the outsourcing contract whilst controlling the relationship between the client organisation and the service provider. It is used to ensure that all contractual documents, SLAs and OLAs are monitored on an ongoing basis with clear auditability.

Typical high-level governance processes include relationship management, service delivery management and contract management. Across these entities there are a number of more detailed processes, which include:

➢ Policy processes acceptance, development and implementation.
➢ Compliance.
➢ Dispensation.
➢ Performance management.
➢ Business control.
➢ Change control.
➢ Environment management.
➢ Billing analysis and review.

2.4 CROSS-SECTION OF THE ELEMENTS OF IT GOVERNANCE

2.4.1 Domains

According to the ITGI (2003: 6-8), IT governance responsibilities form part of a broad framework of enterprise governance, and should be addressed like any other strategic agenda item of the board

agenda. More specific, for critically dependent IT systems, governance should be effective, transparent and accountable. This means that the board should be very clear about its own and management's responsibilities, and should have a system in place to deliver on those responsibilities. The responsibilities generally relate to technology alignment and use within all activities of the enterprise, the management of technology-related business risks, and the verification of the value delivered by the use of technology across the enterprise. The purpose of IT governance is to direct IT endeavours, to ensure that technology performance meets the following objectives:

➢ Alignment of IT with the enterprise and realisation of promised benefits.

➢ Use of IT to enable the enterprise by exploiting opportunities and maximising benefits.

➢ Responsible use of IT resources.

➢ Appropriate management of IT-related risks.

Enterprise governance of IT has been subdivided into five focus areas, as shown in Figure 2.10, which may also be applicable to the process of enterprise governance:

1. Strategic alignment
Achieving the goals and strategies of an enterprise through the coherent undertaking of activities by the different governance structures or management levels within an organisation. A culture of business and IT partnership should be developed, supported by IT's interest and understanding of the business, and sharing of technology-related issues and opportunities. This culture will enable a collaborative approach to strategy development and a shared focus on high-value IT investments.

2. Value delivery
Creating new value for the enterprise, maintaining and extending existing value, and eliminating initiatives and assets that are not creating sufficient value.

3. Risk management
Addressing IT-related risks and using IT to assisting managing business risks.

4. Resource management
Having the right capability to execute the strategic plan, and providing sufficient, appropriate and effective resources.

5. Performance measurement
Tracking the achievement of the objectives of the enterprise and compliance with specific external requirements.

Figure 2.10: Focus areas – governance of IT. (**Source:** ITGI, 2007a:6)

IT governance usually occurs at different layers, with team leaders reporting to and receiving direction from their managers, with managers reporting up to the executive, and the executive to the board of directors. Reports that indicate deviation from targets, usually include recommendations for action to be endorsed by the governing layer. This approach will not be effective unless strategy and goals have first been cascaded down into the organisation. The graphic depiction in Figure 2.11, presents the conceptual interaction of objectives and IT activities from an IT governance perspective, which can be applied among the different layers within the enterprise (ITGI, 2003: 11-12).
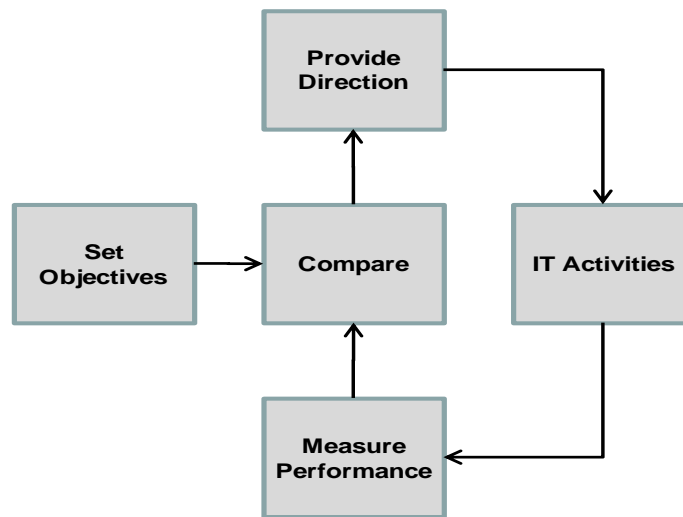
Figure 2.11: Interaction of Objectives and IT activities. (**Source:** ITGI, 2003:12)

ITGI (2003:20), is of the opinion that fundamentally IT governance is concerned about two things, namely IT's 'delivery of value to the business' and 'mitigation of IT risks'. As depicted in Figure 2.12, IT Value Delivery is driven by the strategic alignment of IT with the business. In this respect, the attention of the reader is drawn to the fact that 'value delivery' and 'strategic alignment' are often combined in professional and academic literature. Risk Management is driven by embedding accountability into the enterprise. Both need to be supported by adequate resources and measured to ensure that the required results are obtained.

IT governance is also a continuous life cycle, which can be entered into at any point. The process usually starts with the strategy and its alignment throughout the enterprise. Then implementation occurs, delivering the value the strategy promised and addressing the risks that need mitigation. At regular intervals, the strategy needs to be monitored and the results measured, reported and acted upon. Generally on an annual basis, the strategy is re-evaluated and realigned, if required. In this respect, see the various focus areas of IT Governance graphically depicted in Figure 2.12 (ITGI, 2003:20).
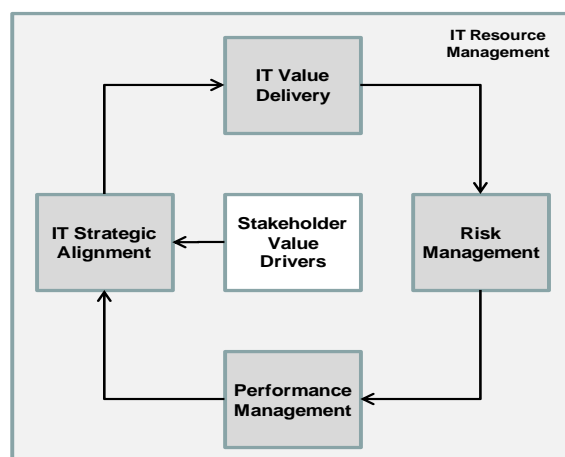
Figure 2.12: Focus Areas of IT Governance. (**Source:** ITGI, 2003:20)

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IT governance is also a process in which the IT strategy drives the IT processes, which obtain resources necessary to execute their responsibilities. The IT processes report against these responsibilities on process outcome, performance, risks mitigated and accepted, and resources consumed. These reports should either confirm that the strategy is properly executed or provide indications that strategic redirection is required, as depicted in Figure 2.13 (ITGI, 2003: 21).
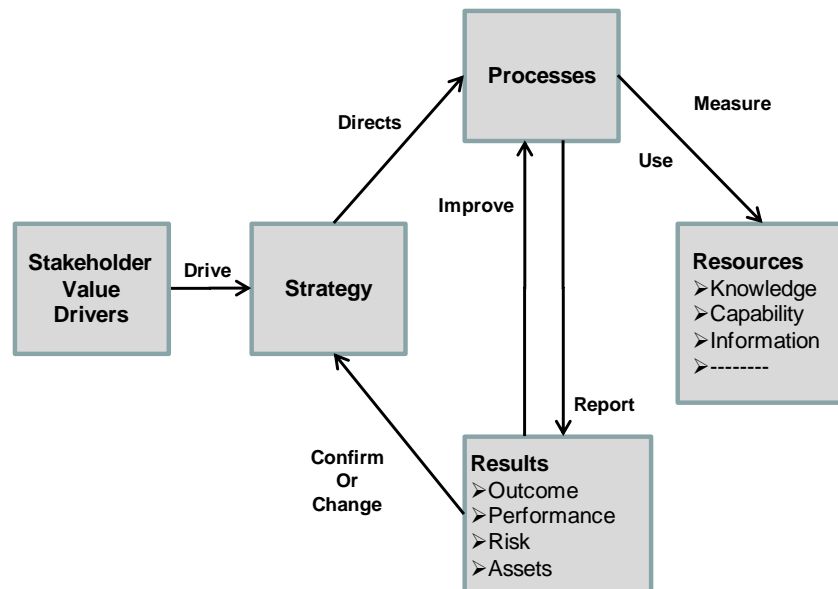
Figure 2.13: IT Governance Process. (**Source:** ITGI, 2003:21)

 The ITGI (2003:22) points to the fact that the review of the predictions of reputable market analysts such as Gartner, Compass, Giga and CSC returned that the top issues for IT management have moved from the technology- to the management-related arenas. These issues clearly map onto the IT governance areas:

➢ Strategic alignment, with focus on aligning with the business and collaborative solutions.
➢ Value delivery, focussing on optimising expenses and proving the value of IT.
➢ Risk management, addressing the safeguarding of IT assets, disaster recovery and continuity of operations.
➢ Resource management, optimising knowledge and IT infrastructure.

Furthermore, none of these factors can be managed appropriately without performance measurement, tracking project delivery, and monitoring IT services.

2.4.1.1   Strategic alignment

ITGI (2005c:6), drawing from a survey performed by themselves (with support from other research and anecdotal evidence), points to the fact that whilst some good practices do exist within many companies to maximise alignment, there are a number of concerns, which are elaborated upon below:

➢   Almost 50 percent of the respondents to the survey did not have a formalised governance structure designed to ensure IT and business alignment.

➢   The responsibility for IT strategy is often delegated to management levels below the board. In particular, fewer than 25 percent of respondents engage board members directly in the IT strategy-setting process.

These concerns become particularly significant in view of the fact that in the same survey, respondents identified the alignment of IT investments with business strategy as by far, the biggest single issue that they face. Are these issues a consequence of lack of clarity/involvement from the board, or from the largely IT-centric respondents' inability to interpret and translate what the board want in business terms into applicable actions for the IT functions?

The question can be asked if the real problem is a lack of the board in getting closer to IT, or IT not being closely involved with the business? The reality probably, is both. This is one of the reasons why alignment is so important to be achieved, as there needs to be commonality of understanding between IT and the business. This alignment is essential regardless of whether or not the function is sourced internally or externally (ITGI, 2005c:6).

"In many companies, over the last twenty years, IT has moved from providing largely back-office support to becoming the prime facilitator and enabler of the total business. Without proper alignment of IT, it is unlikely that any enterprise will achieve and sustain long-term success through the delivery of value to its stakeholders" (ITGI, 2005c:7). According to ITGI (2005c:9), this lack of alignment leads to adverse business issues including:

➢   The inability of the business to reach its full potential.

➢   Failure to identify and capitalise on business opportunities that could be enabled by IT.

➢   Potentially higher operating costs and therefore, competitive disadvantage due to the failure to replace expensive labour-led processes with lower-cost (over the long term) automation.

➢   Incorrect and ineffective focusing of IT-related resources.

➢   Inability to recruit and retain high-quality IT and business personnel.

➢   Higher costs overall.

➢   Erosion of stakeholder value over time.

Strong IT governance in all its domains contribute toward the achievement of proper alignment between IT and business strategy. This has often been understood to imply that the business strategy is prepared and agreed first upon which the IT strategy is then built in response to it. This may have been appropriate when IT merely automated the way the existing business worked. However, in the current world where IT goes way beyond a mere support role and actually provides the enablement of new business models, this responsive and reactive approach is no longer sufficient. In some instances, the 'IT strategy' may even become the 'business strategy'. At the very least, the two need to be regarded as inseparable, with the consequent need to be thinking IT in every aspect and at every stage of the business strategy development. Furthermore, it is evident that senior business management must become more IT-literate to effectively synergise business strategy with enabling IT strategies, and to ensure that IT planning becomes completely embedded into enterprise strategic planning (ITGI, 2005c:12,13).

There is however no 'one-size-fits-all' approach for maximising the alignment of IT with the business and all of its components. Much depends upon the nature of the business, its size, its markets, its dependence upon IT, its leadership style and its culture. Additional factors that help dictate the organisation's alignment components and structure include its in-house IT capabilities, the dependence upon outsourcing, the nature of that outsourcing and the overall governance structure (ITGI, 2005c:14).

2.4.1.2   Value delivery

The basic principles of IT value are the on-time and within-budget delivery of appropriate quality, which achieves the benefit that were promised. In business terms, this is often translated into competitive advantage, elapsed time for order/service fulfilment, customer satisfaction, customer wait time, employee productivity and profitability. Several of these elements are either subjective or difficult to measure, something all stakeholders need to understand. Often, top management and boards fear to start major IT investments because of the size of the investment and the uncertainty of the outcome. For effective IT value delivery to be achieved, both the actual costs and the return on investment need to be managed (ITGI 2003:24).

Citing Broadbent and Weill (1998), ITGI (2003:25), maintains that different levels of management and users perceive the value of IT differently (as illustrated in Figure 2.14). Figure 2.14 also reflects that the higher one goes in the measurement hierarchy, the more dilution occurs (i.e., the less influence IT management can exercise). This also means that measuring the impact of an IT investment is much easier at the bottom of the hierarchy than at the top. However, successful investments in IT have a positive impact on all four levels of the business value hierarchy. Furthermore, there is an increasing separation between the creation of value and its subsequent realisation. As a result, it is important not

only to focus on measurements based on value realisation (i.e., financial measures), but also to take into account the enterprise's performance in creating value.
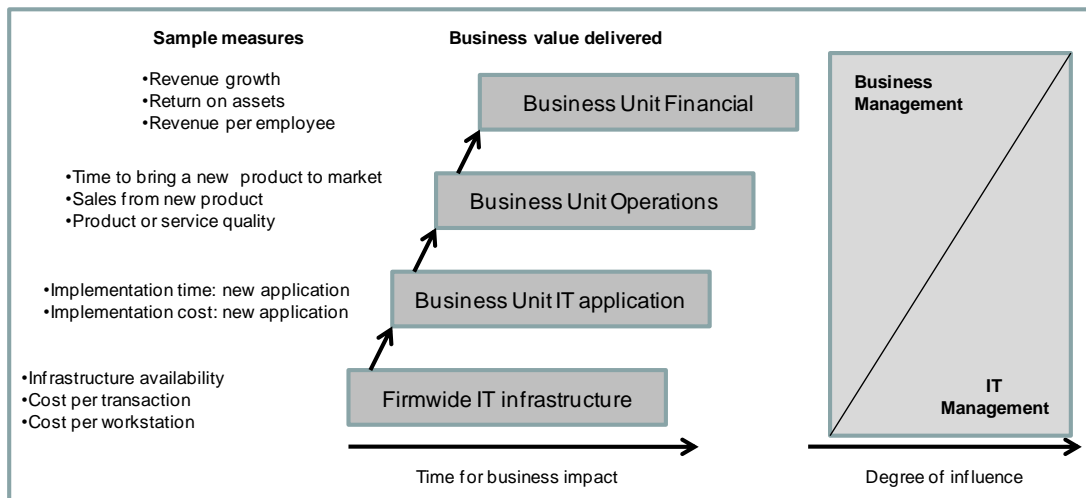
Figure 2.14: Views of IT Value. (**Source:** ITGI, 2003:25 citing Broadbent & Weill, 1998)

2.4.1.3   Resource management

ITGI (2003:28), points to the fact that the optimal investment, use and allocation of IT resources (people, applications, technology, facilities, data), are key to successful IT performance in servicing the needs of the enterprise. Most enterprises fail to maximise the efficiency of their IT assets and optimise the costs relating to these assets. In addition, the biggest challenge in recent years has been to know where and how to outsource, and then to know how to manage the outsourced services in a way that delivers the values promised at an acceptable price. Boards need to address appropriate investments in infrastructure and capabilities, by ensuring that:

➤ The responsibilities with respect to IT systems and services procurement are understood and applied.

➤ Appropriate methods and adequate skills exist to manage and support IT projects and systems.

➤ Improved workforce planning and investment exist to ensure recruitment and more important, retention of skilled IT staff.

➤ IT education, training and development needs are fully identified and addressed for all staff.

➤ Appropriate facilities are provided and time is available for staff to develop the skills they need.

Furthermore, boards need to ensure that IT resources are used wisely by ensuring that:

➤ Appropriate methods and adequate skills exist in the organisation to manage IT projects.

➤ The benefits accruing from any service procurement are real and achievable.

In most enterprises, the biggest portion of the IT budget relates to ongoing operations. Effective governance of IT operational spending requires effective control of the cost base, focussing IT assets where they are needed most. Enterprises should align and prioritise the existing IT services that are required to support business operations based on clear service definitions. These definitions and related performance metrics enable business-oriented service level agreements, which provide a basis for effective oversight and monitoring of both internal and outsourced IT services. The IT assets should be organised optimally so that the required quality of service is provided by the most cost-effective delivery infrastructure. Companies that achieve this not only realise great cost savings, but also are well placed to take on the next new IT initiative, judiciously introducing new technologies and replacing or updating obsolete systems (ITGI, 2003:28).

IT assets are complex to manage and continually change due to the nature of technology and changing business requirements. Effective management of the life cycle of hardware, software licences, service contracts and permanent and contracted human resources is a critical success factor, not only for optimising the IT cost base, but also for managing changes, minimising service incidents and assuring a reliable quality of service (ITGI, 2003:28-29).

Of all the IT assets, human resources represent the biggest part of the cost base and, on a unit basis, the one most likely to increase. It is essential to identify and anticipate the required core competencies in the workforce. When these are understood, an effective recruitment, retention and training programme is necessary to ensure that the organisation has the skills to utilise IT effectively to achieve the stated objectives (ITGI, 2003:29).

The ability to balance the cost of infrastructure assets with the quality of service required (including those services provided by outsourced external service providers) is critical to successful value delivery. It is also a powerful reason for adopting sound performance measurement systems in the likes of the balanced scorecard (ITGI, 2003:29).

2.4.1.4   Risk management

"Enterprise risk comes in many varieties, not only financial risk. Regulators are specifically concerned about operational and systemic risk, within which technology risk and information security issues are prominent. The Bank for International Settlements (BIS), for example, supports that view because all major past risk issues studied in the financial industry were caused by breakdowns in internal control, oversight and IT. Infrastructure protection initiatives in the US and the UK point to the utter dependence of all enterprises on IT infrastructures and the vulnerability to new technology risks"

(ITGI, 2003: 27). The King Committee on Governance (2009:73-95), places huge emphasis on the discipline of risk management. The principles for the governance of risk management is tabulated in Table 2.6 for ease of reference.

Table 2.6: Principles for the governance of risk management. (**Source:** King Committee on Governance, 2009:73-95)

Principle	Principles for good governance
4.1	Risk management is inseparable from the company's strategic and business processes
4.2	The management should be responsible for the implementation of the risk management process
4.3	Risk management should be practised by all staff in their day-to-day activities
4.4	The board should be responsible for the process of risk management
4.5	The board should approve the company's chosen risk philosophy
4.6	The board should adopt a risk management plan
4.7	The board may delegate the responsibility of risk management to a risk committee
4.8	Risk assessments should be performed on an ongoing basis
4.9	The board should approve key risk indicators and tolerance levels
4.10	Risk identification should be directed in the context of the company's purpose
4.11	The board should ensure that key risks are quantified and are responded to appropriately
4.12	Internal audit should provide independent assurance on the risk management process
4.13	The board should report on the effectiveness of risk management
4.14	The board should ensure that the company's reputational risk is protected
4.15	The board should determine the extent to which risks relating to sustainability are addressed and reported on
4.16	The board should ensure that IT is aligned with business objectives and sustainability
4.17	The board should consider the risk of the unknown as part of the qualitative and quantitative risk assessment process

The King III report (King Committee on Governance, 2009:77), suggests a systematic approach to the risk management process which is graphically depicted in Figure 2.15:
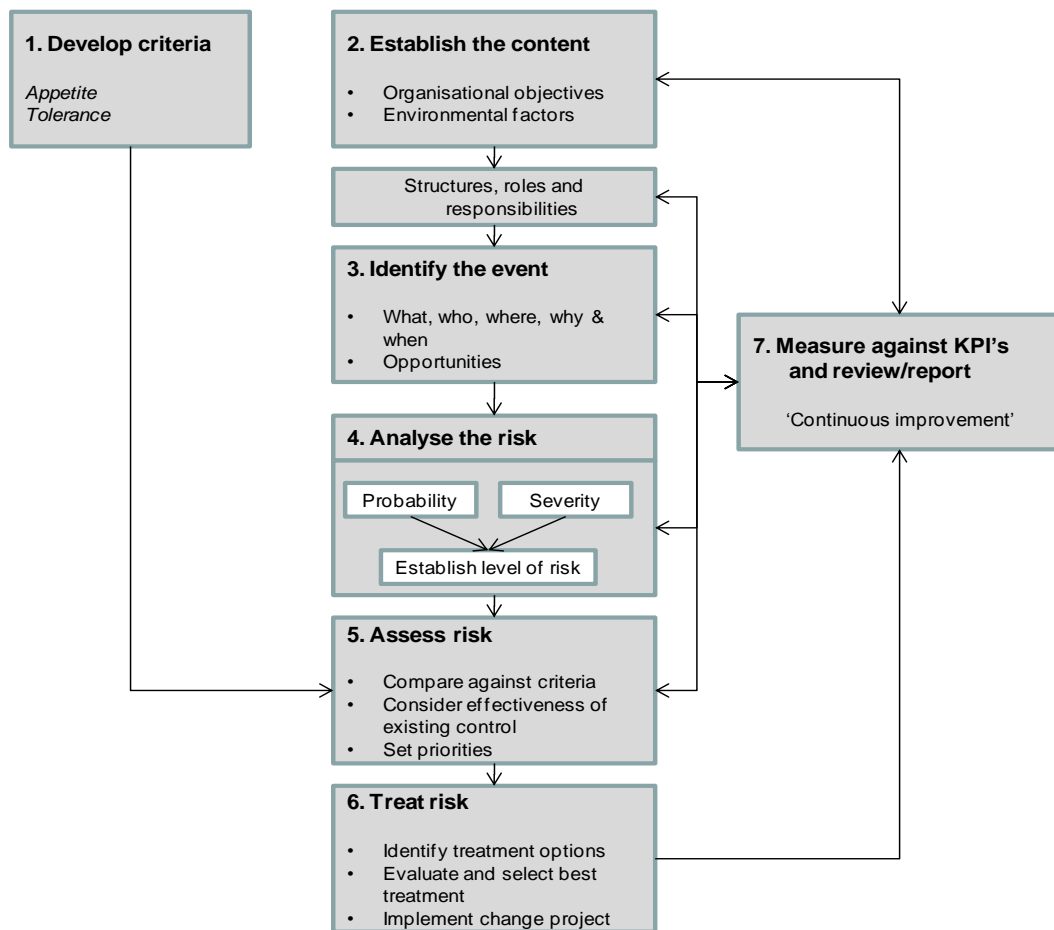
Figure 2.15: The risk management process. (**Source:** King Committee on Governance, 2009:77)

Laurent (2006:**Online**) contends that twenty-first century market dynamics continue to dictate that companies of all sizes consider outsourcing vital operational services and IT processes. Unfortunately, many organisations are not paying enough attention to the multitude of new risks that inevitably surface with the outsourcing of increasingly complex business processes and data supply chains. Today's businesses must constantly engage in concentrated risk mitigation and liability management - especially as it relates to diligence in corporate governance practices and compliance with the laws of the land. Significant new regulatory requirements implore that companies closely scrutinise any business or data procurement processes that may affect corporate financial controls (and the accountability of those controls). As a result, enterprises need to ensure that their current and prospective outsourcing vendors strive to:

➢ Satisfy all current regulatory and compliance requirements that may affect the relevant business spheres of a client and, specifically, the business areas that drive the processes and functions being outsourced; and

➢ have in place appropriate internal governance controls and policies. A service provider's stated commitment to quality management may imply solid corporate governance; however, specific credentials should be well documented and made available to prospective strategic partners.

If an external vendor is managing operations that have a bearing on a company's financial controls or business quality methodologies such as ISO and GAAP standards, lack of attention to a client's compliance requirements can quickly cause severe problems for both companies (the reality is that outsourced IT and data services often touch upon the boundaries of their client's core books and records, from accounts receivable to billing and beyond).

2.4.1.5 Performance management

IT performance management is aimed at identifying and quantifying IT costs and benefits. There are different monitoring instruments available, depending on the features of the costs and benefits. When costs and benefits can be easily quantified and assigned a monetary value, traditional performance measures such as Return On Investment (ROI), Net Present Value (NPV), Internal Rate of Return (IRR) and Payback method (PB) work well (ITGI, 2005b:7) (refer Figure 2.16). Because the traditional methods require monetary values, problems emerge when they are applied to information systems, which often generate intangible benefits such as better customer service.
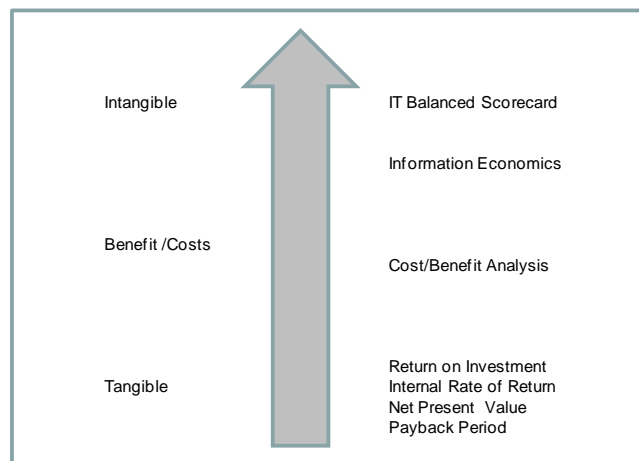
Figure 2.16: Performance management approaches. (**Source:** ITGI (2005b:7)

As was alluded to in Paragraph 2.4.1.2, different levels of management and users perceive the value of IT differently. ITGI (2005b:7) citing Broadbent & Weill (1998), refer in this context to the 'business value hierarchy' (refer Figure 2.17). Very successful investments in IT have a positive impact on all levels of the business value hierarchy. Less successful investments are not strong enough to impact the higher levels, and consequently influence only the lower levels. The higher one goes in the measurement hierarchy, the more dilution occurs from factors such as pricing decisions and competitors' moves. This dilution means that measuring the impact of an IT investment is much easier at the bottom of the hierarchy, than at the top.
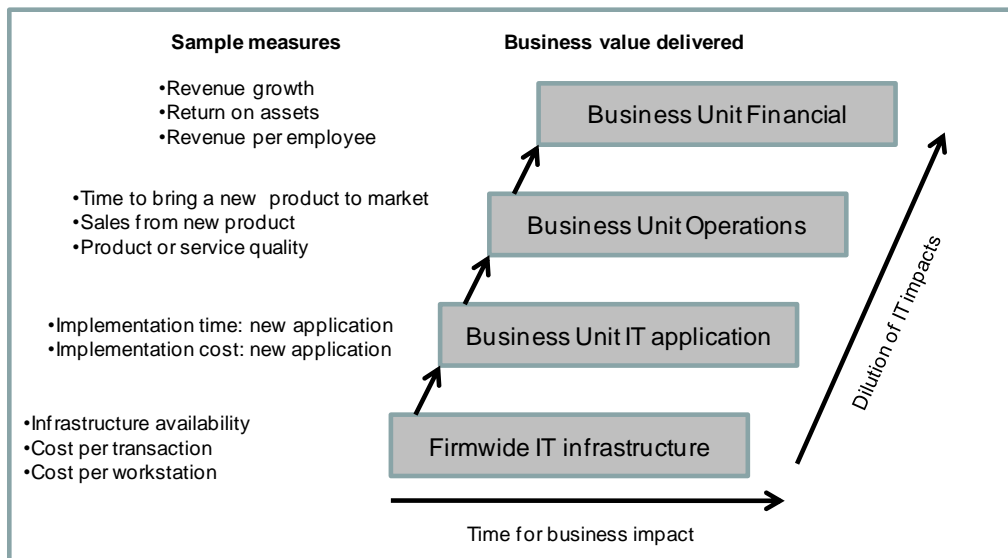
Figure 2.17: Business value hierarchy. (**Source:** ITGI, 2005b:8 citing Broadbent & Weill, 1998)

Multicriteria measurement methods may solve this problem because they account for tangible and intangible impacts, where the latter are more typical for the higher business value hierarchies. One of the best known multicriteria methods is Information Economics (IE), which in essence is a scoring technique whereby a mix of tangible benefits (typically ROI) and intangible benefits are scored (ITGI, 2005b:8).

According to the ITGI (2005b:8), the aforementioned performance measurement methods are measurement instruments for individual IT projects and investments. A broader performance measurement technique is the Balanced Scorecard (BSC), which can be applied to IT projects, investments and even entire IT departments. The BSC, initially developed on the enterprise level by David Kaplan and Robert Norton, is a performance management system that enables businesses to drive strategies based on measurement and follow-up (Kaplan & Norton, 1992:72). The idea behind the BSC is that the evaluation of a firm should not be restricted to the traditional financial measures but should be supplemented with a mission, objectives and measures regarding customer satisfaction, internal processes, and the ability to innovate and prepare for the future. Results achieved within the additional perspectives should assure financial results. The objectives and measures of a BSC can be used as a cornerstone of a management system that uncovers and communicates strategies, establishes long-term strategic targets, aligns initiatives, allocates long- and short-term resources and finally provides feedback and learning about the strategies. Refer to Appendix B for an overview of the evolution of BSCs (ITGI, 2005b:8).

The ITGI (2005b:20), proposes a two-way approach using IT portfolio management and the BSC concepts. This approach not only captures financial metrics on IT projects, but also includes user, operational and innovation evaluations. The IT scorecard method can build a relationship between IT

and the business by demonstrating IT's added value to the business and its users. This can be done through rolling up and/or aggregating crucial IT metrics and importing them into the business BSC.
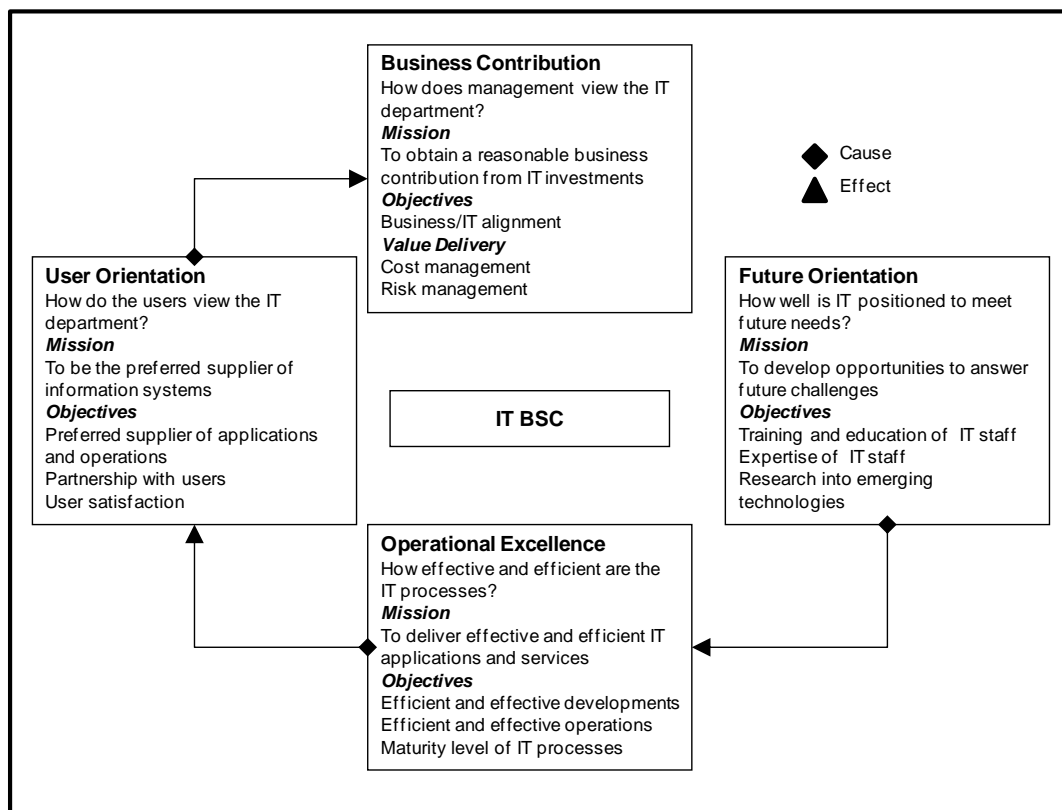
Figure 2.18: Generic IT Balanced Scorecard. (**Source:** ITGI, 2005b:20)

In Figure 2.18 above, "the user orientation perspective represents the user evaluation of IT. The operational excellence perspective represents the IT processes employed to develop and deliver the applications. The future orientation perspective represents the human and technology resources needed by IT to deliver its services over time. The business contribution perspective captures the business value created from the IT investments" (ITGI, 2005b:12-13).

According to the ITGI (2005b:12-13,15), each of these perspectives must be translated into corresponding metrics and measures that assess the current situation. As noted previously, the cause-and-effect relationships between measures are essential components of the IT BSC, and these relationships are articulated by two types of measures, namely 'outcome measures' and 'performance drivers'. Outcome measures, such as programmers' productivity (e.g., number of function points per person per month), need performance drivers, such as IT staff education (e.g., number of education days per person per year), to communicate how the outcomes are to be achieved. Performance drivers need outcome measures to ensure a way to determine whether the chosen strategy is effective, especially important in cases where a significant investment is made. These cause-and-effect relationships must be defined throughout the whole scorecard. More and better education of IT staff (future orientation) is an enabler (performance driver) for a better quality of developed systems

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(operational excellence perspective), that in turn is an enabler for increased user satisfaction (user perspective) that eventually will lead to higher business value of IT (business contribution).

The relationship between IT and business can be more explicitly expressed through a cascade of BSCs. In Figure 2.19, the relationship between IT scorecards and the business scorecard is illustrated. The IT Strategic BSC links with business through the business contribution perspective (business/IT alignment, value delivery, cost management and risk management). The IT development BSC and the IT operational BSC are both enablers of the IT strategic BSC. This cascade of scorecards becomes a linked set of measures that will be instrumental in achieving IT governance through aligning IT and business strategy and showing how business value is created through information technology (ITGI, 2005b:13).
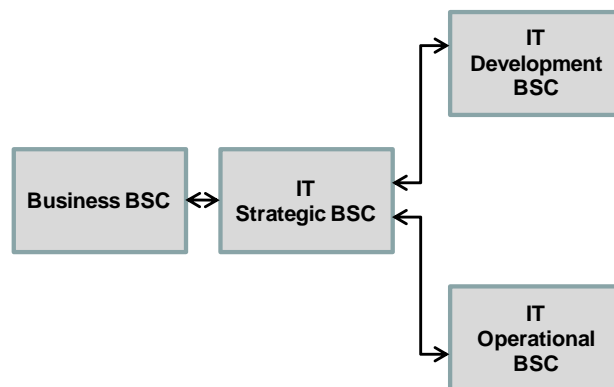
Figure 2.19: Cascade of scorecards (**Source:** ITGI, 2005b:15)

2GC Limited (2002b:7) distinguishes between two types of balanced scorecards, based on their intended use, namely:

➤ **A Balanced Scorecard for Management Control:** Focuses on the 'regulation' of defined entities and processes.
➤ **A Balanced Scorecard for Strategic Control:** Monitors whether or not the strategic choices made by a management team (strategic plan) are the correct ones, and the extent to which the activities planned to achieve them have been undertaken and are working as expected.

This is underpinned by the views of Van Grembergen (2009:7-17), who proposes a set of generic business and IT balanced scorecards, and the Meta Group (2004:4,6-14), who suggests a 360 degree scorecard type approach for the measurement of IT performance and business alignment, consisting of the following elements:

➤ Industry spending comparisons.
➤ Operations assessment.
➤ Cost and price benchmarks.
➤ IT effectiveness surveys: customer satisfaction and client alignment.

The above elements are expanded upon in detail in Appendix C.

The research of McCormack (1992) and Harari (1997), cited by 2GC Limited (2009:2) returned that since Western economies began to adopt Quality Management principles in the early eighties, it has been noted that quality initiatives have produced limited long-term success when compared with equivalent initiatives in Japan, where quality management tools and processes were pioneered. Quality Management went from being viewed as a means to 'spur growth, profitability, and customer satisfaction', to being viewed as a tool that encourages firms to 'churn out well-made products that customers don't want'.

Western practitioners and academics have overlooked a critical success factor, namely the need for an explicit link between strategy and operational initiatives; a link that also features in best practice performance management system design. In Japan, where quality management was pioneered, they argue that implementation was closely integrated with strategy and the organisations' strategic control processes through a methodology called Hoshin Kanri or Policy Deployment, whereas senior management in the West 'rushed headlong into detailed training and implementation without integrating quality with the company strategy' (Tennant & Roberts, 2001 and Kondo,1998 cited by 2GC Limited, 2009:2) .

According to research by Leonard and McAdam (2002), cited by 2GC Limited (2009:4) senior management has tended to delegate implementation of Total Quality Management (TQM) and associated quality management tools directly to the operational levels of organisations without providing a strategic context for ongoing evaluation of programme success. Nor has senior management provided any feedback mechanism allowing learning from quality initiatives to feed back into the strategy formation process, which has created an 'operational / strategic divide'. The missing link is the ability of the organisation to translate strategy into deliverable or achievable activities and targets.

Neither the short-termism nor the perceived operational/strategic divide that appear to be at the root of the disconnect between promise and reality for TQM are unique to the application of quality management tools. They both reflect a more fundamental problem of insufficient or ineffective alignment of operational initiatives with strategic goals, a common consequence of separation between strategic planning and management or operational control (Lawrie & Cobbold, 2001; Muralidharan 1997; Harrison, 1991; Bungay & Goold, 1991; and Mills, 1966 cited by 2GC Limited, 2009:4).

2GC Limited (2009:12), therefore drew the analogy that, "quality management tools need to be closely integrated with an organisation's corporate performance management framework, which itself needs to

be based on sound strategic control principles". Furthermore, a strategic context would address the above implementation issues associated with TQM and other quality tools if it provided:

➢ A clear description of what success looks like for the organisation at some point in time in the future. This provides a better and more holistic strategic context against which to identify the most important processes where quality initiatives are likely to reap the biggest benefits (long- as well as short-term). It also offers an opportunity to articulate a consensus view of what quality should mean in a particular organisation, and which specific benefits are expected.

➢ A process for translating the strategic direction and corporate strategic goals into lower level goals, medium-term priorities and cross- functional activities. These will form the starting point for agreement between organisational units and top management about what each unit is going to contribute to the achievement of the corporate goals, including the successful implementation of quality initiatives. The process thus forms the starting point for development of operational plans.

➢ A performance measurement framework defined by strategic priorities, but based on local ownership and operational relevance. A monitoring and two-way feedback mechanism that supports downward communication of changes in priorities or strategic direction, as well as upward communication of operational insights and learning resulting from the quality management initiatives, as well as from other aspects of operational learning.

2GC Limited (2009:13-14) citing Cobbold and Lawrie (2002), argue that the elements described above can be provided by a modern version of the Balanced Scorecard performance management framework, known as the 3rd Generation Balanced Scorecard which is further elaborated upon in Appendix B. This suggests that the 3rd Generation Balanced Scorecard can be applied as a potentially effective strategic control tool.

2.4.1.6   Conclusion

Drawing from the ITGI/Lighthouse survey results referred to in Paragraph 2.2.7.1, ITGI (2005a:5), came to the conclusion that although the best practices described in Paragraph 2.4 are mature, openly available and clearly described in literature, they are not necessarily being widely adopted. Figure 2.20 shows that on average, 50-60% percent of organisations are not considering implementing these practices. This implies that in many organisations the awareness phase is yet to be initiated, and there is ample room for improvement in the IT governance domain.
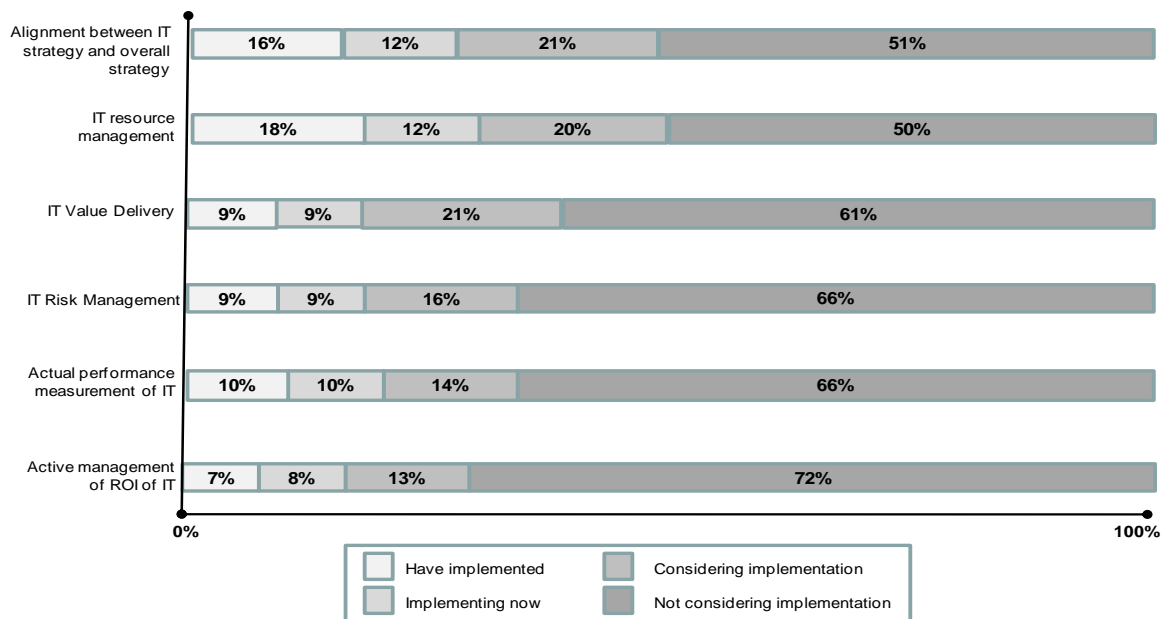
Figure 2.20: Status of IT governance best practise implementation. (**Source:** ITGI (2005a:5)

2.4.2 Processes

The dawn of the new Millennium witnessed a significant change in the economics of the IT world. For the first time, the 'people element' of IT became more costly than the technology itself, and businesses that had experienced the year on year decline of IT provision costs, were faced with a new scenario. Today's business planners are seeing 'raw technology' doubling in power and halving in cost every two years, but on the flip side, the people costs continue to spiral. To maximise the return on investment, the people part of the business also has to develop as it is no longer enough to upgrade technology and watch business performance improve. Efficient, successful businesses recognise that continual improvement is dependent upon the introduction, extension and management of formal processes to measure, understand and control IT (Fujitsu Services, 2002:3).

Fujitsu Services (2002:5), is of the opinion that the ability to share interactive processes with stakeholders via email, extranets and the Internet will provide the means of gaining future business advantage. Furthermore, organisations will benefit from shared business process intelligence, and IT governance will be key to the success of this sharing. The business world has reached a stage where an organisation needs to understand the business impact of a problem within another company's infrastructure, as the information asset is no longer contained within a company's own environment. The corporation will therefore have to control and manage a Virtual Private Infrastructure (VPI).

Whereas the COBIT, Val IT and ITIL frameworks deal with IT processes in a fair amount of detail, the IT Governance Domain Practices and Competences: Governance of Outsourcing document only addresses outsourcing processes at a high level. This section will explore a generic enterprise process model, and will reflect on process practices for outsourcing and emerging trends in the IT industry.

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2.4.2.1 Enterprise processes

Figure 2.21 depicts a generic enterprise process design. "The model distinguishes between core value streams and supporting value streams – with the core value streams split between a strategic and tactical level. Within the levels the value streams are split according to the product life cycles" (Rottier, **s.a**.:9-22).
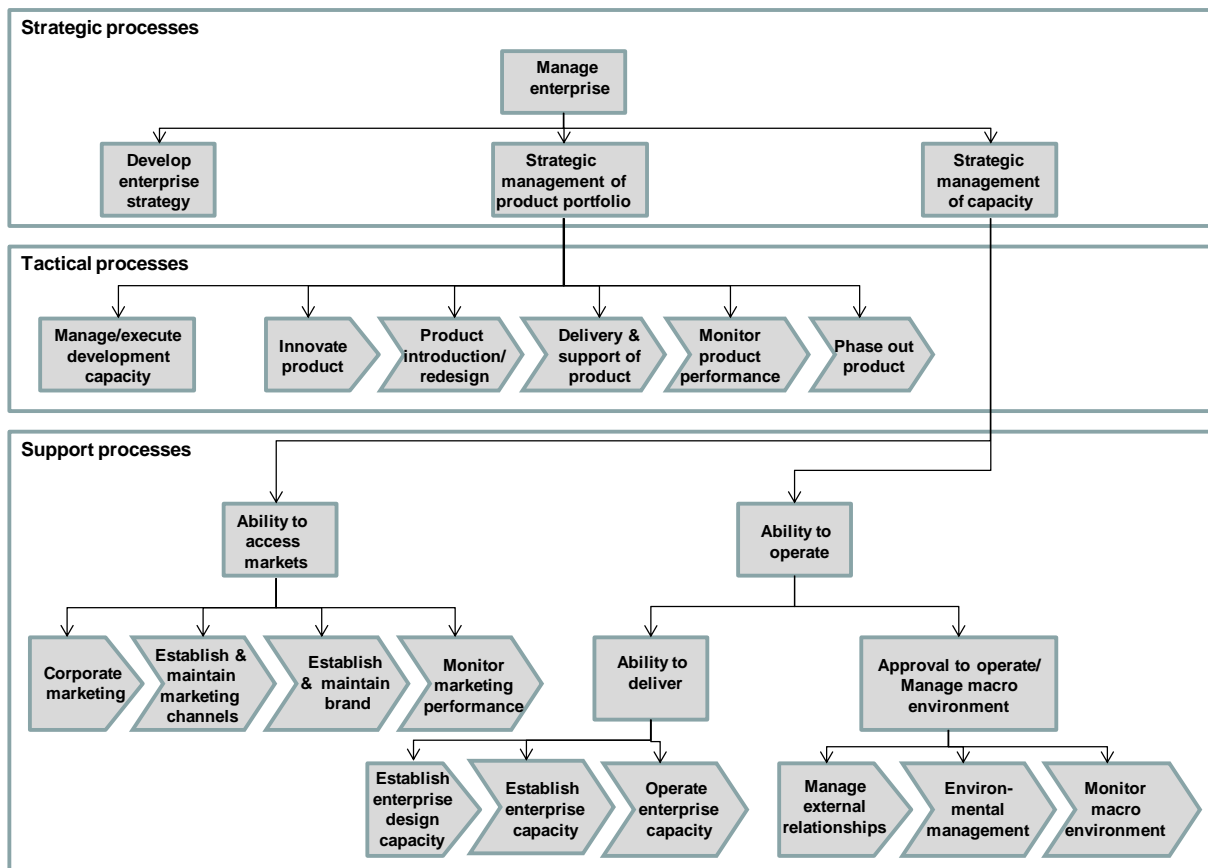
Figure 2.21: Generic enterprise design. (**Source:** Rottier, **s.a**.:9-22)

2.4.2.2 IT processes: current practices and emerging trends

Gartner Group RAS Services (1999:2) are of the opinion that, "... a comprehensive process approach for a service delivery organisation is probably a 'nice to have' for IT internal organisations with fairly satisfied internal users and environments that are not very complex, but it is a must for both clients using selective outsourcing and their providers. Any outsourcing lifecycle step (preparation, selection, negotiation, management) should focus in part on client and vendor processes and interactions".

To this end, the Gartner Group (2003:1.3), has defined a Sourcing Methodology, which consists of four phases guided by four critical areas of assessment, i.e. Service Levels & Pricing, Customer Satisfaction, Contract Relationship and Alignment & Vision:

- **Phase 1: Sourcing Strategy**
  - Business case focused, based on evaluation the sourcing options (including governance) relative to the strategic thrust in the clients organisation.
  - **Result:** Business case based executive approval, action plan for execution.
- **Phase 2 & 3: Evaluation & Selection and Contract Development**
  - Up front determination of the outcome. Readiness focussed preparation, including preparation for the retained organisation.
  - A fully managed, controlled and efficient engagement with the service providers focused on delivering the required outcome.
  - **Result:** Readiness for execution, client value focused selection, working relationship supported by strong governance and a living contract, effective sourcing management.
- **Phase 4: Sourcing Management**
  - A relationship structured to manage ongoing change.
  - **Result:** Successful relationship.

The Sourcing Management phase can be broken down further into six processes and their detail functional areas as depicted in Figure 2.22 below.
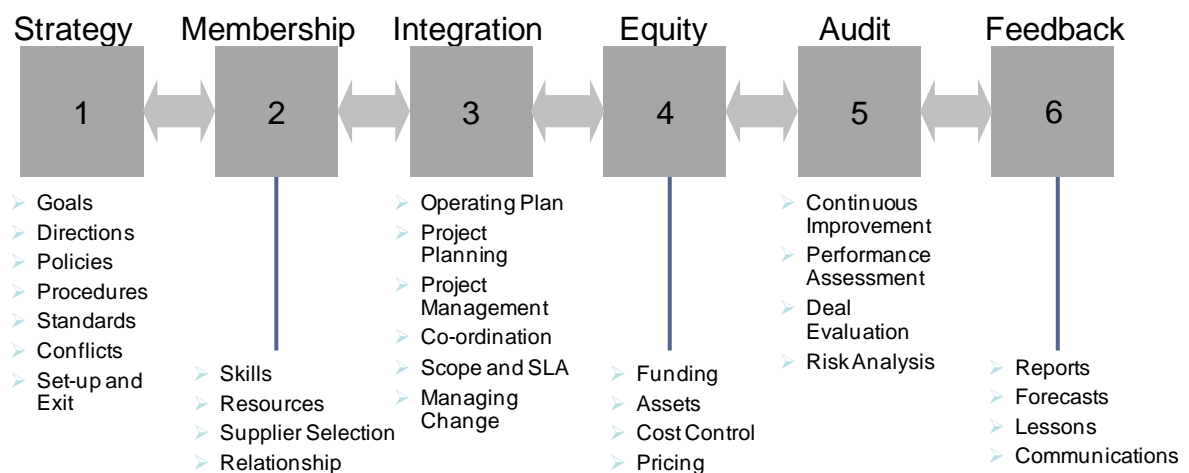
Figure 2.22: Sourcing management processes. (**Source:** Gartner Group, 2003:3.1)

Gewald and Helbig (2006:8) citing IBM (**s.a.**), maintains that, "in order to manage the relationship between customer and service provider it is important to use formally defined joint processes. Joint processes are characterised through interfaces with both organisations and need to be defined at all levels of the organisation. The processes can be segregated in horizontal and vertical processes. Horizontal processes are taking place within the same hierarchical level of the organisation, vertical process comprise several levels of the organisation". Figure 2.23 illustrates some examples according to different levels of the organisation.
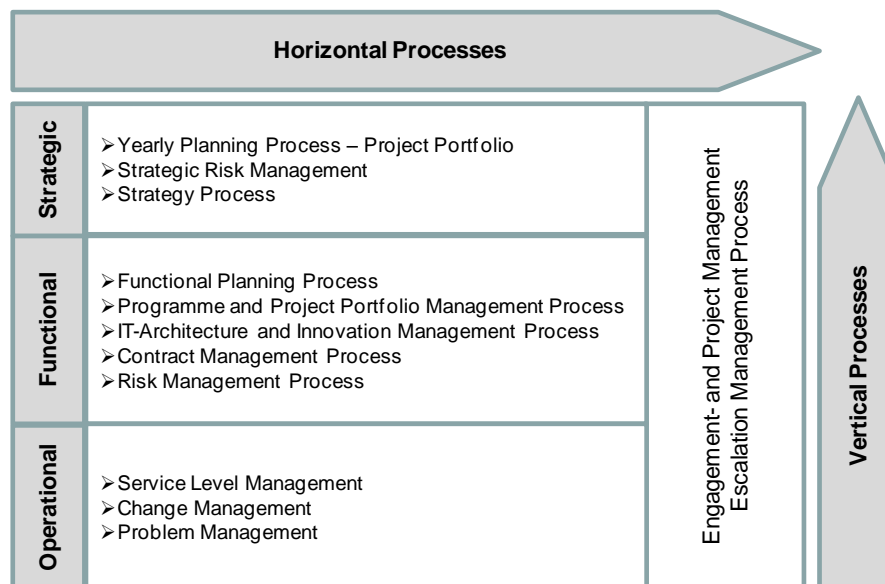
Figure 2.23: Joint Processes. (**Source:** Gewald & Helbig, 2006:8 citing IBM, **s.a.**)

Equaterra (**s.a.**:4) has defined six key functions that serve as the balance between risk mitigation and value realisation, and which are the foundation for their outsourcing management and governance operating model. Within each of these functional areas, is a set of related processes that outline the day-to-day role of the outsourcing management and governance team as depicted in Table 2.7:

➢ **Service Quality Management:** Ensures all aspects of service quality are met, problems are resolved, and business stakeholders are satisfied with the performance and quality of the service.

➢ **Issue Management:** Ensures issues impacting the service (regardless of cause) or the relationship are effective and expediently resolved.

➢ **Change Management:** Facilitates anticipated business change with the service provider, including new services and transformational programs.

➢ **Commercial Management:** Ensures the agreement is managed and the financial benefits are both tracked and realised.

➢ **Compliance:** Ensures all applicable compliance requirements are met, internally and externally driven.

➢ **Communication Management:** Focuses on management of key stakeholders involved or impacted by the relationship, including the service provider and other affected third-party providers.

Service Quality Management	Issue Management	Change Management	Commercial Management	Compliance	Communication Management
Service performance management	Escalated operations management	Strategic change management	Contract change management	Regulatory compliance	Customer relationship management
Stakeholder satisfaction management	Critical issues management	Project approval and initiation	Invoice verification and payments management	Internal and external audit	Management reporting
Service knowledge sharing	Emergency management	Programme management (transition, transformation, ongoing)	Service cost allocation management	Safety and security	(Client) business requirements identification and liaison
Root cause analysis		Demand and consumption management	Financial benefits realisation tracking and lockdown	Data privacy	Corporate communications management
			Financial performance management	Other client policies and procedures	Relationship alignment review
			Benchmarking	Business Continuity	Third-party supplier communications
			Asset management		

	Go live		D = 90 days		D + 180 days

The processes outlined in Table 2.7 above complement the account management processes a service provider will likely implement. However, the focus of all these processes is what a buyer organisation needs to do and has accountability for.

The Meta Group (2003:1) states that IT Organisations (ITOs) wishing to maximise the benefits of selective outsourcing should develop a Service Provider Interface (SPI) to optimise the interaction among service providers, define policies to operate in a multivendor environment, and ensure business operations will not be affected by potential vendor disputes. In the opinion of the Meta Group (2003:1), the scope of an SPI should cover the following processes:

➢ Change- and escalation management processes to define the information to be exchanged between vendors (e.g. authorisation plan to implement a change) and formulate the policies for the mode of operations.

➢ Service-level management to synchronise all service providers' deliverables.

➢ Capacity management to ensure capacity is in line with demand and that any increase in capacity requirements is in budget.

➢ Ongoing support and operations to avoid conflicts among vendors while managing ITO sites.

Furthermore, according to the Meta Group (2003:1), each process within the SPI should be documented in the following manner:

➢ **Roles and responsibilities:** To define the expectations and actions to be undertaken by ITOs and service providers.

➢ **Information to exchange:** To define the minimum information to be shared between parties throughout the service fulfilment lifecycle.

- ➢ **Handover points:** To define the interaction points between ITOs and service providers...
- ➢ **Policies:** To align service providers' mode of operations with the ITO's strategy and the enterprise architecture.
- ➢ **Multivendor matters:** To ensure service providers operate effectively within a multisourced environment (e.g., ensuring that one service provider's plans are performed with a full awareness of the impact on other service providers).

2.4.3   Organisational structure

The most effective IT governance programmes in the world are inaugurated by the board and championed by senior management. They are also embraced—in one form or another—at every level of the organisation (ITGI, 2008b:13).

"IT governance responsibilities form part of a broad framework of enterprise governance. The BIS has stated that IT should be addressed like any other strategic agenda item of the board, and that for critically dependent IT systems, governance should be effective, transparent and accountable. This means that the board should be very clear about its own and management's responsibilities. It should have a system in place to enforce those responsibilities which generally relate to IT's alignment and use within all activities of the enterprise, the management of technology-related business risks and the verification of the value delivered by the use of IT across the enterprise" (ITGI, 2003:15). To have an effective IT governance in the enterprise, the lower layers need to apply the same principles of setting objectives, providing and getting direction, and providing and evaluating performance measures (ITGI, 2003:14).

The King III Report (refer Appendix A) (King Committee on Governance, 2009:69-107), has very clear directives for roles and responsibilities pertaining to IT governance:
- ➢ Audit committees should consider IT risk as a crucial element of the effective oversight of risk management of the company.
- ➢ The audit committee should play an oversight role regarding:
  - ➢ IT risks and controls;
  - ➢ business continuity and data recovery related to IT; and
  - ➢ information security and privacy.
- ➢ The board should ensure that IT is aligned with business objectives and sustainability.
- ➢ IT governance is the responsibility of the board and the management. The board should specify the decision rights and accountability framework to encourage the desirable culture in the use of IT. Therefore:
  - ➢ board members should take an active role in IT strategy and governance, probably through the risk committee;

- CEOs should provide organisational structures to support the implementation of IT strategy;
- chief information officers must be business oriented and provide a bridge between IT and the business; and
- all executives should become involved in IT steering or similar committees.
- The board should ultimately be responsible to ensure the proper value delivery of IT.
- It is important for the board to take ownership of IT governance and set the direction management should follow. This is best done by making sure that the board operates with IT governance in mind:
  - ensuring IT is on the board agenda;
  - challenging the management's activities with regard to IT, to make sure IT issues are uncovered;
  - guiding the management by helping it to align IT initiatives with real business needs, and ensuring that it appreciates the potential effect on the business of IT-related risks;
  - insisting that IT performance be measured and reported to the board;
  - establishing an IT strategy committee with responsibility for communicating IT issues between the board and the management; and
  - insisting that there be a management framework for IT governance based on a common approach, for example, COBIT.
- Larger companies may consider appointing a chief information officer to take responsibility for the implementation and monitoring of IT governance within the company. Smaller companies may not appoint an individual responsible for this role, but should assign the responsibility to executive management reporting directly to the board.
- The board should be responsible for the process of risk management.
- The management should be responsible for the implementation of the risk management process.
- Risk management should be practised by all staff in their day-to-day activities.
- Internal audit should provide independent assurance on the risk management process.

2.4.3.1   The role of the CEO and board

According to ITGI (2005c:15), the Chief Executive Officer (CEO) and his/her board colleagues have a significant role to play in the determination of IT strategy and its implementation. Amongst the key responsibilities for the CEO and the board are:
- Approval of all significant IT-related business investments. This direct responsibility may be delegated to a board member-led committee, but the final governance responsibility must always rest with the CEO and the board.
- Approval of the business strategy and its IT implications.

➢ Ensuring that the IT function (including any outsourced elements) has the appropriate resources and the capability to deliver and maintain the IT elements of the business strategy.

➢ Asking the right questions and ensuring that all IT risks are being properly identified and mitigated.

➢ Gaining assurance that value is being obtained from the investment in IT.

To maximise the value of IT-relevant discussions, it is important that in the same way that the Chief Information Officer (CIO) and his/her senior team need to understand the business, the industry and its markets, the CIO's executive committee or board colleagues also need to have a good level of understanding of the opportunities and risks associated with IT. Also, it can be extremely helpful to ensure that at least one non-executive member of the board has amongst his/her skill sets and experience a knowledge of IT sufficient to promote and contribute to informed discussions and decision making on IT (ITGI, 2005c:15).

Furthermore, according to the ITGI (2005c:15), to be effective, IT needs to be on the board meeting agenda regularly. Typical items that might be included in such an agenda would include:

➢ An update on the IT investment portfolio including potential business impact from late delivery of systems or the ROI impact of over-budget costs of key investments.

➢ A periodic report on IT operational issues, perhaps in the form of an IT performance dashboard or IT balanced scorecard.

➢ IT implications of current and proposed mergers and acquisitions and divestment activity.

➢ A periodic update from the CIO on IT capabilities, current issues and emerging technologies that may provide opportunities for the entity.

2.4.3.2 The role of the CIO

ITGI (2005c:16), dictates that in a highly technology-dependent business it would be beneficial for the CIO to be a member of the main executive committee and board of directors to ensure that he/she participates in all major business-relevant discussions and decision making. Only in this way is it possible to ensure that the essential IT implications are properly factored in at the earliest stage to any key strategic decisions, including potential and actual merger and acquisition activities where IT may make or break the success of the deal. Furthermore, if it is deemed inappropriate for the CIO to be a full board member, there should at least be a regular (perhaps quarterly) opportunity for IT to be discussed as a formal board agenda item, with the CIO in attendance to deliver the report and participate in the resultant discussions. Where the CIO is not a full, or even ex officio board member, it becomes particularly important that he/she report directly to a full board member who has a proper appreciation of IT-related issues and who can be relied upon to work and consult with the CIO on all

business-led discussions and decisions for which IT will have implications. This should include consultation in advance of, and subsequent to, the board discussions.

2.4.3.3   The IT Strategy Committee

The ITGI (2005c:19), distinguishes between different responsibilities and constitution of the IT strategy committee and an IT steering committee. The prime role of the strategy committee (as the name implies), is to assist and advise the board on the formulation of IT strategy, whilst the primary role of the IT steering committee is to assist the executive in the delivery of that strategy. The strategy committee is seen as comprising primarily main board directors, including non-executives, with the CIO acting as a full or an ex officio member. The important matter is to ensure that all significant lines of business are represented at the highest levels, and this responsibility is not delegated downwards. Ideally, the CEO or at least a very senior director should chair the committee with IT being represented by the CIO and perhaps the Chief Technical Officer (CTO).

The ITGI (2005c:20), furthermore dictates that the committee does not assume the board's governance accountability, nor does it make final decisions. Its role is advisory in such areas as:

➢   The relevance of latest developments in IT from a business perspective.

➢   The alignment of IT with the overall business direction.

➢   The achievement of strategic IT objectives.

➢   The availability of suitable IT resources, skills and infrastructure to meet the business objectives.

➢   Optimisation of IT costs.

➢   The role and value delivery of external IT outsourcing.

➢   Risk, return and competitive aspects of IT investments.

➢   Progress on major IT-enabled business change projects.

➢   The contribution of IT to the business and to shareholder return.

➢   The management of IT-related risks including regulatory compliance.

ITGI (2005c:19), points to the fact that the Lighthouse Global research indicates that the actual representation on the strategy committee is at a lower level than might be ideal. Notwithstanding the representation issue, this committee should be seen to be at the same level as for example, the audit or remuneration committee. It is unlikely that the roles of these latter committees would ever be delegated to the lower levels that seem to apply to the IT strategy committee. Perhaps this again reflects real alignment issues, as IT strategy may be seen to be less important than audit or remuneration.

It is also likely that 'the fear factor' still exists, in that senior business managers may feel exposed through their own lack of IT knowledge. However, this 'head in the sand' response merely perpetuates the problem. It is only by becoming actively involved that this ignorance may be overcome, perhaps supported by some focused training (ITGI, 2005c:19).

2.4.3.4 The IT Steering Committee

The IT steering committee, in its strategy implementation oversight role according to ITGI (2005c:21), should have amongst its members at least one board member (sitting as the chair) supported by heads of operational and support departments, the CIO and CTO together with other key contributors including legal, audit, finance, etc. Its discussions will be at a greater level of detail than would be expected of the IT strategy committee, and it will be expected to provide a great deal of the input to the strategy committee's higher-level deliberations, including recommendations on, for example:

➢ The annual level of IT spending.

➢ Alignment of the enterprise's IT architecture with business goals.

➢ Portfolio management, including approval of projects plans for significant IT-related business investment.

➢ Monitoring project plans and ensuring that internal and external changes are properly factored in to the updated plans.

➢ The acquisition and divestment of IT-related resources.

➢ Monitoring conflicts between IT resources based upon clearly articulated business priorities.

➢ Communicating strategic goals to project teams through its representation of the operating and support departments.

➢ Formulating plans for and overseeing the results from the IT dashboard, IT balanced scorecard or other key metrics.

➢ Communicating the value of IT to all stakeholders. This may be done through articles on the corporate Intranet or staff publications and to shareholders and external analysts through the corporate web site or shareholder communications.

In the opinion of ITGI (2005c:21), the IT steering committee should ideally meet on a bimonthly basis. Within many highly IT-dependent entities, the board-level IT strategy committee supported by the IT steering committee may be the optimum structure, but equally it may be possible, and in some cases optimal, for the responsibilities of the strategy committee to be subsumed by the full board through proper consideration of IT-related strategic matters in the full board meetings. Similarly, it may be optimal to establish a separate board-led strategy committee that would take on responsibility for all strategic development discussions and recommendations, including those affecting IT.

There is no standard formula that is appropriate for all. The key point being that the board needs to take full and active responsibility for ensuring that IT and business strategy are properly aligned. The way in which it chooses to do this depends upon individual circumstances, including the organisational structure of the entity. Furthermore, many companies even have established advisory subcommittees to support the IT decision-making process. These subcommittees may include such special focus areas as an IT architectural review committee, IT security steering committee, IT policies or standards committee, or an information steering committee (ITGI, 2005c:21).

2.4.3.5. The Investment Services Board

According to ITGI (2005c:22), an alternative or sometimes complementary approach is to establish an IT investment committee (or an Investment Services Board in VAL IT terms) that is delegated the very specific authority for the consideration, approval and ongoing monitoring of the major IT-related business change projects. Consideration might also be given to establishing a business change investment committee, which considers IT-enabled and (to the extent that they may exist), non-IT-enabled projects. There are some activities, such as IT infrastructure upgrade projects, that might fall outside this remit, however these expenditures should have been budgeted with the original business change projects that gave rise to these aspects of the infrastructure in the first place, and so be pre-budgeted rather than part of new investment initiatives. These projects are akin to maintenance.

An Investment Services Board or similar committee can be very successful in helping to optimise business and IT alignment. To be successful, the committee has to be appropriately chaired, perhaps by an independent nonexecutive director. It also has to be properly representative of all major operating and support departments, usually and ideally by the heads of those departments being actively involved. The delegation of these responsibilities to lower-level personnel within each department will weaken the effectiveness of the committee and particularly, if the levels of involvement become unbalanced, can lead to decisions that are not necessarily in the best interests of the business as a whole being taken based upon, for example, participant seniority and clout. The committee needs to ensure that there is a consistent and robust approach to the preparation and submission of business cases, ensuring in particular that each of them fully addresses the alignment issue. There should also be a system for measuring benefits realisation, and proper accountability over the life cycle of the project (ITGI, 2005c:22).

In the opinion of the ITGI (2005c:23), a typical agenda items for the IT investment committee might include:
- ➢ Review the current state of the IT investment portfolio to identify progress against plan of all significant investments, and to recommend action on potentially underperforming or under-resourced projects.

- Discuss and agree upon the effect of changing business or external environmental factors on the portfolio.
- Ensure that appropriate learning points are obtained and communicated from ex post reviews of completed projects.
- Review and if appropriate, provide approval to proceed for submitted business cases.
- Consider and resolve potential conflicts for IT and business resources.
- Ensure unambiguous and communicated accountability for project delivery and the attainment of stated benefits.

2.4.3.6 The governance of information security

According to the ITGI (2006:11,19), information security governance is the responsibility of the board of directors and senior executives. It must be an integral and transparent part of enterprise governance and be aligned with the IT governance framework. Whilst senior executives have the responsibility to consider and respond to the concerns and sensitivities raised by information security, boards of directors will increasingly be expected to make information security an intrinsic part of governance, integrated with processes they already have in place to govern other critical organisational resources.

To exercise effective enterprise and information security governance, boards and senior executives must have a clear understanding of what to expect from their enterprise's information security programme. They need to know how to direct the implementation of an information security programme, how to evaluate their own status with regard to an existing security programme, and how to decide the strategy and objectives of an effective security programme. Figure 2.25 indicates the necessary components in developing a security strategy aligned with business objectives.

Figure 2.24: Conceptual information security governance. (**Source:** ITGI, 2006:11,19)

2.4.3.7 The governance of outsourcing

According to PriceWaterhouseCoopers (2006:9), making governance work is a challenge that eludes many companies. From an outsourcing perspective,... many of our clients report chronic obstacles in trying to apply outsourcing governance objectives practically, efficiently, and continuously on a day-to-day basis, not just across their enterprise but also deeply within each of their outsourcing initiatives. They tend to encounter difficulty in analysing risks as well as in moving beyond assessing risks to managing them. They often find out too late in the outsourcing process that monitoring without a framework to implement controls and parameters that trigger action is merely an exercise in gathering information, not an effective approach to governance or risk management.

According to PriceWaterhouseCoopers (2006:10), one of the best ways of gaining this insight and control requires establishing a formal governance structure, a model that enables centralised management of risk, quality, and compliance over all of the company's outsourcing-related service, competency, or functional delivery groups. To deliver sufficient strength-in-depth, however, such a model needs to address governance at three levels: strategy, programme management, and operations as is depicted in Table 2.8 below:

Table 2.8: Outsourcing governance model example. (**Source:** PriceWaterhouseCoopers, 2006:13)

	Senior management team	**Programme management team**	**Project management team**
	Strategic governance	**Programme governance**	**Operational governance**
Company	➢ Business sponsor ➢ Relationship management team	➢ Project management office ➢ Relationship management teams ➢ Governance, risk, and compliance ➢ Solution architecture and process engineering	➢ Project management office ➢ Project managers ➢ Quality assurance
Vendor	➢ Delivery management team ➢ Account management team	➢ Project management office ➢ Account management teams ➢ Delivery management team ➢ Solution architecture and process engineering support	➢ Project management office ➢ Project managers ➢ Quality assurance and testing

The elements depicted in Table 2.8, are elaborated upon below (PriceWaterhouseCoopers, 2006:10):

➢ **Strategic governance:**

    ➢ Strategic governance is the set of practices and responsibilities necessary to align outsourcing engagements with business objectives, risk-management imperatives, and critical resources, while also ensuring that individual initiatives are on track as planned. It is typically exercised by a Strategic Steering Committee (SSC), whose membership includes senior leaders and account managers from both the client and provider organisations.

    ➢ The SSC carries out its duties in oversight and control primarily by establishing centralised governance offices, or 'Centres of Excellence' (CoEs). Whether physical or virtual, these CoEs (one at the enterprise level and several at the program and operational

levels), help the SSC address strategic tasks such as conducting aggregated cross-enterprise risk analysis, developing standardised Service Level Agreements (SLAs), and managing vendor relationships at an enterprise level, while engaging the various service delivery organisations at the program and operational levels.

➢ Through these centres of excellence and other channels, the SSC builds healthy relationships between executives in the client and provider organisations by providing a structured forum for communication and decision-making, while also conducting joint-company reviews to monitor the progress of initiatives, plan for their subsequent phases, and address any problems before they disrupt operations.

➢ **Programme governance:**

  ➢ Programme governance (or functional governance), is the set of practices and responsibilities necessary to ensure that the vision and objectives established by the SSC are met at a programme level, primarily through performance monitoring, coordination, and improvement initiatives.

  ➢ The programme governance organisation includes key managers representing the project management office; the company's governance, risk, and compliance function; the solution architecture team; and the business process engineering group, as well as the vendor's account management and programme teams.

  ➢ This group creates the delivery organisation and defines the processes and technologies needed to facilitate operations. It also identifies and addresses risks associated with the programme and coordinates support from additional sources such as the company's Human Resources, administration, and finance functions.

➢ **Operational governance:**

  ➢ Comprise of project management teams from both the client and vendor, the operational governance organisation is charged with day-to-day tasks such as assuring quality, monitoring service level agreements, collecting and reporting on metrics, managing resources, sharing knowledge, and facilitating communication and collaboration.

  ➢ It conducts these tasks primarily through the operational centres of excellence, which depending on the client organisation's circumstances, can be organised by function, region, or competency.

Gewald & Helbig (2006:5), suggest that from a structural point of view there is no solitary correct organisation to support the alignment between business and IT. The structure depends on several factors, which need to be considered e.g. size of the company, geographically distributed resources, degree of centralisation of the outsourced function, or vendor strategy (single or multi vendor strategy). In order to set up the governance model it is necessary to clearly define the key responsibilities from a strategic to an operational level. The appropriate allocation of responsibilities between the partners is crucial for the delivery of the expected value within the outsourcing

engagement. The adequate distribution of activities and responsibilities between the partners and the hierarchical levels is the rationale for the design of the governance organisation. Joint responsibilities need to be implemented through committees and processes at all respective levels. Each committee has designated responsibilities.

ITGI (2005a:16-17), expresses the opinion that whilst the actual roles and responsibilities vary in magnitude and complexity accordingly with the processes to be outsourced, there are certain key interactive roles on both the client and supplier sides that are crucial to the successful implementation and its subsequent governance. Research has shown that equivalent logical roles should be present at each level in both the client and supplier (refer Table 2.9). These are necessary to identify early indications of risk and ensure that proper management can take place through to resolution.

Table 2.9: Client (and equivalent supplier) roles. (**Source:** ITGI, 2005a:17)

Client Position	Roles
Executive sponsor	➢ Oversees global Master Service Agreement (MSA) and schedules ➢ Ensures internal and external communication about the contract and its status ➢ Provides guidance to regional governance teams and site procedures ➢ Resolves issues, ambiguities or conflicts arising in the implementation and management of the contract
Programme manager	➢ Delivers the services and financial benefits identified in the MSA and schedules ➢ Identifies and manages risks associated with the execution of the MSA and schedules ➢ Organises and synchronises resources to enable the contract to be implemented ➢ Works with the regional teams to assure contract conformance and delivery of benefits ➢ Understands information from the benchmarking process(es) to ensure that prices remain market-competitive
Delivery sponsor	➢ Assures adherence to day-to-day service and operational levels ➢ Establishes and delivers seamless process management associated with faults, change, assets and third-party interfaces ➢ Co-ordinates and implements cost savings resulting from novation of contracts ➢ Co-ordinates and implements the transition and transformation plan(s)
Delivery support manager	➢ Ensures that all working interfaces between application support and the supplier are clearly defined and managed effectively such that application support can meet its service levels
Contract manager	➢ Ensures that the client maximises the value from the contract by proactive management of the supplier and the client contractual obligation
Transition manager	➢ Ensures that the transition to the supplier contract is managed effectively
Transformation manager	➢ Ensures that the supplier transformation programme is delivered in line with contractual commitments
Service change manager	➢ Ensures the smooth introduction of new services and changes to existing services
Service planning	➢ Ensures that all supplier proposals are reviewed, challenged and approved as appropriate by the client information systems and delivery unit order book, and plans are fully reflected within supplier and governance team plans
Communications manager	➢ Ensures that governance team communications are incorporated within the overall IS communications process
Finance manager	➢ Ensures that the financial aspects of the contract are implemented and managed effectively and the financial benefits of the agreement are realised

According to Laurent (2006:**s.a**.), sourcing governance (confirming that outsourcing companies meet not only functional service commitments but also a plethora of desired regulatory and compliance standards), has become more visible and important to organisations. Executive audit committees are finally beginning to understand their fiduciary responsibilities with respect to IT governance, specifically as it relates to outsourcing vendor management and outsourced service procurement. As

part of the overall corporate governance policy, audit committees should identify, categorise and evaluate all outsourcing risks and promote governance best practices in order to manage these risks.

2.5   CONCLUSION

In this chapter, a literature review was conducted on various aspects of corporate governance and IT governance. The application of these and related aspects pertaining to value and quality within the industry were investigated. In addition, a selection of relevant codes, frameworks, standards and best practices were reviewed to establish a regulatory framework for the remainder of this dissertation. In the next chapter, the governance efficiency survey design and methodology will be addressed.

CHAPTER THREE:
RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

The aim of this chapter and the survey contained herein is to determine the status of current governance practices within the company; the ultimate objective being to solve the research problem as defined in Chapter 1, Paragraph 1.2, and which reads as follows: "The application of inadequate or poorly formulated governance mechanisms within ICT outsourcing companies invariably lead to poor service delivery and sub-standard quality of outsourced deliverables, which ultimately leads to the outsourcing contract being cancelled at a significant loss of jobs and revenue for the industry".

3.2 BACKGROUND

For ease of reference, the following is a verbatim repeat of the information contained in Chapter 1, Paragraph 1.6:

Yin (1994:19), defines a research design as, "… the logical sequence that connects the empirical data to the study's initial research question and ultimately to its conclusions. According to Collis and Hussey (2003:55), the term 'methodology' refers to the overall approaches and perspectives to the research process as a whole and is concerned with the following main issues:

➢ **Why** you collected certain data.

➢ **What** data you collected.

➢ **Where** you collected it.

➢ **How** you collected it.

➢ **How** you analysed it.

According to White (2003), cited by Sammy (2008:6), there are three types of research functions, namely basic research, applied research and evaluation research. According to Collis and Hussey (2003:66-67), descriptive research refers to research which describes phenomena as they exist, while analytical research is a continuation of descriptive research, and aims to understand phenomena by discovering and measuring causal relations among them. De Vos (2001:69), cited by Sammy (2008:6), describes applied research as research directed towards providing solutions or shedding light on practical problems. Collis and Hussey (2003:66-67), describes applied research as the type of research in which the results or findings can be used to solve a specific, existing problem. Based on the definitions of De Vos and Collis and Hussey, the proposed study to be conducted within the ambit of this dissertation will be a combination of 'descriptive' and 'applied' research.

Research has indicated that there is much overlap between qualitative and quantitative research methods. Babbie (2005:25), expresses the opinion that, "... recognizing the distinction between qualitative and quantitative research doesn't mean that you must identify your research activities with one to the exclusion of the other. A complete understanding of the topic often requires both techniques". Against this background, the research study will be conducted within the ambit of the 'social world'. A theoretical research approach will primarily be followed, while both the positivistic as well as the phenomenological research paradigms will be employed.

The case study research method will be utilised for this research study, as it is a type of research method, which is suitable specifically as in the case of the research, where in-depth data concerning the current governance mechanisms within the target organisation can be established. It promises to allow for an in-depth, detailed understanding of this specific phenomenon within a bounded system.

Collis and Hussey (2003:68-70), point out that case studies are often described as exploratory research, used in areas where there are few theories or a deficient body of knowledge. The following types of case studies can be identified:

➢ **Descriptive case studies:** Where the objective is restricted to describing current practice.

➢ **Illustrative case studies:** Where the research attempts to illustrate new and possibly innovative practices adopted by particular companies.

➢ **Experimental case studies:** Where the research examines the difficulties in implementing new procedures and techniques in an organization and evaluating the benefits.

➢ **Explanatory case studies:** Where existing theory is used to understand and explain what is happening.

The author is of the opinion that the descriptive case study will be the most suitable option for the research to be undertaken.

According to White (2003:88) cited by Sammy (2008: 10), a questionnaire is an instrument with open and closed questions or statements to which a respondent must react. The questionnaire used in this research will comprise of closed questions only, based on the well known Likert scale (Likert, 1932:1-55).

Collis and Hussey (2003:122) point out that a unit of analysis could refer to the following:

➢ An individual.

➢ An event.

➢ An object.

➢ A body of individuals.

➢ A relationship.

> An aggregate.

The unit of analysis in this case study, is the current governance structure as a body of individuals within the target organisation.

Collis and Hussey (2003:152-153), explain that the identification of variables refer to an attribute of the entity one has chosen as the unit of analysis. A 'quantitative variable' refers to a numerical attribute of an individual or object, while a 'qualitative variable' refers to a non-numerical attribute of an individual or object. The qualitative variables in the study include the directors' governance tasks of 'evaluate', 'direct' and 'monitor'; measured against the six ISO/IEC 38500 principles for good governance, i.e. responsibility, strategy, acquisition, performance, conformance and human behaviour.

Due to the perceived limited understanding by stakeholders for what constitutes the term governance, this author is of the opinion that only a few role players will be capable of providing meaningful input to the case study. The target population forming the sampling frame is made up of eight role players within the current governance structure of the target organisation. A research survey will be conducted involving all these role players. Primary data gleaned from the research survey will be analysed using descriptive and inferential statistics (Cooper & Schindler, 2006:463-468;492,711).

3.3 THE SURVEY ENVIRONMENT

Within the South African subsidiary of a multinational ICT outsourcing company, the research environment will be limited to the personnel directly responsible for specific areas of governance within the organisation (or their delegates), comprising of the Company Secretary, Chief Information Officer (CIO), Chief Financial Officer (CFO), Business Manager: Commercial, Quality Manager, Business Manager: IT Operations Business Management and the Account Directors of two major outsourcing contracts.

3.4 THE TARGET POPULATION / CHOICE OF SAMPLING METHOD

It is required with any survey, that the target population be clearly defined, which Collis and Hussey (2003:56), define as follows: "... A population is any precisely defined set of people or collection of items which is under consideration". According to Collis and Hussey (2003:155-160), a sample is made up of some of the members of a 'population' (the target population), the latter referring to a body of people or to any other collection of items under consideration for the purpose of research. The 'sampling frame' according to Vogt (1993) and cited by Collis and Hussey (2003:155), represents a list or record of the population from which all the sampling units are drawn.

Due to the perceived limited understanding by stakeholders of the concept of 'IT governance', this author is of the opinion that only a few role players will be capable of providing meaningful input to the case study. The target population forming the sampling frame is made up of 8 role players within the current governance structure of the target organisation. A research survey will be conducted involving all these role players.

The sampling frame was specifically chosen in order to validate the practicality of the concepts as presented here. However, the risk of bias, which cannot be statistically eliminated, is recognised by the author due to the small number of respondents to the survey.

3.5 DATA COLLECTION

Emory and Cooper (1995:278), distinguish between three primary types of data collection (survey) methods namely:

➢ Personal interviewing.

➢ Telephone interviewing.

➢ Self-administered questionnaires/surveys.

The data collection method used fall within the ambit of the concept 'survey'. Remenyi *et al*. (2002:290), define the concept of 'survey' as: "…the collection of a large quantity of evidence usually numeric, or evidence that will be converted to numbers, normally by means of a questionnaire", while according to Gay and Diebl (1992:238), 'survey', is an attempt to collect data from members of a population in order to determine the current status of that population with respect to one or more variables.

As is the case with most academic research, the collection of data forms an important part of the overall dissertation content. The primary data collection method used in this survey is the self-administered questionnaires/surveys. Secondary data in the form of reports, organisational charts and policies will be utilised in addition to primary data.

Leedy and Ormrod (2001:185), points to the fact that a questionnaire allows the participants to respond to questions with assurance that their responses will be anonymous. This means the respondents can be more truthful than they would be in a personal interview.

3.6 MEASUREMENT SCALES

The survey is based on the Likert scale, where respondents are asked to respond to questions or statements (Parasuraman 1991:410). The Likert scale (Likert, 1932:1-55), is chosen as the scale can be

used in both respondent-centred (how responses differ between people) and stimulus-centred (how responses differ between various stimuli) studies, and it is most appropriate to glean data in support of the research problem in question (Emory & Cooper 1995:180-181). According to Emory and Cooper (1995:180-181), the following are the advantages of the Likert scale:

➢ Easy and quick to construct.

➢ Each item meets an empirical test for discriminating ability.

➢ The Likert scale is probably more reliable than the Thurston scale, and it provides a greater volume of data than the Thurston differential scale.

➢ The Likert scale is also treated as an interval scale.

Remenyi *et al.* (2002:153-154), is of the opinion that interval scales facilitate meaningful statistics when calculating means, standard deviation and Pearson correlation coefficients.

3.7 SURVEY DESIGN

Collis and Hussey (2003:60-66), expresses the opinion that research should be organised in order to make the best of opportunities and resources available. Furthermore, to provide a coherent and logical route to a reliable outcome, research must be conducted systematically, using appropriate methods to collect and analyse the data. The survey should be designed according to the following stages:

➢ **Stage one:** Identify the topic and set some objectives.

➢ **Stage two:** Pilot a questionnaire to find out what people know and what they see as the important issues.

➢ **Stage three:** List the areas of information needed and refine the objectives.

➢ **Stage four:** Review the responses to the pilot.

➢ **Stage five:** Finalise the objectives.

➢ **Stage six:** Write the questionnaire.

➢ **Stage seven:** Re-pilot the questionnaire.

➢ **Stage eight:** Finalise the questionnaire.

➢ **Stage nine:** Code the questionnaire.

The survey design to be used in this instance is that of the descriptive survey as opposed to the analytical survey. The descriptive survey is according to Collis and Hussey (2003:60-66), frequently used in business research in the form of attitude surveys. The descriptive survey as defined by Ghauri, Grønhaug and Kristianslund (1995:60), has furthermore the characteristics to indicate how many members of a particular population have a certain characteristic. According to Patel, Tony and Elliot (2005:**s.a.**) citing Leedy and Ormrod (2005), questionnaire construction is a very demanding task, which requires not only methodological competence, but also extensive experience with research in general and questioning techniques in particular.

The statements within the survey have been designed with the following principles in mind:

➢ Avoidance of double-barrelled statements.

➢ Avoidance of double-negative statements.

➢ Avoidance of prestige bias.

➢ Avoidance of leading statements.

➢ Avoidance of the assumption of prior knowledge.

3.8 VALIDITY AND RELIABILITY ISSUES

Denzin (1998:328), is of the opinion that qualitative research is biased, because interpretation produces understandings which are shaped by class, gender, race, and ethnicity. Malterud (1998:329-330) expresses the view that qualitative research presents a perspective that is always partial, and findings that represent only a temporary and limited view.

According to Babbie (2005:285), survey research is generally weak on validity and strong on reliability. In support of this, Berenson, Levine and Krehbiel (2004:21-22), state that surveys are subject to potential errors. Good survey design attempts to reduce or minimise these errors:

➢ **Coverage error or selection bias:** Occurs if certain groups or subjects are excluded from the sampling frame.

➢ **Non-response error or non-response bias:** Non-response error arises from the failure to collect data on all subjects in the sample and results in a non-response bias.

➢ **Sampling error:** Reflects the heterogeneity between samples based on the probability of selection of individuals or items for particular samples

➢ **Measurement error:** Refers to inaccuracies in the recorded responses that occur because of a weakness in question wording, an interviewer's effect on the respondent, or the effort made by the respondent. There are three types of measurement error: ambiguous wording of questions, the halo effect, and respondent error.

The researcher has endeavoured to minimise the effect of survey errors in the following ways:

➢ **Coverage error:** Although this error can never be completely eliminated, the author believes that the choice of sampling frame reflects the individuals with the broadest knowledge of, and responsibilities with regard to the subject matter. Increasing the sampling frame may in fact increase sampling error and/or measurement error in the case where an individual has limited knowledge of the subject of governance.

➢ **Non-response error or non-response bias:** The objective is to have a 100 percent return on questionnaires issued. Non-responses have been followed up on a regular basis.

➢ **Sampling error:** Refer to coverage error.

- ➢ **Measurement error:**
  - ➢ **Ambiguous wording of questions:** Respondents have been provided with operational definitions for key terms to foster common understanding. Questions have also been derived from the governance principles provided by best practise publications, as these publications normally reflect the colloquial speech, the possibility for error should be reduced.
  - ➢ **The halo effect:** The use of the self-administered questionnaires should minimise this effect.
  - ➢ **Respondent error:** This error may be reduced to some extent by inspecting of the responses for obvious errors but will never be completely eliminated.

In spite of the above, the researcher acknowledges that "…descriptions and explanations involve selective viewing and interpretation, and that they cannot be neutral, objective or total" (Mason, 1996:6).

3.9 THE RESEARCH QUESTIONNAIRE

In the opinion of Sammy (2008:85), a questionnaire is a quantitative data collection method, which has several advantages, namely:
- ➢ It is relatively economical.
- ➢ It can ensure anonymity.
- ➢ It contains questions for specific purposes.
- ➢ Existing questionnaires can be used, or modified.

The objective of this survey is to determine the opinions of role players within the current governance structure about various aspects relating to governance practices within the company. The questionnaire in this research study is divided in three sections, namely:
- ➢ **Section 1:** Status of IT governance within the company.
- ➢ **Section 2:** Directors' duties in respect of IT governance.
- ➢ **Section 3:** Governance of outsourcing contracts.

A list of the questions in the research questionnaire is included below for ease of reference.

3.9.1 Governance efficiency survey

This survey contains a number of statements about respondent perceptions and views related to governance practices within the company. The approach would be that respondents make their choices by filling in the number in the answer block that most accurately fits the extent of agreement with the statement description. (See the example below).

Should a respondent completely agree with a statement, he or she would fill in the number 5 in the answer column of the appropriate statement. Conversely, should a respondent disagree with the statement, he or she would fill in the number 2 in the answer column etc.

The degree to which the statement accurately describes the current situation will be annotated on the following Likert scale.

Example

Strongly disagree	Disagree	Undecided	Agree	Strongly agree		Answer
1	2	3	4	5		

Section 1

The elements below set out the six ISO 38500 principles for good corporate governance of IT. To what extent do the following statements reflect the current situation within the company?

IT Governance							Answer
1.	**Responsibility** Individuals and groups within the organisation understand and accept their responsibilities in respect of both supply of, and demand for IT. Those with responsibility for actions also have the authority to perform those actions.	1	2	3	4	5	
2.	**Strategy** The organisation's business strategy takes into account the current and future capabilities of IT; the strategic plans for IT satisfy the current and ongoing needs of the organisation's business strategy.	1	2	3	4	5	
3.	**Acquisition** IT acquisitions are made for valid reasons, on the basis of appropriate and ongoing analysis, with clear and transparent decision making. There is appropriate balance between benefits, opportunities, costs, and risks, in both the short term and the long term.	1	2	3	4	5	

IT Governance							Answer
4.	**Performance** IT is fit for purpose in supporting the organisation, providing the services, levels of service and service quality required to meet current and future business requirements.	1	2	3	4	5	
5.	**Conformance** IT complies with all mandatory legislation and regulations. Policies and practices are clearly defined, implemented and enforced.	1	2	3	4	5	
6.	**Human Behaviour** IT policies, practices and decisions demonstrate respect for Human Behaviour, including the current and evolving needs of all the people in the process.	1	2	3	4	5	

Section 2

Directors should govern IT through three main tasks:

➢ **Evaluate** the current and future use of IT.

➢ **Direct** preparation and implementation of plans and policies to ensure that use of IT meets business objectives.

➢ **Monitor** conformance to policies, and performance against the plans.

In this section, each of the three tasks of directors will be evaluated in terms of the principles for good IT governance in Section 1.

Note: While responsibility for specific aspects of IT may be delegated to managers within the organisation, accountability for the effective, efficient and acceptable use and delivery of IT by an organisation remains with the directors and cannot be delegated.

In the company, the scope of "IT" spans both internal IT as well as the Service Lines. Respondents should indicate by an X in the appropriate block, which areas he or she would be addressing when answering the questions related to director's duties:

Internal IT	*Service Lines*	*Both*

The degree to which the statement accurately describes the current situation will be annotated on the following Likert scale.

Very poor	*Below average*	*Average*	*Above average*	*Excellent*		*Answer*
1	2	3	4	5		

	Director's duties in respect of IT Governance								Answer
1.	**Responsibility**								
1.1	**Evaluate**								
1.1.1	Options for assigning responsibilities in respect of the organisation's current and future use of IT are evaluated on a regular basis	1	2	3	4	5			
1.1.2	Those given responsibility are competent in making decisions regarding IT.	1	2	3	4	5			
1.2	**Direct**								
1.2.1	Plans are carried out according to the assigned IT responsibilities;	1	2	3	4	5			
1.2.2	The board receives the information that they need to meet their responsibilities and accountability.	1	2	3	4	5			
1.3	**Monitor**								
1.3.1	The appropriateness of IT governance mechanisms is being monitored on a regular basis.	1	2	3	4	5			
1.3.2	Those given responsibility acknowledge and understand their responsibilities.	1	2	3	4	5			
1.3.3	The performance of those given responsibility in the governance of IT is monitored on a regular basis.	1	2	3	4	5			
2.	**Strategy**								

	Director's duties in respect of IT Governance								Answer
2.1	Evaluate								
2.1.1	Developments in IT and business processes are evaluated to ensure that IT will provide support for future business needs, ensuring that they align with the organisation's objectives for changing circumstances, taking consideration of better practices and satisfy other key stakeholder requirements.	1	2	3	4	5			
2.1.2	IT use is subject to appropriate risk assessment and evaluation.	1	2	3	4	5			
2.2	Direct								
2.2.1	Plans and policies are prepared and used to ensure that the organisation does benefit from developments in IT.	1	2	3	4	5			
2.2.2	The submission of proposals for innovative uses of IT that enable the organisation to respond to new opportunities or challenges, undertake new businesses or improve processes, are encouraged.	1	2	3	4	5			
2.3	Monitor								
2.3.1	The progress of approved IT proposals to ensure that they are achieving objectives in required timeframes using allocated resources is monitored on a regular basis.	1	2	3	4	5			
2.3.2	The use of IT to ensure that it is achieving its intended benefits is monitored on a regular basis.	1	2	3	4	5			
3.	Acquisition								
3.1	Evaluate								
3.1.1	Options for providing IT to realise approved proposals, balancing risks and value for money of proposed investments are evaluated.	1	2	3	4	5			
3.2	Direct								

	Director's duties in respect of IT Governance							Answer
3.2.1	IT assets are acquired in an appropriate manner, including the preparation of suitable documentation, while ensuring that required capabilities are provided.	1	2	3	4	5		
3.2.2	Supply arrangements (including both internal and external supply arrangements) support the business needs of the organisation.	1	2	3	4	5		
3.3	Monitor							
3.3.1	IT investments are monitored to ensure that they provide the required capabilities.	1	2	3	4	5		
3.3.2	The extent to which the organisation and suppliers maintain the shared understanding of the organisation's intent in making any IT acquisition, are being monitored on a regular basis.	1	2	3	4	5		
4.	Performance							
4.1	Evaluate							
4.1.1	The means proposed by the managers to ensure that IT will support business processes with the required capability and capacity are evaluated on a regular basis.	1	2	3	4	5		
4.1.2	The risks to continued operation of the business arising from IT activities are evaluated on a regular basis.	1	2	3	4	5		
4.1.3	The risks to the integrity of information and the protection of IT assets, including associated intellectual property and organisational memory are evaluated on a regular basis.	1	2	3	4	5		
4.1.4	Options for assuring effective, timely decisions about use of IT in support of business goals are evaluated on a regular basis.	1	2	3	4	5		

	Director's duties in respect of IT Governance								Answer
4.1.5	The effectiveness and performance of the organisation's system for Governance of IT are evaluated on a regular basis.	1	2	3	4	5			
4.2	Direct								
4.2.1	Sufficient resources are allocated so that IT meets the needs of the organisation, according to the agreed priorities and budgetary constraints.	1	2	3	4	5			
4.2.2	Those responsible to ensure that IT supports the business, when required for business reasons, receive proper direction from the board of directors.	1	2	3	4	5			
4.3	Monitor								
4.3.1	The extent to which IT does support the business is monitored on a regular basis.	1	2	3	4	5			
4.3.2	The extent to which allocated resources and budgets are prioritised according to business objectives is monitored on a regular basis.	1	2	3	4	5			
4.3.3	The extent to which the policies, such as for data accuracy and the efficient use of IT are followed properly, is monitored on a regular basis.	1	2	3	4	5			
5.	Conformance								
5.1	Evaluate								
5.1.1	The extent to which IT satisfies obligations (regulatory, legislation, common law, contractual), internal policies, standards and professional guidelines is evaluated on a regular basis.	1	2	3	4	5			
5.1.2	The organisation's internal conformance to its system for Governance of IT is evaluated on a regular basis.	1	2	3	4	5			
5.2	Direct								

	Director's duties in respect of IT Governance							**Answer**
5.2.1	Those responsible to establish regular and routine mechanisms for ensuring that the use of IT complies with relevant obligations (regulatory, legislation, common law, contractual), standards and guidelines, receives proper direction from the board of directors.	1	2	3	4	5		
5.2.2	Policies are established and enforced to enable the organisation to meet its internal obligations in its use of IT.	1	2	3	4	5		
5.2.3	IT staff follow relevant guidelines for professional behaviour and development.	1	2	3	4	5		
5.2.4	All actions relating to IT are ethical.	1	2	3	4	5		
5.3	Monitor							
5.3.1	IT compliance and conformance through appropriate reporting and audit practices are monitored, ensuring that reviews are timely, comprehensive, and suitable for the evaluation of the extent of satisfaction of the business.	1	2	3	4	5		
5.3.2	IT activities, including disposal of assets and data are monitored, to ensure that environmental, privacy, strategic knowledge management, preservation of organisational memory and other relevant obligations are met.	1	2	3	4	5		
6.	Human Behaviour							
6.1	Evaluate							
6.1.1	IT activities are evaluated to ensure that human behaviours are identified and appropriately considered.	1	2	3	4	5		
6.2	Direct							
6.2.1	IT activities are directed to be consistent with identified human behaviour.	1	2	3	4	5		

Director's duties in respect of IT Governance							Answer
6.2.2	Risks, opportunities, issues and concerns are be identified and reported by anyone at any time. Risks are managed in accordance with published policies and procedures and escalated to the relevant decision makers.	1	2	3	4	5	
6.3	Monitor						
6.3.1	IT activities are monitored to ensure that identified human behaviours remain relevant and that proper attention is given to them.	1	2	3	4	5	
6.3.2	Work practices are monitored to ensure that they are consistent with the appropriate use of IT.	1	2	3	4	5	

Section 3

In this section, the governance of outsourcing contracts will be addressed.

Contract A and Contract B have been selected in order to evaluate the effect of the contracting lifecycle stage on governance status. Respondents should indicate by an X in the appropriate block, which areas he or she would be addressing when answering the questions related to the governance of outsourcing contracts.

Contract A	Contract B	Both

The current status of the governance processes for the selected outsourcing contracts listed below, will be annotated on the following Likert scale.

Very poor	Below average	Average	Above average	Excellent	Answer
1	2	3	4	5	

	Governance of IT Outsourcing Contracts						Answer
1.	Service Quality Management All aspects of service quality are met, problems are resolved, and (client) business stakeholders are satisfied with the performance and quality of the service	1	2	3	4	5	
2.	Issue Management Issues impacting the service (regardless of cause) or the relationship are effective and expediently resolved.	1	2	3	4	5	
3.	Change Management Anticipated business change is being facilitated with the client, including new services and transformational programs. Demand and consumption are managed.	1	2	3	4	5	
4.	Commercial Management The agreement is managed and the financial benefits are both tracked and realized.	1	2	3	4	5	
5.	Compliance All applicable compliance requirements are met, internally and externally driven. Risks are identified and managed. Data privacy procedures are adhered to and business continuity processes have been aligned with that of the customer.	1	2	3	4	5	
6.	Communication Management The process for managing the key stakeholders involved or impacted by the relationship, including the service provider and other affected third-party providers, is well established.	1	2	3	4	5	

Should you be able to make one critical suggestion to the company to improve the overall efficiency of governance within the organisation, what would it be?

The researcher distributed the questionnaires via e-mail, and followed up with a telephone call to ensure that the questionnaire has been received. Respondents were sent a reminder via e-mail two weeks after having received the questionnaire. The researcher provided respondents with an overview of the dissertation objectives and emphasised the confidentiality of the information provided.

3.10 CONCLUSION

In this chapter, the 'governance efficiency' survey design and methodology was addressed under the following functional headings:
➢ Introduction.
➢ Background.
➢ Survey environment.
➢ Target population / Choice of sampling method.
➢ Data collection.
➢ Measurement scales.
➢ Demand for a qualitative research strategy.
➢ Survey design.
➢ Validity and reliability issues
➢ Survey questions.

In Chapter 4, a data analysis and subsequent interpretation of results using descriptive and inferential statistics will be conducted on the data gleaned from the research survey.

CHAPTER 4:
DATA ANALYSIS AND INTERPRETATION OF SURVEY RESULTS

4.1 INTRODUCTION

This chapter discusses the results of the data analysis of the survey as discussed in Chapter 3, conducted on the South African subsidiary of a multinational ICT outsourcing company. This research is based on personnel directly responsible for specific areas of governance within the organisation. The aim of this study is to determine whether a generic governance framework can be formulated to address the specific governance requirements of ICT outsourcing organisations. The data obtained from the completed questionnaires will be presented and analysed by means of descriptive and inferential statistics.

The data has been analysed by using SAS software. Descriptive statistics, frequency tables are displayed in Paragraph 4.2 which shows the distributions of the statement responses. Descriptive statistics is used to summarise the data. As a measure of central tendency and dispersion, Table 4.3 shows the means and standard deviation of the statements taken into account the different director's duties that describe the current situation in the organisation.

4.2 ANALYSIS METHOD

4.2.1 Validation of survey results

A descriptive analysis of the survey results returned by the research questionnaire respondents are reflected below. The responses to the questions obtained through the questionnaires are indicated in table format for ease of reference. Each variable is tested to fall within the set boundaries. Database validation in terms of the captured data was ensured by building in boundaries and rules to limit data capture error. Other measures to insure data validity was to capture the information twice and then compare to determine whether any errors were made. Data validation is the process of ensuring that a program operates on clean, correct and useful data. The construct validation however can only be taken to the point where the questionnaire measure what it is intended to measure. Construct validation was furthermore addressed in the planning fases of the survey when the questionnaire was developed. The questionnaires were aimed at measuring the opinions of role players within the current governance structure about various aspects relating to governance practices within the company.

4.2.2   Data format

The data gleaned from the questionnaires was coded according to a predetermined coding scheme and captured on Microsoft Access. It was then imported into SAS-format through the SAS ACCESS module.

4.2.3   Data analysis

The reliability of the statements (items) in the questionnaire posted to the sample respondents drawn from the South African subsidiary of a multinational ICT outsourcing company were tested by using the Cronbach Alpha tests (refer Paragraph 4.3.1). Descriptive statistics was performed on all variables; displaying means, standard deviations, frequencies, percentages, cumulative frequencies and cumulative percentages. These descriptive statistics are discussed in Paragraphs 4.3.2 and 4.3.3. (also refer to the computer printouts in Appendix D).

4.2.4   Inferential statistics

The following inferential statistics were performed on the data:
➢   Cronbach Alpha test to test internal consistency.

4.2.5   Sample

The target population forming the sampling frame is made up of eight role players within the current governance structure of the target organisation. The sample is selected on the basis of a convenient sample which includes:
➢   Company secretary;
➢   Chief Information Officer (CIO);
➢   Chief Financial Officer (CFO);
➢   Quality manager;
➢   Business Manager: Commercial;
➢   Business manager: IT Operations Business Management; and
➢   Account Directors of two major outsourcing contracts. Contract A is in its first year of a 5 year contract, while Contract B is the final year of a 9 year contractual relationship.

4.3   ANALYSIS

All eight respondents from the South African subsidiary of a multinational ICT outsourcing company answered the questionnaire posted to them. The items (statements) in the questionnaire were tested for reliability (see Paragraph 4.3.1).

4.3.1 Reliability testing

Cronbach's Alpha is an index of reliability associated with the variation accounted for by the true score of the 'underlying construct'. Construct is the hypothetical variables that are being measured (Cooper & Schindler, 2001:216-217). More specific, Cronbach's Alpha measures how well a set of items (or variables) measures a single uni-dimensional latent construct.

The reliability test (Cronbach's Alpha Coefficient) was executed on all the items (statements), which represent the measuring instrument of the survey, with respect to the responses rendered in this questionnaire. The results are represented in Table 4.1.

Table 4.1: Cronbach's Alpha Coefficients.

Statements		Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
SECTION1: IT Governance				
1.	Responsibility.	S1_1	0.3550	0.9287
2.	Strategy.	S1_2	0.1311	0.9291
3.	Acquisition.	S1_3	-0.0150	0.9314
4.	Performance.	S1_4	0.5546	0.9260
5.	Conformance.	S1_5	0.4778	0.9263
6.	Human Behaviour.	S1_6	0.2543	0.9279
SECTION 2: Director's duties in respect of IT Governance				
1.1.1.	Options for assigning responsibilities in respect of the organisation's current and future use of IT are evaluated on a regular basis.	S2_1_1_1	0.2701	0.9277
1.1.2.	Those given responsibility are competent in making decisions regarding IT.	S2_1_1_2	0.7157	0.9242
1.2.1.	Plans are carried out according to the assigned IT responsibilities.	S2_1_2_1_1	0.1046	0.9288
1.2.2.	The board receives the information that they need to meet their responsibilities and accountability.	S2_1_2_1_2	-0.4832	0.9367
1.3.1	The appropriateness of IT governance mechanisms is being monitored on a regular basis.	S2_1_2_2_1	0.6276	0.9249
1.3.2.	Those given responsibility acknowledge and understand their responsibility.	S2_1_2_2_2	0.7040	0.9240
1.3.3.	The performance of those given responsibility in the governance of IT is monitored on a regular basis.	S2_1_2_2_3	0.6037	0.9251
2.1.1.	Development in IT and business processes are evaluated to ensure IT will provide support for future business needs, etc.	S2_1_3_1_1	0.4002	0.9268
2.1.2.	IT use is subject to appropriate risk assessment and evaluation.	S2_1_3_1_2	0.6267	0.9251
2.2.1.	Plans and policies are prepared and used to ensure that the organisation does benefit from developments in IT.	S2_1_3_2_1	0.4434	0.9265
2.2.2.	Submission of proposals for innovative uses of IT that enable the organisation to respond to new opportunities etc. is encouraged.	S2_1_3_2_2	0.6161	0.9249
2.3.1.	Progress of approved IT proposals to ensure that they are achieving objectives in required timeframes using	S2_1_3_3_1	0.5650	0.9254

Statements		Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
	allocated resources is monitored on a regular basis.			
2.3.2.	Use of IT to ensure that it is achieving its intended benefits is monitored on a regular basis.	S2_1_3_3_2	0.7895	0.9236
3.1.1.	Options for providing IT to realise improved proposals, balancing risks and value for money of proposed investments are evaluated	S2_1_4_1_1	0.3371	0.9275
3.2.1.	IT assets are acquired in an appropriate manner, including the preparation of suitable documentation, while ensuring that required capabilities are provided.	S2_1_4_1_3	0.6360	0.9247
3.2.2.	Supply arrangements support the business needs of the organisation.	S2_1_4_1_4	-0.0781	0.9293
3.3.1.	IT investments are monitored to ensure that they provide the required capabilities.	S2_1_4_2_1	0.6707	0.9248
3.3.2.	The extent to which the organisation and suppliers maintain the shared understanding of the organisation's intent in making any IT acquisition, are being monitored on a regular basis.	S2_1_4_2_2	0.3835	0.9269
4.1.1.	The means proposed by the managers to ensure that IT will support business processes with the required capability and capacity are evaluated on a regular basis.	S2_1_5_1_1	0.6399	0.9253
4.1.2.	The risks to continued operation of the business arising from IT activities are evaluated on a regular basis.	S2_1_5_1_2	0.9550	0.9223
4.1.3.	The risks to the integrity of information and the protection of IT assets, including associated intellectual property and organisation memory are evaluated on a regular basis.	S2_1_5_1_3	0.3555	0.9272
4.1.4.	Options for ensuring effective, timely decisions about use of IT in support of business goals are evaluated on a regular basis.	S2_1_5_1_4	0.5546	0.9260
4.1.5.	The effectiveness and performance of the organisation's system for governance of IT are evaluated on a regular basis.	S2_1_5_1_5	0.4454	0.9266
4.2.1.	Sufficient resources are allocated so that IT meets the needs of the organisation, according to the agreed priorities and budgetary constraints.	S2_1_5_2_1	-0.0585	0.9313
4.2.2.	Those responsible to ensure that IT supports the business , when required for business reasons, receive proper direction from the board of directors.	S2_1_5_2_2	0.3846	0.9269
4.3.1.	The extent to which IT does support the business is monitored on a regular basis.	S2_1_5_3_1	0.2345	0.9278
4.3.2.	The extent to which allocated resources and budgets are prioritised according to business objectives is monitored on a regular basis.	S2_1_5_3_2	0.2424	0.9278
4.3.3.	The extent to which the policies, such as for data accuracy and the efficient use of IT are followed properly, is monitored on a regular basis.	S2_1_5_3_3	0.9110	0.9246
5.1.1.	The extent to which IT satisfies obligations, internal policies, standards and professional guidelines is evaluated on a regular basis.	S2_1_6_1_1	0.4261	0.9266
5.1.2.	The organisation's internal conformance to its system for governance of IT is evaluated on a regular basis.	S2_1_6_1_2	0.3961	0.9270
5.2.1.	Those responsible to establish regular and routine mechanisms for ensuring that the use of IT complies with relevant obligations, standards and guidelines, receive proper direction from the board of directors.	S2_1_6_2_1	-0.0854	0.9297
5.2.2.	Policies are established and enforced to enable the organisation to meet its internal obligations in its use of IT.	S2_1_6_2_2	0.5436	0.9257
5.2.3.	If staff follow relevant guidelines for professional behaviour and development.	S2_1_6_2_3	0.7162	0.9242
5.2.4.	All actions relating to IT are ethical.	S2_1_6_2_4	0.2988	0.9277

Statements		Variable nr.	Correlation with total	Cronbach's Alpha Coefficient
5.3.1.	IT compliance and conformance through appropriate reporting and audit practices are monitored.	S2_1_6_3_1	0.1105	0.9285
5.3.2.	IT activities are monitored, to ensure that environmental, privacy, strategic knowledge management, preservation of organisational memory and other relevant obligations are met.	S2_1_6_3_2	0.6596	0.9247
6.1.1.	IT activities are evaluated to ensure that human behaviours are identified and appropriately considered.	S2_1_7_1_1	0.1308	0.9283
6.2.1.	IT activities are directed to be consistent with identified human behaviour.	S2_1_7_2_1	0.6171	0.9260
6.2.2.	Risks, opportunities, issues and concerns are identified and reported by anyone at any time.	S2_1_7_2_2	0.8982	0.9218
6.3.1.	IT activities are monitored to ensure that identified human behaviours remain relevant and that proper attention is given to them.	S2_1_7_3_1	0.4793	0.9267
6.3.2.	Work practices are monitored to ensure that they are consistent with the appropriate use of IT.	S2_1_7_3_2	0.4201	0.9268
SECTION 3: Governance of IT Outsourcing Contracts				
1.	Service Quality Management	S3_2_1	0.3226	0.9276
2.	Issue Management	S3_2_2	0.5565	0.9256
3.	Change Management	S3_2_3	0.5799	0.9253
4.	Commercial Management	S3_2_4	0.6399	0.9247
5.	Compliance	S3_2_5	0.8316	0.9239
6.	Communication Management	S3_2_6	0.3542	0.9271
Cronbach's Coefficient Alpha for standardised variable				**0.9319**
Cronbach's Coefficient Alpha for raw variables				**0.9279**

The Cronbach's Alpha Coefficients (Table 4.1) represent all the items in the questionnaire:

➤ 0.9279 for raw variables; and

➤ 0.9319 for standardised variables;

are more than the acceptable level of 0.70. As a result, the questionnaire proves to be reliable and consistent.

4.3.2 Descriptive statistics

Tables 4.2 and 4.3 shows the descriptive statistics for all the variables in the questionnaire for a South African subsidiary of a multinational ICT outsourcing company with the frequencies in each category and the percentage out of total number of questionnaires. In cases where more than one statement measure one element, the averages were calculated and displayed in a table. It is of importance to note that the descriptive statistics are based on the total sample. In some instances there were no answers given (open) in the questionnaire. These are shown as 'unknown'. Descriptive statistics are shown in more detail in Appendix D.

TABLE 4.2: Descriptive statistics for categorical variables.

Variables		Categories	Frequency	Percentage of total
SECTION1: IT Governance				
1.	**Responsibility:** Individuals and groups within the organisation understand and accept their responsibilities in respect of both supply of, and demand for IT. Those with responsibility for actions also have the authority to perform those actions.	Strongly disagree	0	0.0%
		Disagree	1	12.5%
		Undecided	2	25.0%
		Agree	5	62.5%
		Strongly agree	0	0.0%
		Unknown	0	0.0%
2.	**Strategy:** The organisation's business strategy takes into account the current and future capabilities of IT; the strategic plans for IT satisfy the current and ongoing needs of the organisation's business strategy.	Strongly disagree	0	0.0%
		Disagree	2	25.0%
		Undecided	1	12.5%
		Agree	5	62.5%
		Strongly agree	0	0.0 %
		Unknown	0	0.0%
3.	**Acquisition:** IT acquisitions are made for valid reasons, on the basis of appropriate and ongoing analysis, with clear and transparent decision making. There is appropriate balance between benefits, opportunities, costs, and risks, in both the short term and the long term.	Strongly disagree	0	0.0%
		Disagree	3	37.5%
		Undecided	1	12.5%
		Agree	3	37.5%
		Strongly agree	1	12.5%
		Unknown	0	0.0%
4.	**Performance:** IT is fit for purpose in supporting the organisation, providing the services, levels of service and service quality required to meet current and future business requirements.	Strongly disagree	0	0.0%
		Disagree	2	25.0%
		Undecided	5	62.5%
		Agree	1	12.5%
		Strongly agree	0	0.0%
		Unknown	0	0.0%
5.	**Conformance:** IT complies with all mandatory legislation and regulations. Policies and practices are clearly defined, implemented and enforced.	Strongly disagree	0	0.0%
		Disagree	4	50.0%
		Undecided	3	37.5%
		Agree	1	12.5%
		Strongly agree	0	0.0%
		Unknown	0	0.0%
6.	**Human Behaviour:** IT policies, practices and decisions demonstrate respect for Human Behaviour, including the current and evolving needs of all the people in the process.	Strongly disagree	0	0.0%
		Disagree	3	37.5%
		Undecided	3	37.5%
		Agree	2	25.0%
		Strongly agree	0	0.0%
		Unknown	0	0.0%
SECTION 2: Director's duties in respect of IT Governance				
i	Which areas will you address when answering the questions?	Internal IT	1	12.5%
		Service lines	1	12.5%
		Both	6	75.0%

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Variables		Categories	Frequency	Percentage of total
1.	**Responsibility**			
1.1.	**Evaluate**			
1.1.1.	Options for assigning responsibilities in respect of the organisation's current and future use of IT are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	4	50.0%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
1.1.2.	Those given responsibility are competent in making decisions regarding IT.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	1	12.5%
		Unknown	0	0.0%
1.2.	**Direct**			
1.2.1.	Plans are carried out according to the assigned IT responsibilities.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	3	37.5%
		Above average	4	50.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
1.2.2.	The board receives the information that they need to meet their responsibilities and accountability.	Very poor	0	0.0%
		Below average	0	0.0%
		Average	5	62.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	1	12.5%
1.3.	**Monitor**			
1.3.1.	The appropriateness of IT governance mechanisms is being monitored on a regular basis.	Very poor	1	12.5%
		Below average	3	37.5%
		Average	3	37.5%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
1.3.2.	Those given responsibility acknowledge and understand their responsibility.	Very poor	1	12.5%
		Below average	1	12.5%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
1.3.3.	The performance of those given responsibility in the governance of IT is monitored on a regular basis.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	2	25.0%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%

Variables		Categories	Frequency	Percentage of total
2.	**Strategy**			
2.1.	**Evaluate**			
2.1.1.	Development in IT and business processes are evaluated to ensure IT will provide support for future business needs, etc.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	3	37.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
2.1.2.	IT use is subject to appropriate risk assessment and evaluation.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	3	37.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
2.2.	**Direct**			
2.2.1.	Plans and policies are prepared and used to ensure that the organisation does benefit from developments in IT.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
2.2.2.	Submission of proposals for innovative uses of IT that enable the organisation to respond to new opportunities etc. is encouraged.	Very poor	1	12.5%
		Below average	2	25.0%
		Average	2	25.0%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
2.3.	**Monitor**			
2.3.1.	Progress of approved IT proposals to ensure that they are achieving objectives in required timeframes using allocated resources is monitored on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	4	50.0%
		Above average	1	12.5%
		Excellent	1	12.5%
		Unknown	0	0.0%
2.3.2.	Use of IT to ensure that it is achieving its intended benefits is monitored on a regular basis.	Very poor	1	12.5%
		Below average	2	25.0%
		Average	4	50.0%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
3.	**Acquisition**			
3.1.	**Evaluate**			
3.1.1.	Options for providing IT to realise improved proposals, balancing risks and value for money of proposed investments are evaluated	Very poor	0	0.0%
		Below average	2	25.0%
		Average	4	50.0%
		Above average	1	12.5%

Variables		Categories	Frequency	Percentage of total
		Excellent	1	12.5%
		Unknown	0	0.0%
3.2.	**Direct**			
3.2.1.	IT assets are acquired in an appropriate manner, including the preparation of suitable documentation, while ensuring that required capabilities are provided.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	2	25.0%
		Above average	2	25.0%
		Excellent	1	12.5%
		Unknown	0	0.0%
3.2.2.	Supply arrangements support the business needs of the organisation.	Very poor	0	0.0%
		Below average	0	0.0%
		Average	4	50.0%
		Above average	4	50.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
3.3.	**Monitor**			
3.3.1.	IT investments are monitored to ensure that they provide the required capabilities.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
3.3.2.	The extent to which the organisation and suppliers maintain the shared understanding of the organisation's intent in making any IT acquisition, are being monitored on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	4	50.0%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.	**Performance**			
4.1.	**Evaluate**			
4.1.1.	The means proposed by the managers to ensure that IT will support business processes with the required capability and capacity are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	4	50.0%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.1.2.	The risks to continued operation of the business arising from IT activities are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	4	50.0%
		Average	2	25.0%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.1.3.	The risks to the integrity of information and the protection of IT assets, including associated intellectual property and organisation memory are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	4	50.0%
		Average	2	25.0%
		Above average	2	25.0%

Variables		Categories	Frequency	Percentage of total
		Excellent	0	0.0%
		Unknown	0	0.0%
4.1.4.	Options for ensuring effective, timely decisions about use of IT are support of business goals are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	5	62.5%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.1.5.	The effectiveness and performance of the organisation's system for governance of IT are evaluated on a regular basis.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	4	50.0%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.2.	**Direct**			
4.2.1	Sufficient resources are allocated so that IT meets the needs of the organisation, according to the agreed priorities and budgetary constraints.	Very poor	1	12.5%
		Below average	4	50.0%
		Average	1	12.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.2.1.	Those responsible to ensure that IT supports the business, when required for business reasons, receive proper direction from the board of directors.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	4	50.0%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.3.	**Monitor**			
4.3.1.	The extent to which IT does support the business is monitored on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	6	75.0%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.3.2.	The extent to which allocated resources and budgets are prioritised according to business objectives is monitored on a regular basis.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	5	62.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
4.3.3.	The extent to which the policies, such as for data accuracy and the efficient use of IT are followed properly, is monitored on a regular basis.	Very poor	0	0.0%
		Below average	5	62.5%
		Average	3	37.5%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%

Variables		Categories	Frequency	Percentage of total
5.	**Conformance**			
5.1.	**Evaluate**			
5.1.1.	The extent to which IT satisfies obligations, internal policies, standards and professional guidelines is evaluated on a regular basis.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
5.1.2.	The organisation's internal conformance to its system for governance of IT is evaluated on a regular basis.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	5	62.5%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
5.2.	**Direct**			
5.2.1.	Those responsible to establish regular and routine mechanisms for ensuring that the use of IT complies with relevant obligations, standards and guidelines, receive proper direction from the board of directors.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	5	62.5%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
5.2.2.	Policies are established and enforced to enable the organisation to meet its internal obligations in its use of IT.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	2	25.0%
		Above average	4	50.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
5.2.3.	If staff follow relevant guidelines for professional behaviour and development.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	2	25.0%
		Above average	4	50.0%
		Excellent	1	12.5%
		Unknown	0	0.0%
5.2.4.	All actions relating to IT are ethical.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	1	12.5%
		Above average	5	62.5%
		Excellent	1	12.5%
		Unknown	0	0.0%
5.3.	**Monitor**			
5.3.1.	IT compliance and conformance through appropriate reporting and audit practices are monitored.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	5	62.5%
		Above average	2	25.0%
		Excellent	0	0.0%
		Unknown	0	0.0%

Variables		Categories	Frequency	Percentage of total
5.3.2.	IT activities are monitored, to ensure that environmental, privacy, strategic knowledge management, preservation of organisational memory and other relevant obligations are met.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	2	25.0%
		Above average	4	50.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
6.	**Human behaviour**			
6.1.	**Evaluate**			
6.1.1.	IT activities are evaluated to ensure that human behaviours are identified and appropriately considered.	Very poor	0	0.0%
		Below average	4	50.0%
		Average	4	50.0%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
6.2.	**Direct**			
6.2.1.	IT activities are directed to be consistent with identified human behaviour.	Very poor	0	0.0%
		Below average	3	37.5%
		Average	5	62.5%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
6.2.2.	Risks, opportunities, issues and concerns are identified and reported by anyone at any time.	Very poor	1	12.5%
		Below average	3	37.5%
		Average	1	12.5%
		Above average	3	37.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
6.3.	**Monitor**			
6.3.1.	IT activities are monitored to ensure that identified human behaviours remain relevant and that proper attention is given to them.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	6	75.0%
		Above average	0	0.0%
		Excellent	0	0.0%
		Unknown	0	0.0%
6.3.2.	Work practices are monitored to ensure that they are consistent with the appropriate use of IT.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	5	62.5%
		Above average	1	12.5%
		Excellent	0	0.0%
		Unknown	0	0.0%
SECTION 3: Governance of IT Outsourcing Contracts				
i	Which areas will you address?	Contract A	2	25.0%
		Contract B	2	25.0%
		Both	4	50.0%
1.	**Service Quality Management** All aspects of service quality are met, problems are	Very poor	1	12.5%
		Below average	1	12.5%

Variables		Categories	Frequency	Percentage of total
	resolved, and (client) business stakeholders are satisfied with the performance and quality of the service.	Average	4	50.0%
		Above average	2	25.0%
		Excellent	0	0.0%
2.	**Issue Management** Issues impacting the service (regardless of cause) or the relationship are effective and expediently resolved.	Very poor	0	0.0%
		Below average	2	25.0%
		Average	3	37.5%
		Above average	3	37.5%
		Excellent	0	0.0%
3.	**Change Management** Anticipated business change is being facilitated with the client, including new services and transformational programs. Demand and consumption are managed.	Very poor	0	0.0%
		Below average	4	50.0%
		Average	1	12.5%
		Above average	3	37.5%
		Excellent	0	0.0%
4.	**Commercial Management** The agreement is managed and the financial benefits are both tracked and realized.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	3	37.5%
		Above average	2	25.0%
		Excellent	2	25.0%
5.	**Compliance** All applicable compliance requirements are met, internally and externally driven. Risks are identified and managed. Data privacy procedures are adhered to and business continuity processes have been aligned with that of the customer.	Very poor	0	0.0%
		Below average	0	0.0%
		Average	4	50.0%
		Above average	3	37.5%
		Excellent	1	12.5%
6.	**Communication Management** The process for managing the key stakeholders involved or impacted by the relationship, including the service provider and other affected third-party providers, is well established.	Very poor	0	0.0%
		Below average	1	12.5%
		Average	4	50.0%
		Above average	3	37.5%
		Excellent	0	0.0%

TABLE 4.3: Descriptive statistics for directors duties in respect of IT governance.

Variable	N	Mean	Standard Deviation	Range
Responsibility				
1. Evaluate	8	3.250	0.7559	2.0
2. Direct	8	3.125	0.6409	2.0
3. Monitor	8	2.833	0.7766	2.0
Strategy				
1. Evaluate	8	2.875	0.7440	2.0
2. Direct	8	3.000	0.8018	2.0
3. Monitor	8	2.875	0.8345	3.0
Acquisition				
1. Evaluate	8	3.125	0.9910	3.0

Variable	N	Mean	Standard Deviation	Range
2. Direct	8	3.312	0.7039	1.5
3. Monitor	8	3.062	0.7289	2.0
Performance				
1. Evaluate	8	2.775	0.6453	1.8
2. Direct	8	2.625	0.8345	2.5
3. Monitor	8	2.75	0.4272	1.3
Conformance				
1. Evaluate	8	2.875	0.6409	1.5
2. Direct	8	3.375	0.5669	1.2
3. Monitor	8	3.188	0.6512	2.0
Human Behaviour				
1. Evaluate	8	2.500	0.5345	1.0
2. Direct	8	2.688	0.7990	2.0
3. Monitor	8	2.812	0.5303	1.5

4.3.3.   Uni-variate graphs

4.3.3.1   Section 1 of survey

Does the current situation within the target organisation reflect the ISO/IEC 38500 principles for good governance of IT?

➢   The respondents indicated their 'agreement' with the following principles:

>   **Responsibility:** Individuals and groups within the organisation understand and accept their responsibilities in respect of both supply of, and demand for IT. Those with responsibility for actions also have the authority to perform these actions.

>   **Strategy:** The organisation's business strategy takes into account the current and future capabilities of IT; the strategic plans for IT satisfy the current and ongoing needs of the organisation's business strategy.

➢   The majority of respondents were either 'undecided' (12.5%) or 'in agreement' (37.5%) on the Acquisition principle. However, 37.5% of respondents were 'in disagreement'. This may indicate some degree of inconsistency in the application and/or aspects of immaturity within the acquisition processes. The variance between responses therefore makes the overall position on this principle unclear.

- ➢ **Acquisition:** IT acquisitions are made for valid reasons, on the basis of appropriate and ongoing analysis, with clear and transparent decision making. There is an appropriate balance between benefits, opportunities, costs, and risks, in both the short term and the long term.
- ➢ There was also high indecision factor for the following three principles, which may indicate a lack of process maturity and/or inadequate allocation of roles and responsibilities:
  - ➢ **Performance:** IT is fit for purpose in supporting the organisation, providing the services, levels of the service and service quality required to meet current and future business requirements ('disagree': 25%; 'undecided': 62.5%; 'agree': 12.5%).
  - ➢ **Conformance:** IT complies with all mandatory legislation and regulations. Policies and practices are clearly defined, implemented and enforced ('disagree': 50%; 'undecided': 37.5%; 'agree': 12.5%).
  - ➢ **Human behaviour:** IT policies, practices and decisions demonstrate respect for Human Behaviour, including the current and evolving needs of all the people in the process ('disagree': 37.5%; 'undecided': 37.5%; 'agree': 25%).
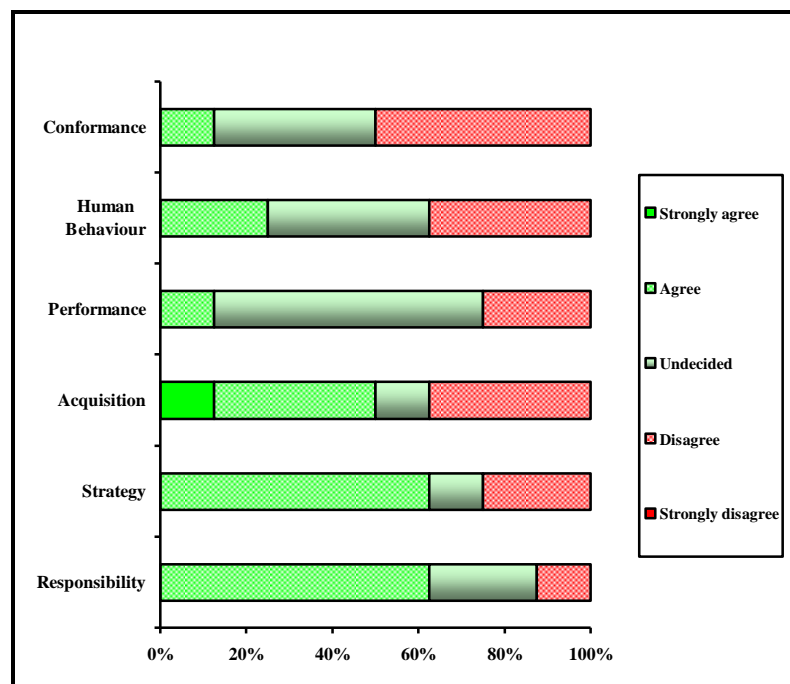
Figure 4.1: 100% Stack bar: status of IT Governance within the target organisation.

4.3.3.2   Section 2 of survey

The majority of the respondents indicated both Internal IT and Service lines when asked to indicate their preferences with respect to responding to Section 2 questions.
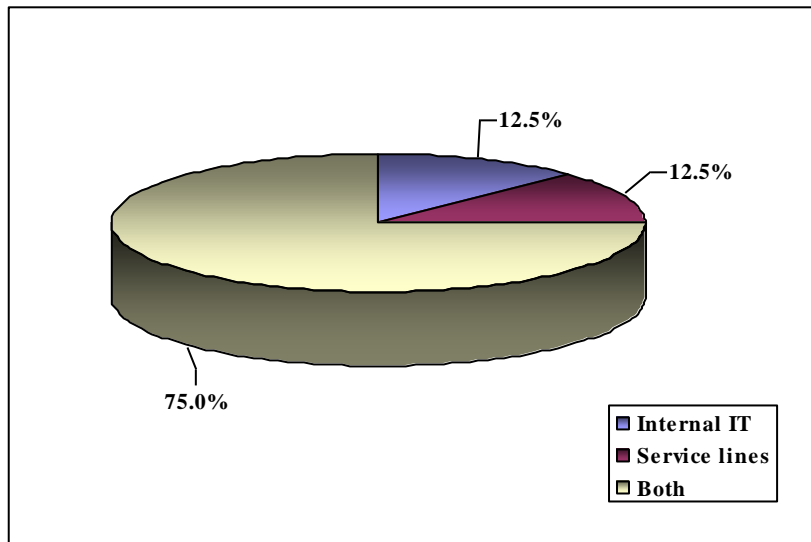
Figure 4.2: 3D - Pie chart for Section 2 areas that were addressed.

Directors should govern IT through three main tasks:

➢ **Evaluate** the current and future use of IT.

➢ **Direct** preparation and implementation of plans and policies to ensure that use of IT meets business objectives.

➢ **Monitor** conformance to policies, and performance against the plans.

In assessing the Section 2 results, it is of importance to note that although the director's responsibility for specific aspects of IT may be delegated to managers within the organisation, accountability for the effective, efficient and acceptable use and delivery of IT by an organisation, remains with the directors and cannot be delegated.

When evaluating the high level summary of the status of IT governance within the target organisation, as depicted in Figure 4.3, the overall average amounts to 2.95. The performance of directors of the target organisation (or their delegates) are as a result at an 'average' level for IT governance duties.
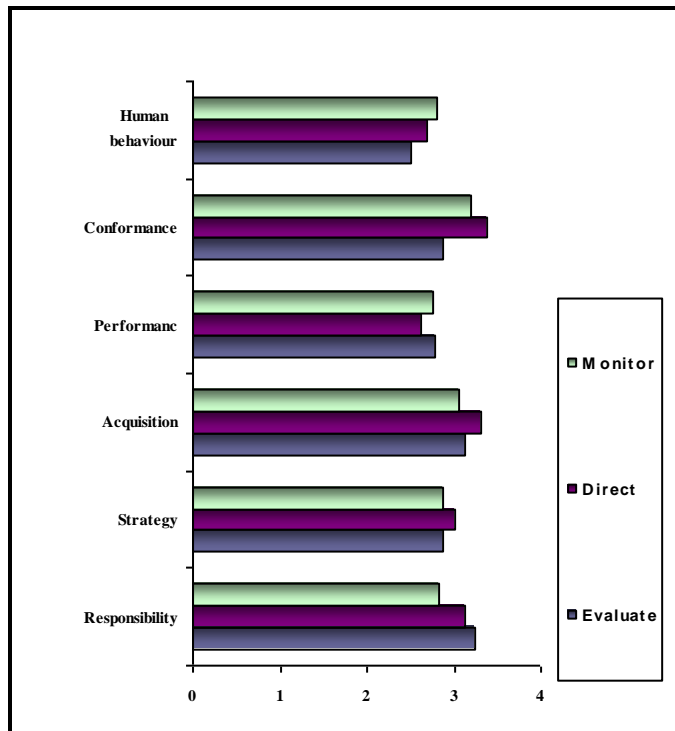
Figure 4.3: 100% Stack bar: status of director's duties with regards to IT Governance.

The detail graph of each ISO/IEC 38500 principle for good governance will be assessed in more detail in the following paragraph:

Responsibility:

➤ The Evaluate and Direct tasks are generally executed on an 'average' or 'above average' level.

➤ The Monitor tasks are generally executed on a 'below average' or 'average' level. Some of the reasons for this may point to the following:

 ➤ Current IT Governance mechanisms does not cover all aspects of governance, and are not regularly monitored for effectiveness.

 ➤ Responsibilities are not always properly contracted. This is especially evident in the difference between the responses of the two Account Directors (or delegates) assigned to the two outsourcing contracts, where the score of contract A is 'very poor' and contract B is on par with the rest of the organisation.
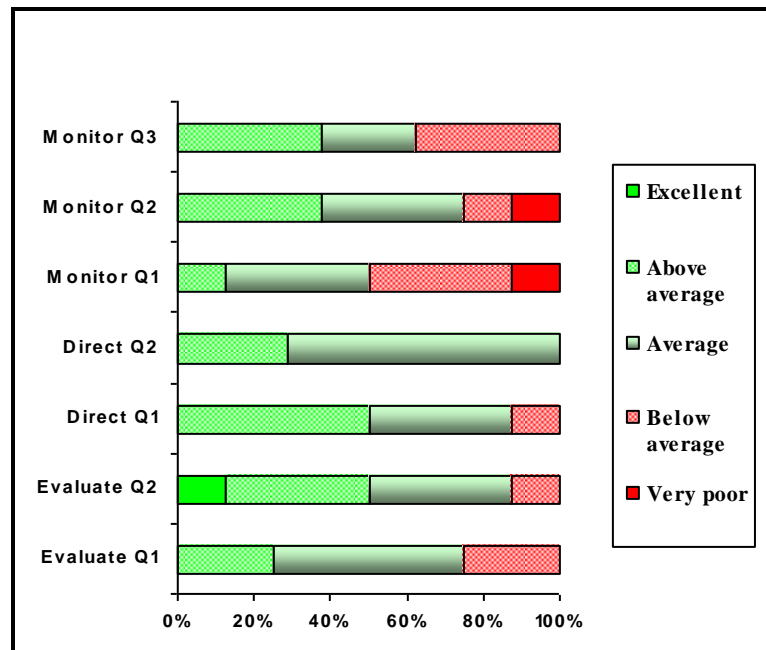
Figure 4.4: 100% Stack bar: responsibility.

Strategy:

➢ The Evaluate tasks are generally executed on an 'average' level.

➢ Although the Direct tasks are generally executed on an 'average' level, one respondent assigned a score of 'very poor' to the governance of the submission of proposals for innovative uses of IT.

➢ The Monitor tasks are generally executed on an 'average' level, with one respondent assigning a score of 'very poor' to the task of monitoring IT to ensure that it is achieving its intended benefits.

The reasons for the 'very poor' responses under Direct and Monitor may vest in the disparity created when, as is the case within the target organisation, the scope of 'IT' is split between internal IT and the Service Lines (the latter who is responsible for IT pertaining to outsourcing contracts). Within the target organisation much focus is placed on the outsourcing IT with a lesser focus on the total IT perspective within the organisation.
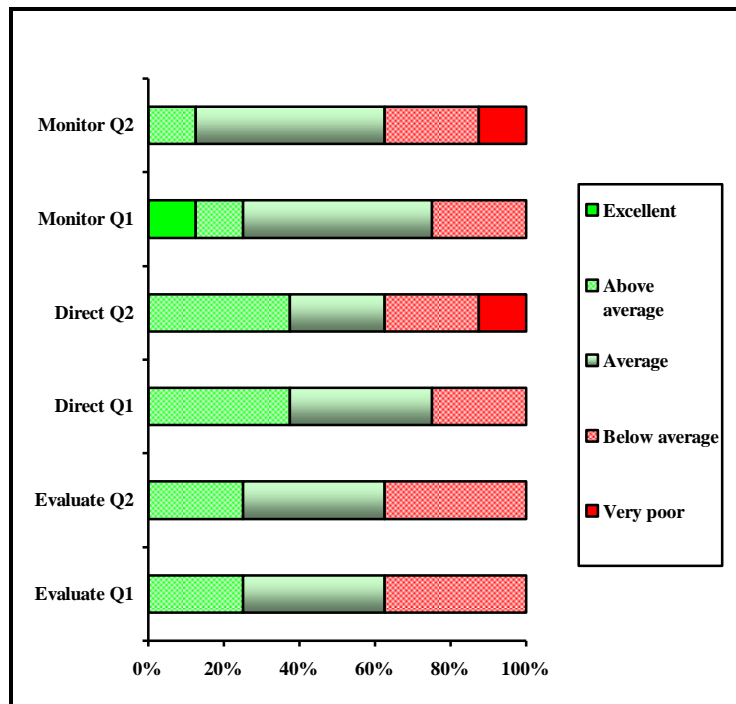
Figure 4.5: 100% Stack bar: strategy.

Acquisition:

➢ The Evaluate, Direct and Monitor tasks are generally executed on an 'average' or 'above average' level. As was alluded to previously, the Section 1 'undecided' position of 37.5% is reflected in the significant scores for 'average' and 'below average' in this section.
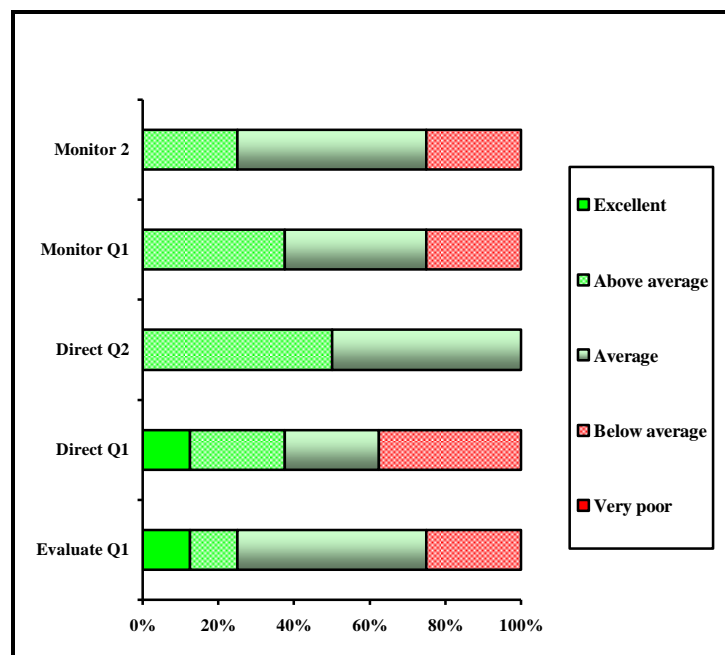
Figure 4.6: 100% Stack bar: acquisition.

Performance:

➢ The Evaluate tasks are generally executed on a 'below average' or 'average' level. This may be attributed to the following:

    ➢ Inadequate governance of risk management and sustainability management.

    ➢ Inadequate performance measurement of IT governance practices.

➢ The Direct tasks are generally executed on an a 'below average' or 'average' level. The reasons for this may be attributed to the inadequate direction on resource allocation so that IT meet the needs of the organisation.

➢ The Monitor tasks are generally executed on an 'average' level, with the exception of Monitor Q3, which only achieved a 'below average' score of 2.4, and which addresses the extent to which regular monitoring of whether policies (such as for data accuracy and the efficient use of IT) are followed properly.
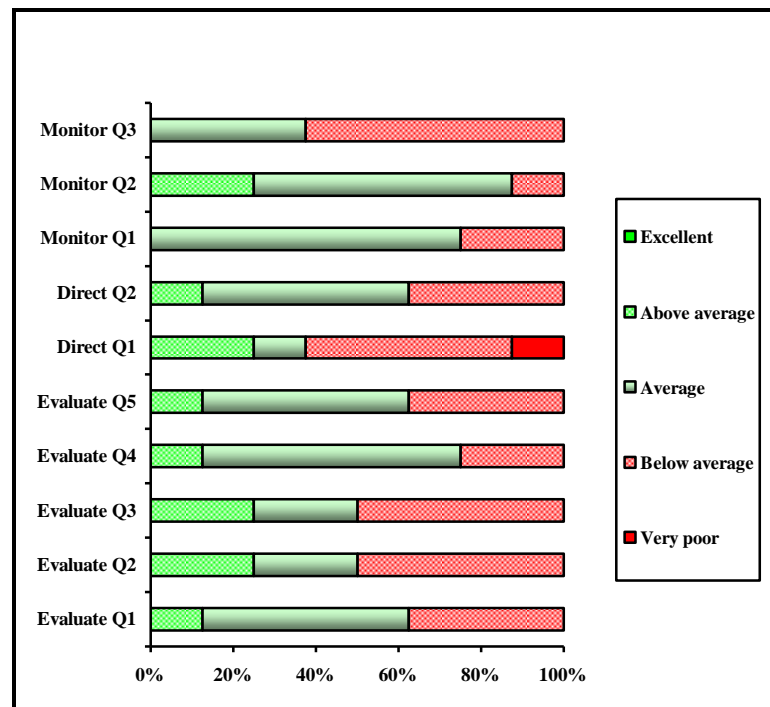
Figure 4.7: 100% Stack bar: performance.

Conformance:

➢ The Evaluate tasks are generally executed on a 'below average' or 'average' level. This may be attributed to the following:

    ➢ Inadequate measurement of internal conformance to IT governance practices.

➢ The Direct and Monitor tasks are generally executed on an 'average' level.

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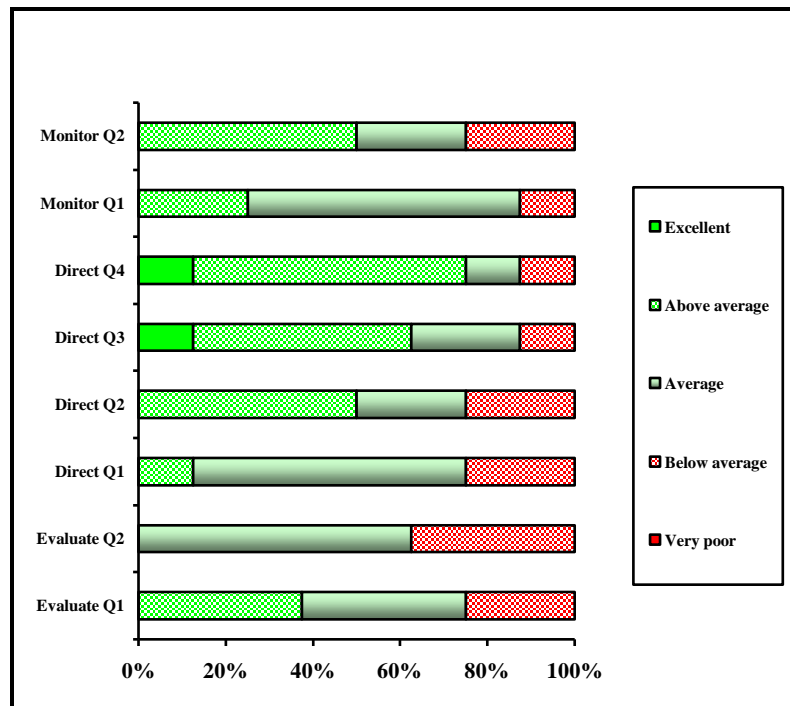
Figure 4.8: 100% Stack bar: conformance.

Human Behaviour:

➢ The Evaluate, Direct and Monitor tasks are generally executed on a 'below average' level. This may be attributed to the following:

  ➢ Inadequate evaluating, directing and monitoring of IT activities to ensure that human behaviours are identified and appropriately considered and work practices remain relevant.

  ➢ The governance of risks, opportunities, issues and concerns are not sufficiently entrenched in the organisation.
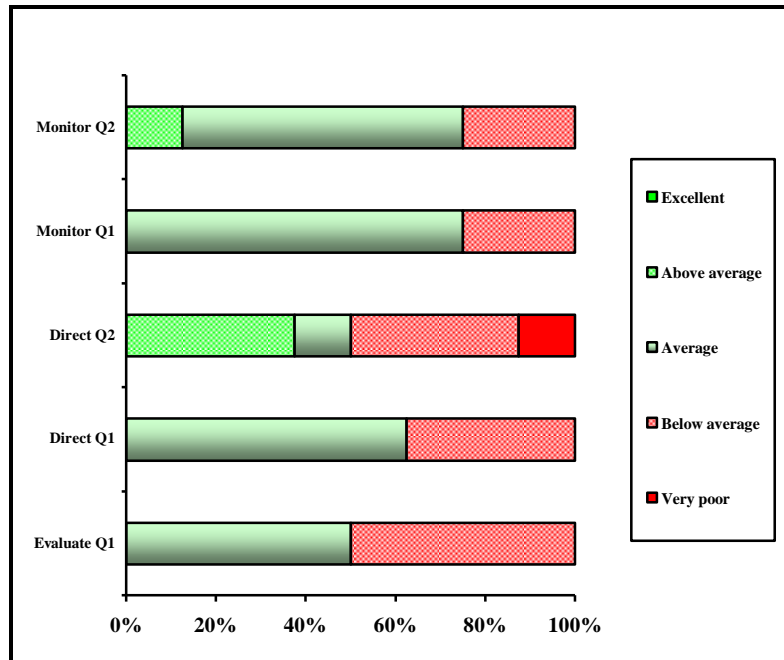
Figure 4.9: 100% Stack bar: human behaviour.

4.3.3.3　Section 3 of survey

Both the contracts were addressed in 50% of the cases, whilst the other 50% addressed either outsourcing contract A or contract B.
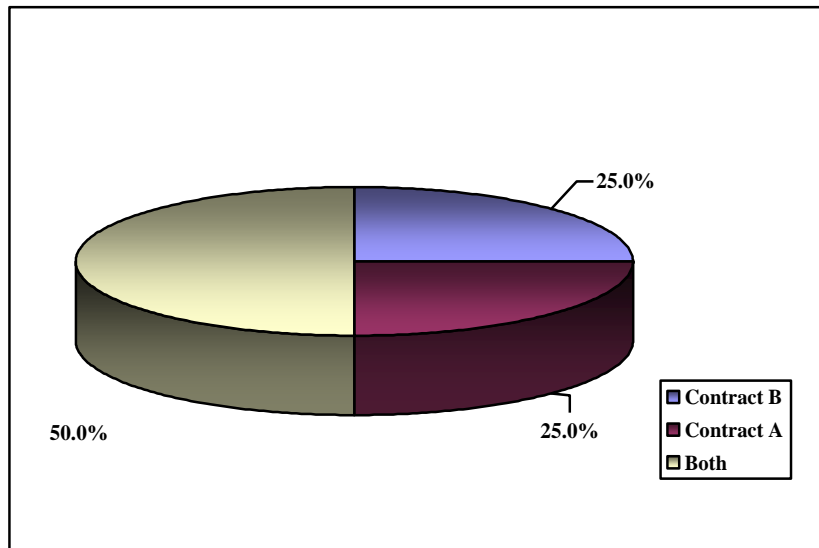
Figure 4.3: 3D - Pie chart for Section 3 areas that were addressed.
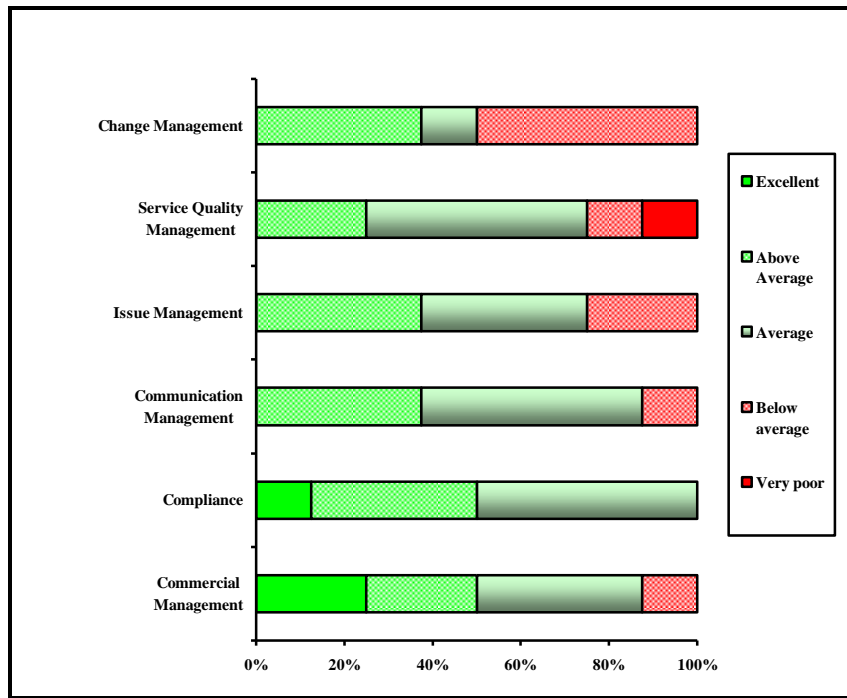
Figure 4.4: 100% Stack bar: status of IT governance of outsourcing contracts.

The statements were categorised from the most positive response on the statement to the least positive response and then represented in Figure 4.11. From an overall perspective, the majority of the respondents indicated that the current status of the governance processes for the selected outsourcing contracts are mostly 'average' to 'excellent'. However, since Contract A is still in a transformation phase to implement the contracted service architecture, the sample size did not allow for a proper evaluation of the effect of the contracting lifecycle stage on governance status. The author is of the opinion that a general qualification needs to be made pertaining to the results for each of the areas under scrutiny. This opinion is based on hands-on experience of the environment and a manual examination of the results for Contracts A and B, which returned scores for Contract A being lower than the scores for Contract B.

The areas which have mostly 'average' to 'excellent' outcomes are:

➢ Commercial Management.
➢ Communication Management.
➢ Compliance.

The areas which have mostly 'average' outcomes are:

➢ Issue Management.
➢ Service Quality Management. One respondent assigned a score of 'very poor' to the service quality management for Contract A.

Change management seems to be 'below average'. This may be attributed to the following:

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➢ Outsourcing transition and transformation programmes typically focus on technical changes. In contrast, organisational change management within both the outsourcing service provider and the outsourcing client does not receive the necessary attention.

4.3.4 Comparative statistics

The sampling size is only eight and as a result no comparisons are made between the different outsourcing contracts with respect to governance of outsourcing contracts. For the same reason, no comparisons were made between the 'Internal IT' and 'Service Lines'.

4.4 CONCLUSION

From the results obtained through this survey, the following analogies can be drawn from this research:

Section 1 of the survey:

➢ The respondents agreed mostly with the responsibility and strategy principles for good governance of IT as being reflective of the current situation within the target organisation.
➢ The majority of respondents were either 'undecided' (12.5%) or 'in agreement' (37.5%) on the Acquisition principle. However, 37.5% of respondents were 'in disagreement'. This may indicate some degree of inconsistency in the application and/or aspects of immaturity within the acquisition processes.
➢ The other three principles (Performance, Conformance and Human behaviour), were regarded with a high indecision factor, which may indicate a lack of process maturity and/or inadequate allocation of roles and responsibilities.

Section 2 of the survey:

From an overall perspective, the directors' performance of their duties in respect of IT governance was regarded as 'average'. When however considering the detail graphs for each governance principle, significant variation between the responses to the different questions within the sub-categories of Evaluate, Direct and Monitor were evident in a number of cases. The reasons for this variation may be the following:
➢ **Responsibility:** IT Governance mechanisms do not cover all aspects of governance and are not regularly monitored for effectiveness. In addition, responsibilities are not always properly contracted.

- ➢ **Strategy:** The reasons for the 'very poor' result under Direct and Monitor may lie in the disparity created when, as is the case within the target organisation, the scope of 'IT' is split between internal IT and the Service Lines (the latter who is responsible for IT pertaining to outsourcing contracts). Within the target organisation much focus is placed on outsourcing IT with a lesser focus on Internal IT. Since the CIO is only responsible for Internal IT, the bigger IT picture within the organisation does not receive adequate attention.

- ➢ **Acquisition:** The Section 1 'undecided' position of 37.5% is reflected in the significant scores for 'average' and 'below average' in this section.

- ➢ **Performance:** Inadequate governance of risk management, sustainability management and performance measurement is evident. There is also inadequate direction on resource allocation so that IT meets the needs of the organisation. The regular monitoring of whether policies (such as for data accuracy and the efficient use of IT) are followed properly were also rated as 'below average'.

- ➢ **Conformance:** Inadequate measurement of internal conformance to IT governance practices is evident.

- ➢ **Human Behaviour:** Inadequate evaluating, directing and monitoring of IT activities to ensure that human behaviours are identified and appropriately considered and work practices remain relevant. The governance of risks, opportunities, issues and concerns are also not sufficiently entrenched in the organisation.

Section 3 of the survey:

From an overall perspective, the majority of the respondents indicated that the current status of the governance processes for the selected outsourcing contracts are mostly 'average' to 'excellent', with the exception of Change Management, which scored 'below average'. The relatively high scores for the rest of the areas should however be qualified since Contract A is still in a transformation phase to implement the contracted service architecture, and the sample size did not allow for a proper evaluation of the effect of the contracting lifecycle stage on governance status.

The low score on Change Management may be attributed to the fact that outsourcing transition and transformation programmes typically focus on technical changes. In contrast, organisational change management within both the outsourcing service provider and the outsourcing client does not receive the necessary attention.

General feedback from respondents:

When requested to make one critical suggestion to the company to improve the overall efficiency of

governance within the organisation, the respondents provided the following suggestions:

➢ Establish a culture of appropriate human behaviour that supports the roles and responsibilities for all individuals.

➢ Less reporting on governance. Mostly managers are so occupied with compulsory reports, that they do not have any time left to focus on the business and their main responsibilities.

➢ Strive to leverage and emulate international capability / maturity with respect to governance within the local country organisation.

➢ The importance of governance across all disciplines and levels / hierarchy of the organisation are not dealt with in a consistent, sustainable manner.

➢ To implement the basics effectively to ensure a proper governance structure.

➢ Governance should be an integral part of the culture of the organisation, and as it does not come naturally, the necessary frameworks must be defined and effectively institutionalised through managed programs, initiatives, awareness exercises, as well as taught in formal training interventions.

➢ The implication of failed governance must be communicated to all, and governance violations should be dealt with in a consistent manner, irrespective of who the individual / unit responsible for the violation are.

➢ The ideal should be that 'governance' is not perceived as bureaucracy or red tape, but as a value-add component of achieving targets, results and positive customer engagements.

In Chapter 5, the summary, recommendations and conclusions regarding governance issues in the ICT organisation will be presented.

CHAPTER FIVE:

CONCLUSION

5.1   INTRODUCTION

This concluding chapter presents the summary, recommendations and conclusions regarding governance issues in the ICT organisation. A general reflective overview of the study will be provided, with the research design and methodology, the research problem, research question and sub-questions being re-stated and elaborated upon. The primary research objectives are addressed, the research findings are mapped to the research content, and a generic governance framework is proposed to address the research problem.

5.2   THE RESEARCH DESIGN AND DATA COLLECTION DESIGN AND METHODOLOGY

The research approach in this study was both qualitative and quantitative in nature. A qualitative approach was used for the following reasons:
➤   To assess the current status of governance- and related practices worldwide.
➤   To verify the existence of relevant codes, frameworks, standards and best practices and assess their applicability to the specific governance requirements of ICT outsourcing companies.
➤   To determine the vision and commitment towards IT governance within the target organisation.
➤   To determine shortcomings in the current IT governance practices within the target organisation.

A quantitative approach was used for the following reasons:
➤   To ensure objectivity, generalisability and reliability.
➤   To explain and predict.
➤   To confirm and validate theory with quantifiable data.

The primary research method was a literature review, which centred on an assessment of the application of governance– and related concepts. Furthermore, the literature review reviewed selected codes, frameworks, standards and best practices. In addition, the literature review addressed a cross-section of the elements of IT governance and the governance of outsourcing. A governance efficiency survey was conducted amongst personnel directly responsible for specific areas of governance within the target organisation.

5.3   THE RESEARCH PROBLEM RE-VISITED

The research problem formulated in Paragraph 2 of Chapter 1 reads as follows: "The application of inadequate or poorly formulated governance mechanisms within ICT outsourcing companies invariably lead to poor service delivery and sub-standard quality of outsourced deliverables, which ultimately leads to the outsourcing contract being cancelled at a significant loss of jobs and revenue for the industry.**"**

The research conducted in terms of this dissertation has identified the relevant aspects that need to be addressed in order to mitigate the problem of inadequate governance mechanisms in the outsourcing environment. In the opinion of the author, the research problem in this dissertation can be mitigated, should the governance framework as proposed in Paragraph 5.7 be implemented by the ICT outsourcing organisation.

5.4   THE RESEARCH QUESTION RE-VISITED

The research question, which formed the crux of the research in this dissertation, formulated within the ambit of Chapter 1, Paragraph 3.1 reads as follows: "Can a generic governance framework be formulated to address the specific governance requirements of ICT outsourcing organisations?"

The literature review that was conducted within the ambit of Chapter 2 together with the survey in Chapter 3, identified the relevant aspects that need to be addressed to provide an answer to the research question.

5.5   THE SUB- QUESTIONS RE-VISITED

The sub-questions, which were researched in support of the research question, are analysed below.

5.5.1   Sub-Question 1

What is the current state of governance practices within the target organisation?

From an overall perspective, the directors' performance of their duties in respect of IT governance were regarded as 'average'. The underlying reasons for the 'average' score (as opposed to a higher score) are the following:

➢ IT governance mechanisms do not cover all aspects of governance and are not regularly monitored for effectiveness. In addition, responsibilities are not always properly contracted with staff.

➢ The disparity created when, as is the instance within the target organisation, the scope of 'IT' is split between internal IT and the Service Lines.

➢ Inadequate governance of risk management and sustainability management.

➢ Inadequate performance measurement of IT governance practices.

➢ Inadequate direction on resource allocation so that IT meet the needs of the organisation.

➢ Irregular monitoring of whether policies (such as for data accuracy and the efficient use of IT) are followed properly.

➢ Inadequate measurement of internal conformance to IT governance practices.

➢ Inadequate evaluating, directing and monitoring of IT activities to ensure that human behaviours are identified and appropriately considered and work practices remain relevant.

➢ The governance of risks, opportunities, issues and concerns are not sufficiently entrenched in the organisation.

➢ Compliance requirements are not sufficiently embedded in IT process activities, which results a lot of concentrated effort to complete compliance submissions. This has a detrimental effect on the quality of compliance submissions and place unnecessary strain on resources.

➢ The immature status of organisational change management practices.

5.5.2   Sub-Question 2

To what extent do current known governance reference models, frameworks and standards address the specific governance requirements of ICT outsourcing companies?

ISO 38500, VAL IT, ITIL and ISO 27002 addresses IT organisations in general, i.e. no specific focus on outsourcing. Within COBIT, IT outsourcing is being dealt with from the outsource client's (buyer) perspective, while the Domain Practices and Competencies: Governance of Outsourcing document only addresses IT outsource processes on a high level.

5.5.3   Sub-Question 3

What long term impact does poor service delivery and sub-standard quality of outsourced deliverables have on the outsourcing company?

The seeds for poor service delivery are already sown during the contract negotiation phase. Poor governance during contract negotiation (from both contracting parties), results in a poor quality contract which reflect the following issues:

➢ Inadequate due diligence is being permitted and/or performed by both parties.

➢ Unrealistic timelines and budget for the service transition and transformation programme.

➢ Unrealistic terms related to the contracted services.

➢ Unrealistic service pricing.

This places significant pressure on the service delivery organisation to perform in accordance with the contracted terms. Coupled with poor organisational change management practices (service provider and client), the service delivery organisation is at a distinct disadvantage from the outset. Even if the quality of service delivery starts off satisfactorily, this will soon deteriorate if the necessary processes are not implemented and roles and responsibilities assigned to sustain the delivery of services and outsourced deliverables.

The long term impact of this situation on the outsourcing company is profound and can lead to:
➢ Monetary penalties for service non-performance.
➢ Deterioration in the morale of the service delivery organisation.
➢ An increase in staff turnover, which results in a significant loss of service expertise and knowledge.
➢ Failure to meet compliance and regulatory requirements.
➢ Loss of trust between the service provider and client.
➢ Early termination of individual services or the entire contract.
➢ Unplanned loss of future income for the service provider due to termination, or impaired scope of growth at the specific client
➢ Loss of market share due to reputational damage incurred.

5.5.4   Sub-Question 4

What are the short term/ long term impact of poor service delivery and sub-standard quality of outsourced deliverables on the customer?

Poor service delivery and sub-standard quality of outsourced deliverables are but two aspects of a variety of issues, which may have an impact on the customer experience. According to ITGI (2005a:21), poor governance accounted for 13 percent of outsourcing failures, following only by unclear buyer expectations (23 percent) and misaligned interests (15 percent). Inadequate governance processes within the outsource client's (buyer) organisation, within the service provider organisation(s) and between the parties jointly need to be on a certain level of maturity in order to ensure an optimal customer experience. It is also extremely important that these governance processes need to be established by the outsourcing buyer organisation, already at the start of the outsourcing cycle to ensure that buyer expectations are managed through the outsourcing process. Furthermore, the joint governance process with the service provider needs to be established during the contract negotiation phase, to minimise the risks of expectation mismatch and misaligned interests.

According to Equaterra (s.a.:2), the impact of not implementing effective outsourcing management and governance can become significant. There are a number of ways that the value leaves the organisation. Left unchecked, this can approach 50 to 60 percent of the outsourcing contract value. The areas of concern are:

➢ **Operational challenges**: Efforts duplicated; resources wasted.

➢ **Performance challenges**: Problems not managed; performance not at expected levels

➢ **Portfolio Management challenges**: Vendors deployed against conflicting or wrong goal; opportunities untapped.

In the short term, the impact of these aspects may only be evident on the IT budget bottom line. This impact may even be positive depending on the amount of penalties paid by the service provider(s). The long term loss of value will however have a significant impact on the greater organisation:

➢ Loss of trust between the service provider(s) and client.

➢ Failure to meet compliance and regulatory requirements.

➢ Early termination of service provider(s) individual services or entire contracts.

➢ Increased cost of IT services.

➢ Loss of market share due to reputational damage incurred as a result of poor IT support services.

5.6 KEY RESEARCH FINDINGS

5.6.1 Overview

An ever larger percentage of the market value of enterprises are transitioning from the tangible (inventory, facilities, etc.) to the intangible (information, knowledge, expertise, reputation, trust, patents, etc.). Many of these assets revolve around the use of IT.

Research has returned that few boards have however focused on IT up until now, despite the fact that it involves large investments and huge risks. Among the reasons are that IT requires more technical insight than other disciplines and is more complex, even more so in the extended enterprise operating in a networked economy. In addition to this, various sources have indicated that the governance processes of intangible assets like information and knowledge, which is essential to the survival and success of most organisations, are still largely immature in the majority of organisations.

The 2004 ITGI/Lighthouse Global survey results discussed in Chapter 2 Paragraph 2.2.7.1, found that the required levels of governance are also not reliably extended into the relationships with the service provider when service provision is outsourced. Governance of outsourcing is an active process that the client and service provider must adopt to provide a common, consistent and effective approach that identifies the necessary information,

relationships, controls and exchanges among many stakeholders across both parties. The evolution of outsourcing into sourcing has added additional complexity to the process in that an outsource buyer often needs to integrate the service delivery of a number of sourcing contracts from different suppliers.

Some advantages of efficient governance practices are the following:

➢ Investors are willing to pay a premium on shares of enterprises that have shown to have good governance practices in place.

➢ Enterprises with effective IT governance achieve significantly better returns from their IT investments.

➢ It creates the framework for the effective management of outsourcing contracts, thereby ensuring that outsource buyers gain the maximum value from their outsourcing relationships.

Good governance practices are essential for ensuring service quality. Various sources have confirmed that producer and consumer definitions of quality often differ. Within an organisation, quality typically means 'conformance to specifications', while customers typically define 'quality as value'.

The concept of value relies on the relationship between meeting the expectations of stakeholders and the resources used to do so. However, in far too many instances this value simply is not realised. According to various surveys worldwide, a staggering 20-90 percent of IT budgets are wasted, challenged or fail to bring a return to the enterprise.

The research of the IT Governance Institute returned that, although the best practices as described in Chapter 2 are mature, openly available and clearly described in literature, they are not necessarily being widely adopted. On average 50-60% percent of organisations are not considering implementing these practices. This implies that in many organisations, the awareness phase is yet to be initiated, and there is ample room for improvement in the IT governance domain.

5.6.2. The role of codes, frameworks, standards and best practices

Corporate governance mainly involves the establishment of structures and processes, with appropriate checks and balances that enable directors to discharge their legal responsibilities. Corporate governance practices, codes and guidelines lift the bar of what are regarded as appropriate standards of conduct. Consequently, any failure to meet a recognised standard of governance, albeit not legislated, may render a board or individual director liable in a court of law. In exercising their duty of care, directors should ensure that prudent and reasonable steps have been taken in regard to IT governance.

International guidelines such as COBIT or ITIL may be used as a check or audit in this regard. This sentiment is also reflected in the latest South African Companies Act.

In a climate of increasing regulation and concern about IT-related risks, best practices will help to minimise compliance issues and the concerns of auditors. Adherence to best practice also helps strengthen supplier/customer relations, make contractual obligations easier to monitor and enforce, harmonise multi-supplier outsourcing contracts, and improve the market position of those service providers seen to be compliant with accepted global standards such as ISO/IEC 20000 and ISO/IEC 27002.

A review of the predictions of reputable market analysts such as Gartner, Compass, Giga and CSC returned that the top issues for IT management have moved from the 'technology' to the 'management-related' arenas. These issues clearly map onto the IT governance areas:

➢ Strategic alignment, with focus on aligning with the business and collaborative solutions.
➢ Value delivery, concentrating on optimising expenses and proving the value of IT.
➢ Risk management, addressing the safeguarding of IT assets, disaster recovery and continuity of operations.
➢ Resource management, optimising knowledge and IT infrastructure.

Furthermore, none of these factors can be managed appropriately without performance measurement, tracking project delivery and monitoring IT services.

5.6.2.1 Strategic Alignment

The research from the IT Governance Institute in Chapter 2 Paragraph 2.4.1.1, points out that whilst some good practices do exist within many companies to maximise alignment, there are a number of concerns relating to the maturity of governance structures, and a lack of board-level representation in the IT strategy-setting process. This lack of alignment leads to adverse business issues, resulting in the erosion of stakeholder value over time.

Strategic alignment has often been understood to imply that the business strategy is prepared and agreed first and the IT strategy is then built in response to it. However, in today's world where IT goes way beyond a mere support role and actually provides the enablement of new business models, this responsive and reactive approach is no longer sufficient. At the very least, the two need to be regarded as inseparable, with the consequent need to be 'thinking IT' in every aspect and at every stage of the business strategy development. Furthermore, senior business management should become more IT-literate to effectively synergise business strategy with enabling IT strategies, and to ensure that IT planning becomes completely embedded into enterprise strategic planning.

As was seen in Chapter 2 Paragraph 2.4.1.5, the lack of strategic alignment is also evident in the application of quality management tools. To ensure this alignment, quality management tools need to be closely integrated with an organisation's corporate performance management framework.

There is no 'one-size-fits-all' approach for maximising the alignment of IT with the business and all of its components. Much depends upon the nature of the business, its size, its markets, its dependence upon IT, its leadership style and its culture. Additional factors that help dictate the organisation's alignment components and structure include in-house IT capabilities, the dependence upon outsourcing, the nature of that outsourcing, and the overall governance structure.

5.6.2.2   Value Delivery

For effective IT value delivery to be achieved, both the actual costs and the return on investment need to be managed. However, different levels of management and users perceive the value of IT differently. Successful investments in IT have a positive impact on all levels of the business value hierarchy, although the higher one goes in the hierarchy, the more dilution occurs. Therefore, it is important not only to focus on measurements based on value realisation (i.e., financial measures), but also to take into account the enterprise's performance in creating value.

5.6.2.3   Resource Management

The optimal investment, use and allocation of IT resources (people, applications, technology, facilities, and data) are key to successful IT performance in servicing the needs of the enterprise. The research results from various sources in Chapters 2 and 4 returned that most enterprises fail to maximise the efficiency of their IT assets, and optimise the costs relating to these assets. The immature status of outsource governance processes in the majority of organisations has aggravated the loss of value due to inadequate resource management. To remedy the situation, boards need to ensure that the required governance structures are established to address appropriate investments in infrastructure and capabilities, and that IT resources are used wisely.

5.6.2.4   Risk Management

Significant regulatory requirements implore that companies closely scrutinise any business or data procurement processes that may affect corporate controls. The outsourcing of increasingly complex business processes and data supply chains therefore requires that an organisation should have the ability to effectively conduct risk management across the enterprise and all its suppliers. However, the literature review in Chapter 2 Paragraphs 2.4.1.4 and 2.4.3.7, has returned that organisations still experience major difficulties in this regard.

The King Committee on Governance (2009:73-95) places huge emphasis on the discipline of risk management and suggests a systematic approach to the risk management process. In their view, risk management is inseparable from an organisation's strategic and business processes. Risk management should therefore become part of the 'organisational fabric' and should be practised by all staff in their day-to-day activities.

5.6.2.5 Performance Management

The literature review conducted in Chapter 2 has returned that the means of value creation has shifted from tangible to intangible assets. Since intangible assets generally are not measurable through traditional financial means, the ITGI (2005b:20) proposes a two-way approach, using IT portfolio management and the BSC concepts. IT's added value to the business and its users can be demonstrated by rolling up and/or aggregating crucial IT metrics, and importing them into the business BSC. The research conducted on the 3rd Generation BSC, which was elaborated upon in Appendix B, suggests that the 3rd Generation BSC can be applied as a potentially effective performance management tool.

5.6.2.6 Processes

The advent of the new millennium has seen the continual reduction in the cost of technology being offset by spiralling people costs. Maximising the return on investment is therefore dependent upon the establishment and continual improvement of formal ICT processes. In the opinion of Fujitsu Services (2002:5) as mentioned in Chapter 2 Paragraph 2.4.2, the ability to share interactive processes with stakeholders via email, extranets and the Internet, will provide the means of gaining future business advantage. An organisation therefore needs to understand the business impact of a problem within another company's infrastructure, as the information asset is no longer contained within a company's own environment.

From an outsourcing perspective, the integration of processes and/or the establishment of process interfaces (at the required level of process maturity) between outsource buyer organisations and their service providers, are crucial for the success of the outsourcing agreement, and should be managed as part of a formal Service Provider Interface (SPI).

5.6.2.7 Organisational structure

The research results from various sources reviewed in Chapter 2 emphasise that the board should take ownership of IT governance and set the direction management should follow. In order to do this the

board, its members and subcommittees, and all executives should assume a more significant role in terms of IT governance. The board must insist that a management framework for IT governance (addressing all organisational layers) is established to enforce those responsibilities which generally relate to IT's alignment and use within all activities of the enterprise, the management of technology-related business risks and the verification of the value delivered by the use of IT across the enterprise.

The growing importance of knowledge and innovation as creating and sustaining a competitive advantage for the firm means that knowledge/intellectual capital has to be properly governed. The governance framework therefore needs to facilitate the establishment of structures to govern the process of knowledge management between the knowledge workers and the organisation.

The research conducted in Chapter 2 has returned that there is no solitary correct organisation to support the alignment between business and IT. The structure depends on several factors which need to be considered e.g. size of the company, geographically distributed resources, degree of centralisation of the outsourced function, or vendor strategy (single or multi vendor strategy). From an outsource perspective however, there are certain key interactive roles on both the client and supplier sides that are crucial to the successful implementation and its subsequent governance.

5.7 ANALYSIS DRAWN FROM THE RESEARCH FINDINGS

When designing a governance framework for an outsourcing service provider, the complexity of the governance environment of IT within an outsourcing service provider requires that the following key aspects need to be considered:

➢ The structure of the typical outsourcing organisation results in the responsibility for IT being split over a number of areas:
  ➢ 'Internal IT', which comprises of the internal applications (and the associated hardware) utilised by the organisation, which is the responsibility of the CIO.
  ➢ 'Service Lines', which may comprise of several businesses for infrastructure outsourcing, telecommunication outsourcing and systems integration. The businesses are the responsibility of Business Managers with reporting lines to General Managers.
➢ Outsourcing is by nature a knowledge-intensive industry, which demands specific focus from a governance perspective.
➢ IT governance and IT processes are shared between an outsource service provider and client, and need to be on a certain level of maturity to ensure sustainable value creation. Further to this, the service provider needs to make provision for a multi-client interface, while the client has to deal with multiple service providers in a multi-sourcing arrangement.

- The co-dependent nature of outsourcing dictates that both the outsourcing service provider and the outsourcing client have a significant influence on the quality of outsourcing deliverables and the overall health and success of the outsourcing arrangement.

- Outsourcing transition and transformation programmes typically focus on technical changes. In contrast, organisational change management within both the outsourcing service provider and the outsourcing client does not receive the necessary attention. In addition to this there is the continual state of organisational flux on all layers within the IT outsourcing service provider as outsourcing contracts are commissioned and decommissioned on a regular basis.

- Risk and compliance management activities need to cater for the service provider internal environment as well as for the requirements of each outsourcing client.

- Lack of board oversight over all aspects of IT governance results in inadequate strategic alignment, value delivery, risk management, resource management and performance management of outsourcing agreements individually and of the outsourcing organisation as a whole.

- Strategic alignment between the service provider's IT strategy and the outsource clients' business strategies must be done in addition to the service provider's own internal IT strategic alignment with its business strategy.

5.7.1 Generic governance framework for ICT outsourcing

5.7.1.1 Executive summary

IT resources are managed by technology processes to achieve technology goals that respond to the business requirements. This is the basic principle of the COBIT framework, as illustrated by the COBIT cube in Figure 5.1 below:
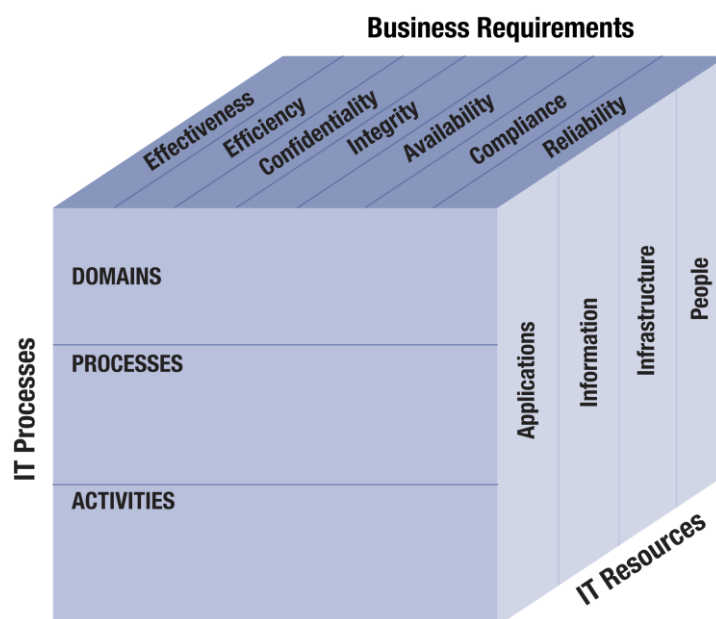
Figure 5.1: The COBIT cube. (**Source**: ITGI, 2007a:25)

According to the ITGI (2007a:8), all of the COBIT components interrelate, providing support for the governance, management, control and assurance needs of the different audiences. This interrelationship is shown in Figure 5.2.
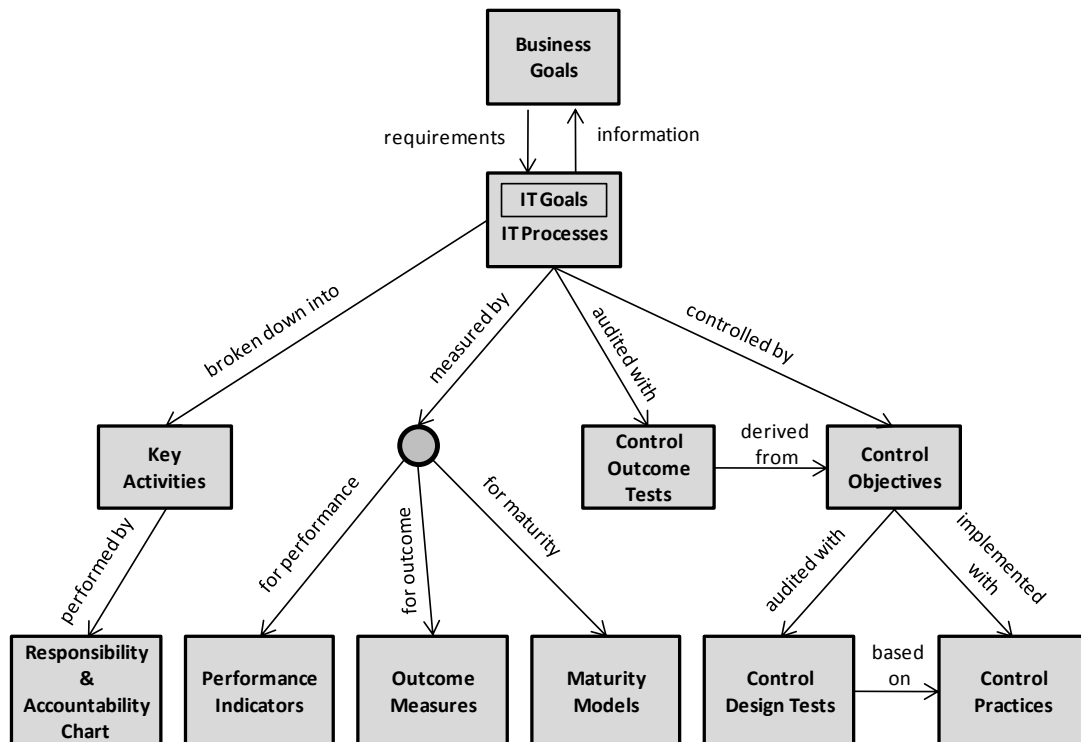
Figure 5.2: Interrelationships between COBIT components. (**Source**: ITGI, 2007a:8)

5.7.1.2   Governance and IT control framework

Val IT and COBIT provide business and IT decision makers with a comprehensive framework for the creation of value from the delivery of high-quality IT-based services. The consistency between methods and terminology used in Val IT and COBIT improves communications and the interrelationship between decision makers, the IT function, and the business functions accountable for delivering the planned value (ITGI, 2008a:9).

As depicted in Figure 5.3. below, the Service Provider IT Governance Framework needs to mirror a largely similar arrangement at their outsource clients. The framework supplied by Val IT and COBIT needs to be supported by detail practitioner processes, for example ITIL. Various compliance requirements, for example SAS 70, the various ISO Standards, King III and the Companies Act will require either additional activities to be performed or current activities to be reviewed and adjusted to ensure compliance. Within the Outsource Client Interface, the necessary interfaces with outsourcing clients to ensure value delivery needs to be defined, which must be aligned and integrated with the Service Provider Interface at Outsource Clients.
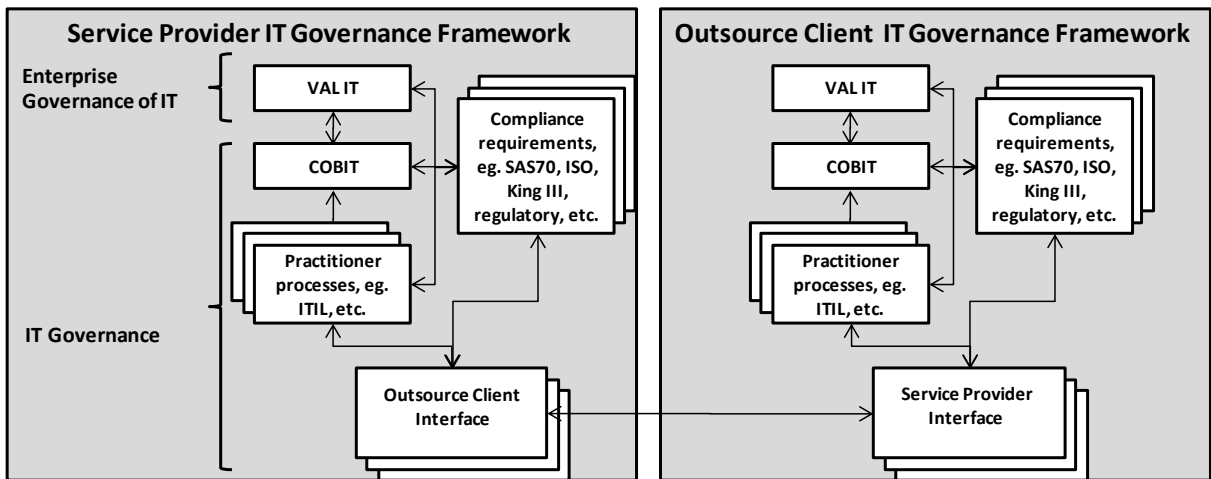
Figure 5.3: IT governance framework. (**Source**: Own source)

5.7.1.3   Process Model

According to Rottier (s.a.:9-22), with reference to Figure 5.4, the generic enterprise management processes for any organisation consist of the development of enterprise strategy; strategic management of the product portfolio; and strategic management of capacity. All support processes (HR, Finance, IT, etc.) forms part of the 'strategic management of capacity' process. The Client Interface within an outsourcing organisation needs to integrate with the Service Provider Interface at their various clients.
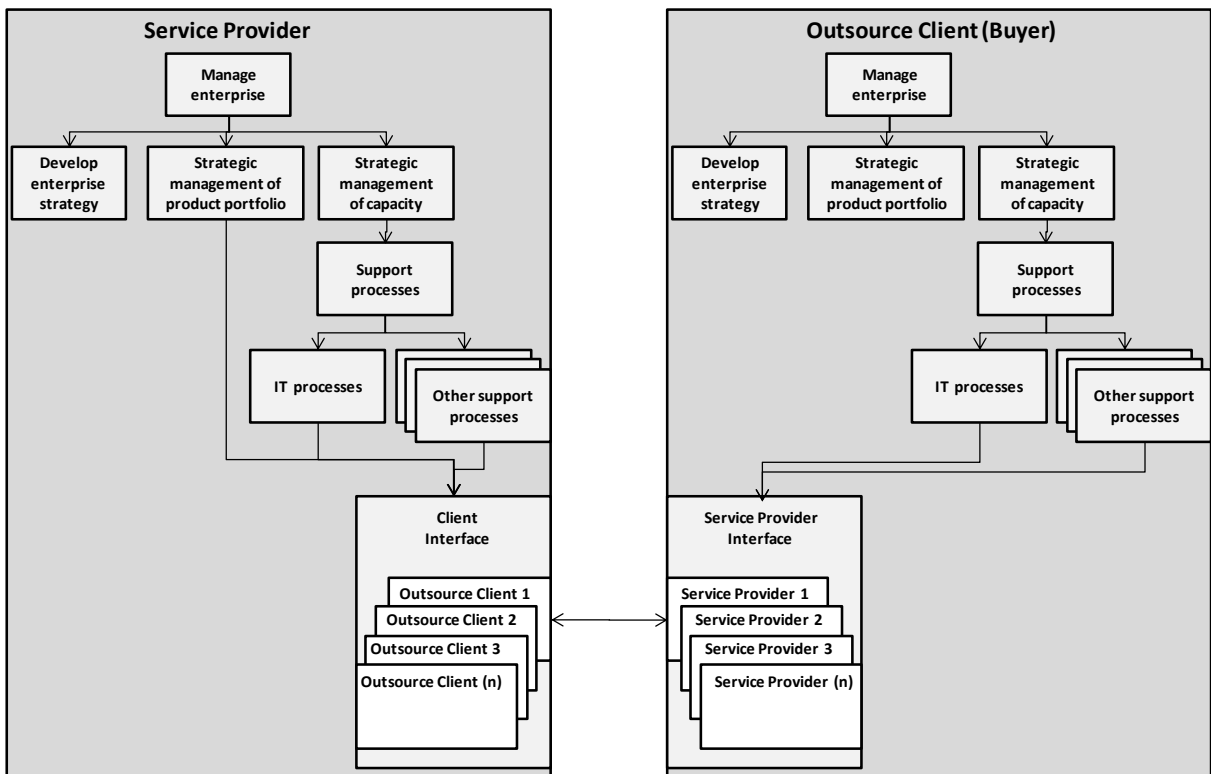
Figure 5.4: High level process model. (**Source**: Own source)

When implementing the process model, the general rule of thumb is that a process model for each high-level VAL IT and COBIT control objective is established and integrated with its companion 'practitioner' workflow, for instance ITIL. The degree of interfacing on each process within the Service Provider Interface depends on the contents of the outsourcing agreement, and can range from receiving information to being responsible for a significant part of a process. The client however stays accountable for the process, even where the outsourcer is responsible for the bulk of the process activities. The roles and responsibilities for the outsourcing scenario depicted in Figure 5.5 are typical of where the following infrastructure services have been outsourced to a service provider:

➢ Service Desk

➢ Database administration

➢ Desktop Services

➢ Mainframe and/or open systems

➢ Data Centre management

It is of importance to note that, given the scope of services above and as illustrated in Figure 5.5, each of the 34 COBIT processes require some level of interfacing between the Service Provider and the Outsourcing Client. Each process within the Service Provider Interface should be documented as described in Chapter 2 Paragraph 2.4.2.2. Once the Service Provider Interface has been defined, the Service Provider needs to integrate it with the Client Interface processes within his own organisation.
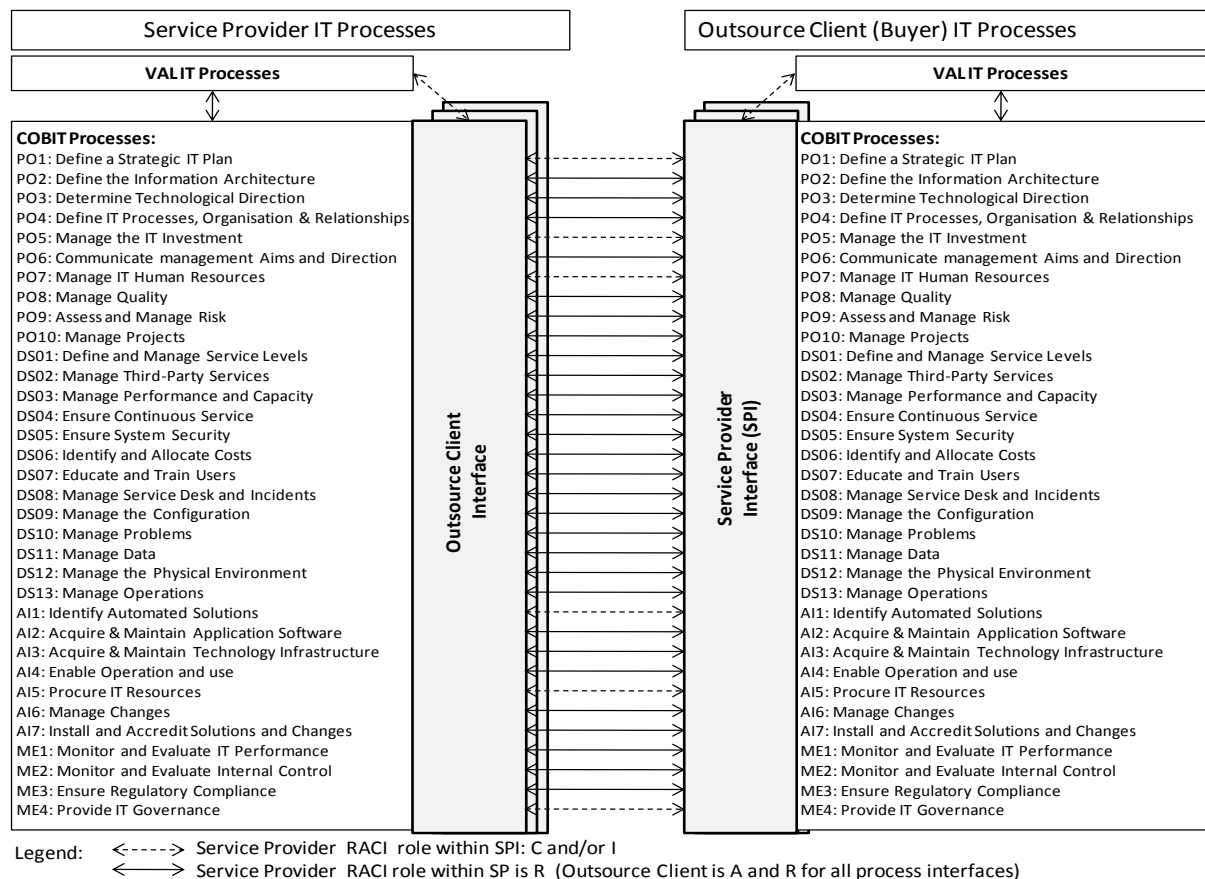
Figure 5.5: Process model. (**Source:** Own source)

5.7.1.4 Organisational Structure

Figure 5.6, while not intended to represent an organisational chart/structure, shows the IT governance interrelationships (as applicable to an Outsourcing Service Provider) amongst the roles defined in Table 5.1. The model can be generalised to apply to any organisation by removing the Account Management and Sales and Marketing functions.
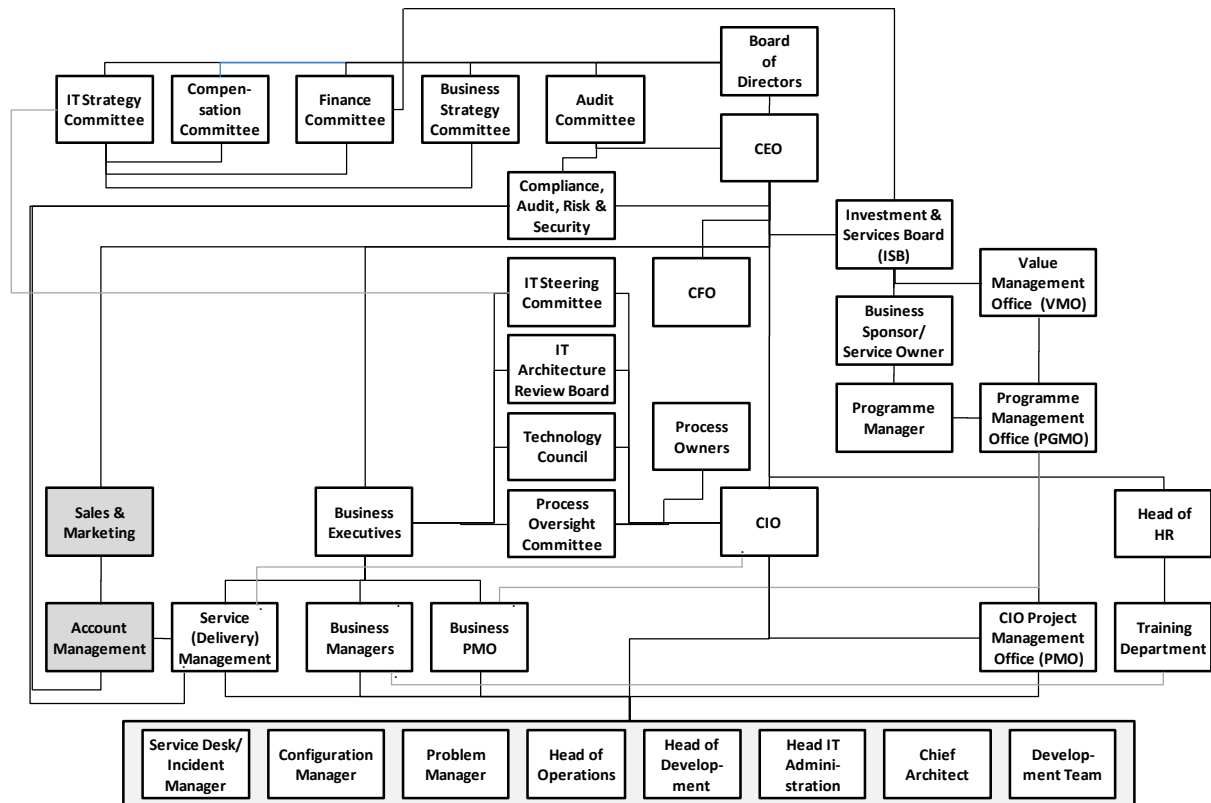
Figure 5.6: IT governance interrelationships. (**Source:** Adapted by this author from ITGI, 2003:53-57; ITGI, 2005c:18-22; ITGI, 2007a:29-168; ITGI, 2008a:29)

According to the ITGI (2003:56), the IT Strategy Committee operates at the board level, but neither assumes the board's governance accountability nor makes final decisions. Neither does it play a role in day-to-day management. It acts solely as an advisor to the board and management on current and future IT-related issues. The IT Strategy Committee must work in partnership with the other board committees and management to provide input to, review and amend the aligned corporate and IT strategies. Possible partnerships are with:

➢ The audit committee, on major IT risks.

➢ The business strategy committee, on value delivery and alignment.

➢ The compensation committee, on performance measurement.

➢ The finance committee, for major IT resource investments.

The ITGI (2005c:21) asserts that, whilst the prime role of the IT Strategy Committee is to assist and advise the board on the formulation of IT strategy, the prime role of the IT Steering Committee is to assist the executive in the delivery of that strategy. Its discussions will be at a greater level of detail than would be expected of the IT strategy committee and it will be expected to provide a great deal of the input to the strategy committee's higher-level deliberations.

Two other committees typically support the CEO and the CIO in setting and controlling technology (Technology Council) and architecture standards (Architecture Review Board). These two committees drive the standardisation, reuse and optimisation of IT resources (ITGI, 2003:37).

The Process Oversight Committee is required to facilitate the management of the end-to-end COBIT and VAL IT processes within the governance framework across internal and external organisational boundaries. In addition to the establishment of an internal oversight authority, provision also needs to be made for the interface with outsourcing clients. Both the service provider and the outsource client need to appoint 'Process Owners' for each process. The number of oversight committees required internally and on an interface level with outsourcing clients will depend on the size and complexity of the activities within each category, and may range from a single oversight committee to an oversight committee for groups of processes or even singular processes if deemed necessary. Other forums within the governance structure may also assume the responsibility for process oversight if appropriate.

The bodies described above forms the organisational backbone of IT governance in terms of COBIT. Whilst the IT Strategy Committee operates on board level, the IT Steering Committee, Architecture Review Board, Technology Council and Process Oversight Committee play a crucial role in the alignment on executive level.

From a Value Management perspective, "... the Investment Services Board (ISB) is primarily accountable for managing the enterprise's portfolio of investment programmes and existing/current services and, thus, managing the level of overall funding to provide the necessary balance between enterprise-wide and specific line-of-business needs. The Value Management Office (VMO) acts as the secretariat for the ISB in managing investment and service portfolios, including assessing and advising on investment opportunities and business cases, value governance/management methods and controls, and reporting on progress in sustaining and creating value from investments and services" (ITGI, 2008a:28).

The roles and responsibilities of the governance bodies described above are elaborated upon in detail in Appendix E. Although the titles for the rest of the roles are largely self-explanatory, a description for some of the other roles indicated in Figure 5.6 can be found in the Glossary.

The suggested memberships of these governing bodies are described in Table 5.1 below. According to ITGI (2005c:22), it is of importance to ensure that the committees' meetings are attended by the nominated members, and that this responsibility is not delegated downwards. The delegation of these responsibilities to lower-level personnel will weaken the effectiveness of the committees, and particularly if the levels of involvement become unbalanced, can lead to decisions that are not necessarily in the best interests of the business as a whole being taken based upon for example, participant seniority and influence.

Table 5.1: Committee membership. (**Source:** Adapted by this author from ITGI, 2005c:15,18,21,22)

Governance Body	Membership
IT Strategy Committee	To ensure that there is enough technical expertise in the IT Strategy committee, the board may choose to select IT experts to serve as external advisors. Regardless of the number of specialist members, it is important that at least two board members remain active in the committee so the board is adequately represented. Ideally, the CEO, or at least a very senior director, should chair the committee. Also, it can be extremely helpful to ensure that at least one non-executive member of the board has amongst his/her skill sets and experience a knowledge of IT sufficient to promote and contribute to informed discussions and decision making on IT.
IT Steering Committee	The IT steering committee, in its strategy implementation oversight role, should have amongst its members at least one board member (sitting as the chair) supported by heads of operational and support departments, the CIO together with other key contributors including legal, audit, finance, etc.
Investment and Services Board	The committee has to be appropriately chaired, perhaps by an independent nonexecutive director. It also has to be properly representative of all major operating and support departments, usually, and ideally, by the heads of those departments being actively involved.
Architecture Review Board	The committee should be chaired by the Head Architect with architectural representation from all business and IT departments.
Technology Council	The committee should be chaired by the CIO or the Head Architect with architectural representation from all IT departments and architectural and/or business representation from the relevant businesses.
Process Oversight Committee	The Committee should be chaired by the head of the process department with IT represented by the CIO and the business executives. Ideally, other members should include the CFO and/or the head of internal audit and the head of risk management.

The literature review in Chapter 2 Paragraph 2.4.3.7 has returned that within an outsourcing arrangement, equivalent logical roles should be present at each level in both the client and service provider. These are necessary to identify early indications of risk and ensure that proper management can take place through to resolution.

5.7.1.5   Control Model

Control is defined as the policies, procedures, practices and organisational structures designed to provide reasonable assurance that business objectives will be achieved and undesired events will be prevented or detected and corrected. IT control objectives are statements of managerial actions to achieve necessary outcomes or purposes to control risk and add value within a particular IT process. COBIT defines control objectives for all 34 COBIT processes, as well as overarching process and application controls (ITGI, 2007e:13; 2007c:2).

The enterprise's system of internal controls impacts IT at three levels (ITGI, 2007e:15):

➢ The business objectives set, policies established and decisions made on how to deploy and manage the resources of the enterprise to execute the enterprise strategy.

➢ The application controls applied at the business process level.

➢ The general controls applied to all IT service activities in support of business processes.

General controls are controls embedded in IT processes and services. Examples include: Systems development, change management, security, and computer operations. Controls embedded in business process applications are commonly referred to as application controls. Examples include: Completeness, accuracy, validity, authorisation, and segregation of duties (ITGI, 2007e:15).

According to the (ITGI, 2007e:16), COBIT assumes the design and implementation of automated application controls to be the responsibility of IT, based on business requirements defined using COBIT's information criteria. The operational management and control responsibility for application controls is however not with IT, but with the business process owner.

The generic COBIT process- and application controls provide high-level guidance, at a level below the control objective for assessing actual performance and for considering potential improvements. However, they may not be at a sufficient level of detail for implementation and further guidance may need to be obtained from specific relevant standards and best practices such as ITIL, ISO/IEC 27002 and PRINCE2 (ITGI, 2007d:8). The generic COBIT process- and application controls are tabulated in Table 5.2 for ease of reference:

Table 5.2: Generic process– and application controls. (**Source:** ITGI, 2007e:56)

Generic Process Controls	Application Controls
PC1 Process Goals and Objectives Define and communicate specific, measurable, actionable, realistic, results-oriented and timely (SMARRT) process goals and objectives for the effective execution of each IT process. Ensure that they are linked to the business goals and supported by suitable metrics.	**AC1 Source Data Preparation and Authorisation** Ensure that source documents are prepared by authorised and qualified personnel following established procedures, taking into account adequate segregation of duties regarding the origination and approval of these documents. Errors and omissions can be minimised through good input form design. Detect errors and irregularities so they can be reported and corrected.
PC2 Process Ownership Assign an owner for each IT process, and clearly define the roles and responsibilities of the process owner. Include, for example, responsibility for process design, interaction with other processes, accountability for the end results, measurement of process performance and the identification of improvement opportunities.	**AC2 Source Data Collection and Entry** Establish that data input is performed in a timely manner by authorised and qualified staff. Correction and resubmission of data that were erroneously input should be performed without compromising original transaction authorisation levels. Where appropriate for reconstruction, retain original source documents for the appropriate amount of time.
PC3 Process Repeatability Design and establish each key IT process such that it is repeatable and consistently produces the expected results. Provide for a logical but flexible and scalable sequence of activities that will lead to the desired results and is agile enough to deal with exceptions and emergencies. Use consistent processes, where possible, and tailor only when unavoidable.	**AC3 Accuracy, Completeness and Authenticity Checks** Ensure that transactions are accurate, complete and valid. Validate data that were input, and edit or send back for correction as close to the point of origination as possible.

Generic Process Controls	Application Controls
PC4 Roles and Responsibilities Define the key activities and end deliverables of the process. Assign and communicate unambiguous roles and responsibilities for effective and efficient execution of the key activities and their documentation as well as accountability for the process end deliverables.	**AC4 Processing Integrity and Validity** Maintain the integrity and validity of data throughout the processing cycle. Detection of erroneous transactions does not disrupt the processing of valid transactions.
PC5 Policy, Plans and Procedures Define and communicate how all policies, plans and procedures that drive an IT process are documented, reviewed, maintained, approved, stored, communicated and used for training. Assign responsibilities for each of these activities and, at appropriate times, review whether they are executed correctly. Ensure that the policies, plans and procedures are accessible, correct, understood and up to date.	**AC5 Output Review, Reconciliation and Error Handling** Establish procedures and associated responsibilities to ensure that output is handled in an authorised manner, delivered to the appropriate recipient, and protected during transmission; that verification, detection and correction of the accuracy of output occurs; and that information provided in the output is used.
PC6 Process Performance Improvement Identify a set of metrics that provides insight into the outcomes and performance of the process. Establish targets that reflect on the process goals and performance indicators that enable the achievement of process goals. Define how the data are to be obtained. Compare actual measurements to targets and take action upon deviations, where necessary. Align metrics, targets and methods with IT's overall performance monitoring approach.	**AC6 Transaction Authentication and Integrity** Before passing transaction data between internal applications and business/operational functions (in or outside the enterprise), check it for proper addressing, authenticity of origin and integrity of content. Maintain authenticity and integrity during transmission or transport.

5.7.1.6 Metrics and Measures

"Goals and metrics in COBIT (ITGI, 2007a:20), are defined at three levels:

➢ IT goals and metrics that define what the business expects from IT and how to measure it.

➢ Process goals and metrics that define what the IT process must deliver to support IT's objectives and how to measure it.

➢ Activity goals and metrics that establish what needs to happen inside the process to achieve the required performance and how to measure it.

Goals are defined top-down in that a business goal will determine a number of IT goals to support it. An IT goal is achieved by one process or the interaction of a number of processes. Therefore, IT goals help define the different process goals. In turn, each process goal requires a number of activities, thereby establishing the activity goals (ITGI, 2007a:21). According to the ITGI (2007a:21), two types of metrics exist in COBIT:

➢ Outcome measures indicate whether the goals have been met. These can be measured only after the fact and, therefore, are called 'lag indicators'.

➢ Performance indicators indicate whether goals are likely to be met. They can be measured before the outcome is clear and, therefore, are called 'lead indicators'.

Outcome measures define measures that inform management (after the fact), whether an IT function, process or activity has achieved its goals. The outcome measures of the IT functions are often expressed in terms of information criteria (ITGI, 2007a:21):

➢ Availability of information needed to support the business needs.

➢ Absence of integrity and confidentiality risks.

- ➢ Cost-efficiency of processes and operations.
- ➢ Confirmation of reliability, effectiveness and compliance.

Performance indicators define measures that determine how well the business, IT function or IT process is performing in enabling the goals to be reached. They are lead indicators of whether goals will likely be reached, thereby driving the higher-level goals. They often measure the availability of appropriate capabilities, practices and skills, and the outcome of underlying activities (ITGI, 2007a:21).

The COBIT framework therefore ties the businesses requirements for information and governance to the objectives of the IT services function. The COBIT process model enables IT activities and the resources that support them to be properly managed and controlled based on COBIT's control objectives, and aligned and monitored using COBIT's goals and metrics (ITGI, 2007a:22), as illustrated in Figure 5.7.
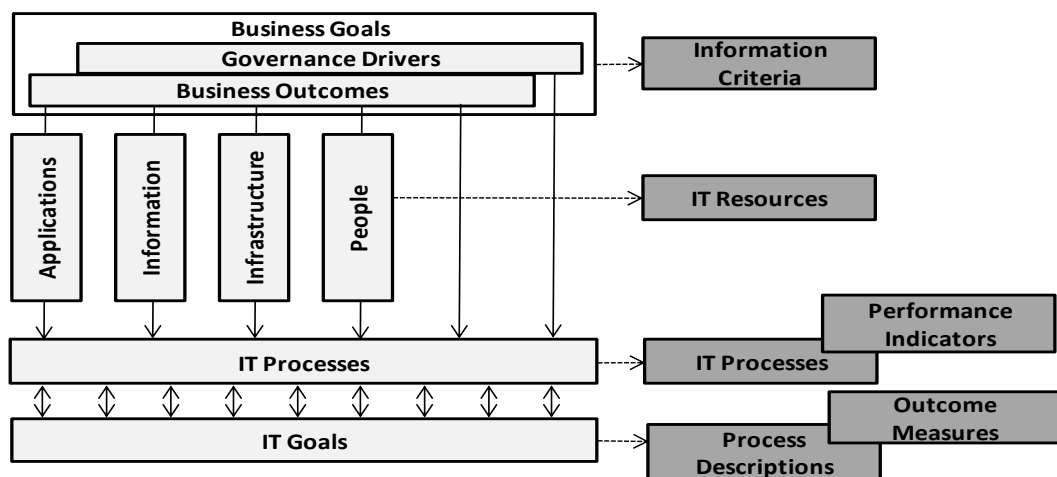
Figure 5.7: COBIT management, control, alignment and monitoring. (**Source:** ITGI, 2007a:22).

5.7.1.7   Scorecard

The literature review conducted in Chapter 2 has returned that the means of value creation has shifted from tangible to intangible assets. Since intangible assets generally are not measurable through traditional financial means, the IT Governance Institute (2005b:20) proposes a two-way approach, using IT portfolio management and the BSC concepts.

In Figure 5.8, the relationships between the hierarchy of scorecards are depicted. The IT Strategic BSC links with business through the business contribution perspective (business/IT alignment, value delivery, cost management and risk management). The IT development BSC and the IT operational BSC are both enablers of the IT strategic BSC. Within an outsourcing service provider, these two scorecards should be supported by client-specific scorecards for each outsourcing contract, as well as a

scorecard for internal IT. This cascade of scorecards becomes a linked set of measures that will be instrumental in achieving IT governance through aligning IT and business strategy and showing how business value is created through information technology.
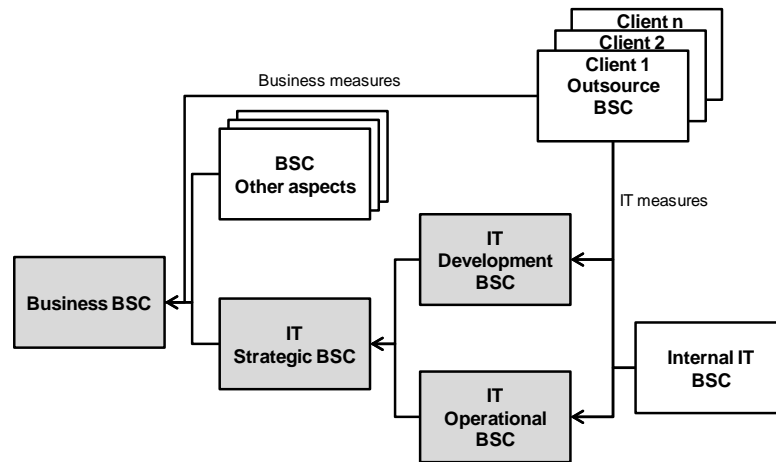
Figure 5.8: Cascade of scorecards (**Source:** Adapted by this author from ITGI, 2005b:15)

5.7.1.8   Capability maturity models and criteria

"The main purpose of the COBIT maturity models is to give management a tool to help them better understand the current capability of IT management processes, do benchmarking, gap analysis and improvement planning" (ITGI, 2007c:6).

As illustrated in Figure 5.9, maturity is measured across three dimensions:
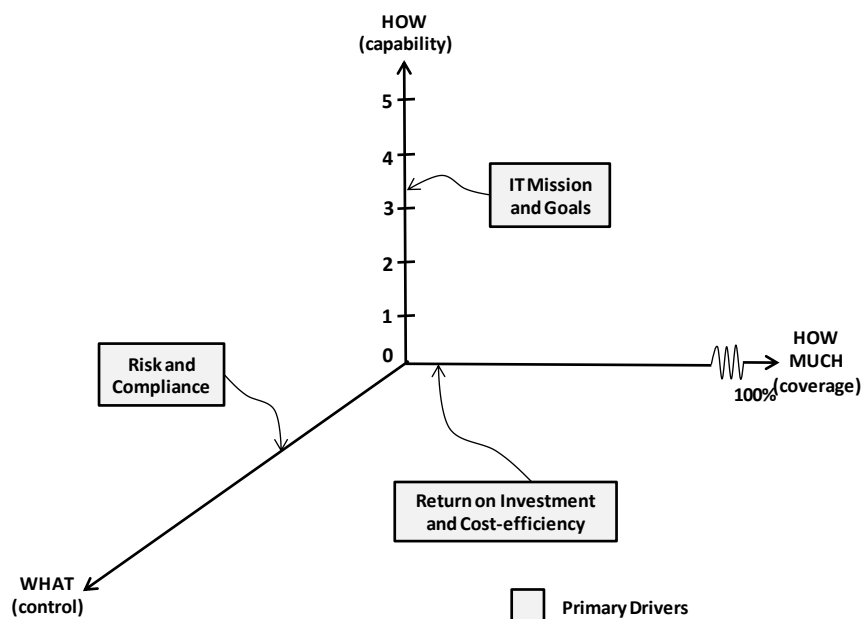
Figure 5.9: The three dimensions of maturity. (**Source:** ITGI, 2007a:19).

The definitions of these dimensions are the following ITGI (2007c:7):

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- ➤ **Capability:** Is the level of maturity required in the process to meet business requirements (ideally driven by clearly defined business and IT goals). The COBIT maturity models focus on capability and help an enterprise recognise the capability that best fits specific process requirements.

- ➤ **Coverage:** Is a measure of performance, i.e., how and where the capability needs to be deployed based on business need, and investment decisions based on costs and benefits. For example, a high level of security may have to be focused upon only for the most critical enterprise systems.

- ➤ **Control:** Is a measure of actual control and execution of the process, in managing risks and delivering the value expected in line with business requirements and risk appetite. A process may appear to be at the right capability level with the right management characteristics, but still fail because of an inadequate control design. This is an assessment against the COBIT control objectives considered necessary for the process. COBIT provides a generic maturity model for internal control, and processes PO6 and ME2 help institutionalise the need for good controls.

As depicted in Table 5.3, maturity modelling for management and control over IT processes is based on a method of evaluating the organisation, so it can be rated from a maturity level of non-existent (0) to optimised (5). The maturity levels are designed as profiles of IT processes that an enterprise would recognise as descriptions of possible current and future states. They are not designed for use as a threshold model, where one cannot move to the next higher level without having fulfilled all conditions of the lower level. With COBIT's maturity models, there is no intention to measure levels precisely or try to certify that a level has exactly been met. A COBIT maturity assessment is likely to result in a profile where conditions relevant to several maturity levels will be met (ITGI, 2007a:17). Using the maturity models developed for each of COBIT's 34 IT processes (ITGI, 2007a:18), management can identify:

- ➤ The actual performance of the enterprise—Where the enterprise is today
- ➤ The current status of the industry—The comparison.
- ➤ The enterprise's target for improvement—Where the enterprise wants to be.
- ➤ The required growth path between 'as-is' and 'to-be'.

Table 5.3: Generic maturity model. (**Source:** ITGI, 2007a:19).

Maturity Level		Description
0	**Non-existent**	Complete lack of any recognisable processes. The enterprise has not even recognised that there is an issue to be addressed.
1	**Initial / Ad hoc**	There is evidence that the enterprise has recognised that the issues exist and need to be addressed. There are, however, no standardised processes; instead, there are ad hoc approaches that tend to be applied on an individual or case-by-case basis. The overall approach to management is disorganised.
2	**Repeatable but Intuitive**	Processes have developed to the stage where similar procedures are followed by different people undertaking the same task. There is no formal training or communication of standard procedures, and responsibility is left to the individual. There is a high degree of reliance on the knowledge of individuals and, therefore, errors are likely.

Maturity Level		Description
3	**Defined Process**	Procedures have been standardised and documented, and communicated through training. It is mandated that these processes should be followed; however, it is unlikely that deviations will be detected. The procedures themselves are not sophisticated but are the formalisation of existing practices.
4	**Managed and Measurable**	Management monitors and measures compliance with procedures and takes action where processes appear not to be working effectively. Processes are under constant improvement and provide good practice. Automation and tools are used in a limited or fragmented way.
5	**Optimised**	Processes have been refined to a level of good practice, based on the results of continuous improvement and maturity modelling with other enterprises. IT is used in an integrated way to automate the workflow, providing tools to improve quality and effectiveness, making the enterprise quick to adapt.

A properly implemented control environment is attained when all three aspects of maturity (capability, coverage and control) have been addressed. Improving maturity reduces risk and improves efficiency, leading to fewer errors, more predictable processes and a cost-efficient use of resources (ITGI, 2007a:20).

5.7.1.9   Related standards and best practices

As alluded to earlier, the framework supplied by Val IT and COBIT needs to be supported by detail practitioner processes and technical guidance from industry standards, of which the following are regarded by the author as the most generically applicable from an outsource service provider perspective:

➢ **ITIL**: "...is intended to underpin but not dictate the business processes of an organisation. ... The role of the ITIL framework is to describe approaches, functions, roles and processes, upon which organisations may base their own practices. The role of ITIL is to give guidance at the lowest level that is applicable generally. Below that level, and to implement ITIL in an organisation, specific knowledge of its business processes is required to tune ITIL for optimum effectiveness" (ITGI & OGC, 2008:14).

➢ **ISO 9001**: "ISO 9000 is a family of standards for quality management systems. ISO 9001: 2000 provides a number of requirements which an organisation needs to fulfil if it is to achieve customer satisfaction through consistent products and services which meet customer expectations" (Unknown, 2009c:**s.n.**).

➢ **ISO 14001** "...is a standard for environmental management systems to be implemented in any business, regardless of size, location or income. The aim of the standard is to reduce the environmental footprint of a business and to decrease the pollution and waste a business produces" (Unknown, 2009c:**s.n.**).

➢ **ISO/IEC 15504** "...is the reference model for the maturity models (consisting of capability levels which in turn consist of the process attributes and further consist of generic practices) against which the assessors can place the evidence that they collect during their assessment, so

that the assessors can give an overall determination of the organisation's capabilities for delivering products (software, systems, IT services)" (Unknown, 2009c:**s.n**.).

➤ **ISO/IEC 20000:** "ISO/IEC 20000-1 promotes the adoption of an integrated process approach to effectively deliver managed services to meet the business and customer requirements... ISO/IEC 20000-2 is a 'code of practice', and describes the best practices for service management within the scope of ISO 20000-1... The standard was originally developed to reflect best practice guidance contained within the ITIL framework" (Unknown, 2009c:**s.n**.).

➤ **ISO/IEC 27002** "...is part of the ISO/IEC 27000 family of standards for information security management systems" (Unknown, 2009c:**s.n**.). The ITGI and OGC (2008:17), assert that the goal of ISO/IEC 27002 is to provide information to parties responsible for implementing information security within an organisation. It can be seen as a best practice for developing and maintaining security standards and management practices within an organisation to improve reliability on information security in inter-organisational relationships. It defines 133 security controls strategies, under 11 major headings. The standard stresses the importance of risk management and makes it clear that it is not necessary to implement every stated guideline, only those that are relevant.

5.7.1.10   Governance standards

According to the ITGI (2007a:5,7), a number of general governance frameworks describe the fiduciary responsibilities of directors and other governance stakeholders. In this regard, King III is considered to be the internal control framework for all South African enterprises.

The ITGI (2007c:4), asserts that, while the standards discussed in the previous section provides technical guidance, only COBIT attempts to deal with IT-specific control issues from a business perspective. The Committee of Sponsoring Organisations of the Treadway Commission's Internal Control -Integrated Framework (COSO) was used as source material for the COBIT business model and ISO 27002 and ITIL, amongst many others, were used to develop the COBIT control objectives. COBIT is not meant to replace any of these control models. It is intended to emphasise 'what' control is required in the IT environment while working with and building on the strengths of these other control models. COBIT together with VAL IT is a generally accepted, comprehensive governance framework for IT and should therefore be utilised as the best practise standard for IT governance.

In addition to King, COBIT and VAL IT, the ISO/IEC 38500 promotes according to ISO (2008:1), "...effective, efficient, and acceptable use of IT in all organisations by:
➤ Assuring stakeholders (including consumers, shareholders, and employees) that, if the standard is followed, they can have confidence in the organisation's corporate governance of IT,
➤ Informing and guiding directors in governing the use of IT in their organisation.

> Providing a basis for objective evaluation of the corporate governance of IT.

5.7.1.11 Governance Procedures

The implementation of IT Governance is an ongoing process which is best approached in incremental and manageable steps according to the needs of the organisation. The decision about which processes to implement and their required maturity level should be dictated by strategic business drivers, risks and compliance requirements. To this end, both COBIT and VAL IT can be implemented according to the implementation roadmap provided by ITGI (refer Figure 5.10). According to the ITGI (2007f:9-10), the road map provides for the implementation of the proposed solutions into day-to-day practices and the establishment of measures and monitoring to ensure that business alignment is achieved and performance can be measured. Success requires engagement, awareness, understanding and commitment of top management; ownership by the affected IT process owners; and sustainable transition of the improved management practices into normal business operations. The road map is a continuous improvement approach that is followed iteratively, building a sustainable 'business as usual' process over time. Building sustainability entails:

> Integrating IT governance with enterprise governance.

> Ensuring accountability for IT throughout the enterprise.

> Defining appropriate organisational structures.

> Drafting and clearly communicating policies, standards and processes for IT governance and control.

> Effecting cultural change to establish commitment at all levels in the enterprise.

> Driving a process and culture of continuous improvement.

> Creating optimum monitoring and reporting structures.
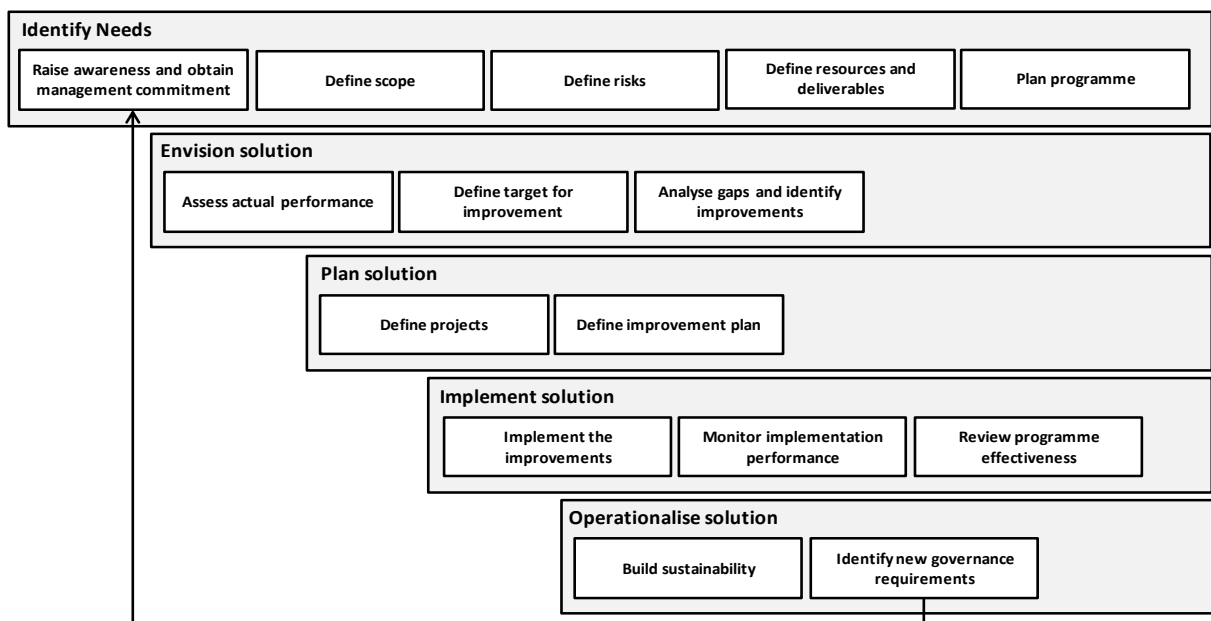
Figure 5.10: Road map to IT governance. (**Source:** ITGI, 2007f:10).

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5.8 CONCLUSION

The primary research objectives achieved with this research study were:

➢ The impact of the research culminated in a paradigm shift in the current role of governance mechanisms of ICT outsourcing companies to operate on par with the governance applicable to traditional companies. The results of the literature review and the survey indicated that, although the best practices are mature, openly available and clearly described in literature, they are not necessarily being widely adopted. This implies that in many organisations the awareness phase is yet to be initiated, and there is ample room for improvement in the IT governance domain of the outsourcing service provider and the outsource client.

➢ The contribution formulated within the ambit of this dissertation has a practical application in assisting ICT outsourcing companies to increase its customer satisfaction levels: the Generic IT Governance Framework (Paragraph 5.7.1) in particular provides a valuable contribution to the improvement of customer satisfaction levels by suggesting practical models for the integration of processes and the organisation design of the service provider and outsource client. In further support of customer satisfaction levels, the Generic IT Governance Framework establishes a clear relationship between 'governance' and 'quality': Quality is a cornerstone of governance on all levels of the organisation, with quality in turn requiring proper governance to be effective. The latter can be achieved by integrating an organisation's quality management tools with its corporate performance management framework.

The significance of this research stems from the fact that:

➢ Should the recommendations made in this dissertation be acceptable, it would increase levels of customer satisfaction of outsource buyer organisations.

➢ Make a significant contribution (add value) to the existing body of knowledge.

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APPENDIX A

EXTRACT OF KING III KEY PRINCIPLES FOR GOOD IT GOVERNANCE

(**Source:** King Committee on Governance, 2009:69-107)

Chapter/ Principle	Principles for good governance
Chapter 3: Audit Committees	
Information technology (IT) risks	
70	Audit committees should consider IT risk as a crucial element of the effective oversight of risk management of the company.
71	The audit committee should play an oversight role regarding: ➢ IT risks and controls; ➢ business continuity and data recovery related to IT; and ➢ information security and privacy.
72	In understanding and measuring IT risks, the members of the audit committee should understand the company's overall exposure to IT risks from a business perspective including the areas of the business that are most dependent on IT for their effective and continual operation.
73	Areas that are highly dependent on IT are more exposed if IT risks are not appropriately governed and the audit committee should obtain appropriate assurance that controls are adequate to address these risks.
Chapter 4: Risk Management	
Principle 4.16. The board should ensure that IT is aligned with business objectives and sustainability	
103	Information technology is essential to manage the transactions, information and knowledge necessary to initiate and sustain economic and social activities. In most companies, IT has become pervasive because it is an integral part of the business and is fundamental to support, sustain and grow the business. Successful companies understand and manage the risks and constraints of IT. As a consequence, boards understand the strategic importance of IT and have put IT governance on the board agenda.
104	IT governance is a "framework that supports the effective and efficient management of information resources (for example people, funding and information) to facilitate the achievement of corporate objectives. The focus is on the measurement and management of IT performance to ensure that the risks and costs associated with IT are appropriately controlled." IT governance should be an integral part of the overall governance structures within a company that ensure that the company's IT sustains and extends the strategy and objectives.
105	IT governance should focus on four key areas: ➢ strategic alignment with the business and collaborative solutions, including the focus on sustainability and the implementation of 'green IT' principles; ➢ value delivery: concentrating on optimising expenditure and proving the value of IT; ➢ risk management: addressing the safeguarding of IT assets, disaster recovery and continuity of operations; and ➢ resource management: optimising knowledge and IT infrastructure.
106	IT governance is the responsibility of the board and the management. The board should specify the decision rights and accountability framework to encourage the desirable culture in the use of IT. Therefore: ➢ board members should take an active role in IT strategy and governance, probably through the risk committee; ➢ CEOs should provide organisational structures to support the implementation of IT strategy; ➢ chief information officers must be business oriented and provide a bridge between IT and the business; and ➢ all executives should become involved in IT steering or similar committees.
107	The strategic alignment "involves making certain that business and IT plans are linked together; defining, maintaining and validating the IT value proposition; and aligning IT operations with overall business operations.
108	The board should ultimately be responsible to ensure the proper value delivery of IT and should ensure that the expected return on investment from IT projects is delivered and that the information and intellectual property contained in the information systems are protected. This can be achieved by: ➢ clarifying business strategies and the role of IT in achieving them; ➢ measuring and managing the amount spent on and the value received from IT; ➢ assigning accountability for organisational changes required to benefit IT capabilities; and ➢ learning from each implementation, becoming more adept at sharing and reusing IT assets.
109	The overall objective of IT governance is to understand the issues and the strategic importance of IT so that the company can sustain its operations and implement the strategies required extending its activities into the future. IT governance aims at ensuring that expectations for IT are met and IT risks are mitigated.

Chapter/ Principle	Principles for good governance
110	Every company's approach to IT governance should be based on the business needs and reliance on IT to drive and support the company's objectives. For example, IT governance could be a regular task addressed by the audit committee or the board.
111	It is important for the board to take ownership of IT governance and set the direction management should follow. This is best done by making sure that the board operates with IT governance in mind: ➢ ensuring IT is on the board agenda; ➢ challenging the management's activities with regard to IT, to make sure IT issues are uncovered; ➢ guiding the management by helping it to align IT initiatives with real business needs, and ensuring that it appreciates the potential effect on the business of IT-related risks; ➢ insisting that IT performance be measured and reported to the board; ➢ establishing an IT strategy committee with responsibility for communicating IT issues between the board and the management; and ➢ insisting that there be a management framework for IT governance based on a common approach, for example, COBIT.
112	Larger companies may consider appointing a chief information officer to take responsibility for the implementation and monitoring of IT governance within the company. Smaller companies may not appoint an individual responsible for this role, but should assign the responsibility to executive management reporting directly to the board.
IT Security	
113	An important aspect of IT governance relates to the issue of IT security
115	In considering the importance of and need for IT security, the board should consider that IT security contributes to: ➢ enabling the business strategy ➢ sustaining normal business operations ➢ managing risk ➢ avoiding unnecessary costs ➢ reduced chance of litigation due to legal liability ➢ meeting compliance requirements ➢ investing for success
116	An effective information security strategy is such that the business strategic direction drives the information security strategy, activities and initiatives, that is, the business value of information security is clearly understood. Information security related decisions can be made using formally evaluated risks, costs and benefits.
Chapter 5	
Internal Audit	
10	A company should maintain an adequate and effective governance, risk management and internal control framework that should include: ➢ clear accountability and responsibility between the roles of the board, the management and internal audit as well as other assurance providers; ➢ a clear understanding of the risk management framework among all role players; ➢ a clear understanding of how risk management and internal controls contribute to and improve business performance; and ➢ consideration of the value added by the respective role players in business performance.
Chapter 7	
Compliance with laws, regulations, rules and standards	
Principle 7.1: Companies must comply with applicable laws and regulations	
Principle 7.2: Companies should consider adherence to applicable rules and standards	
2	Companies should consider if adherence to applicable non-binding rules and standards achieves good governance, and should adhere to them if that would result in best practice. Companies should disclose the applicable non-binding rules and standards to which they adhere on a voluntary basis.

APPENDIX B

THE EVOLUTION OF THE BALANCED SCORECARD

Since the introduction of Kaplan & Norton's Balanced Scorecard as a performance measurement tool in 1992, many changes have been made to the physical design, application and the design processes used to implement the tool within organisations – changes that have enhanced the utility of Balanced Scorecard as a strategic management tool. This evolution of Balanced Scorecard, at least in terms of these three parameters, can largely be attributed to empirical evidence of changes driven primarily by observed weaknesses in earlier design processes rather than in the architecture of the original idea (Cobbold & Lawrie, 2002, cited by 2GC Limited, 2009:13).

The original Balanced Scorecard concept broke new ground by combining financial and non-financial performance measures, linked by grouping these into four perspectives, namely financial, customer, internal processes and learning & growth. Yet, how to choose the most important measures to be monitored represented a significant design challenge. The answer was offered partly by what Cobbold and Lawrie referred to as 2nd Generation Balanced Scorecard, where strategic objectives were defined and linked together using a causal strategic linkage model or strategy map to help identify the activities and results that needed to be measured (Cobbold & Lawrie, 2002 cited by 2GC Limited, 2009:13).

"Strategic objectives were thus developed directly from strategy statements based on a corporate vision or a strategic plan. The process assumed that interpretation and individual understanding of the Vision/Mission statement or strategic plan, was truly shared among the management team in question, but it didn't include any specific activities or design components to ensure that such was the case. The approach therefore disregarded the need to first ensure that the understanding of a vision is in fact shared, before a management team can identify and agree in a useful way, the actions and intermediate results leading to its achievement, something which represents significant challenges in its own right" (Senge, 1990 and Kotter, 1996 cited by 2GC Limited, 2009:13).

"2nd Generation Balanced Scorecard also represented a potential weakness in who made the selection of strategic objectives. Kaplan & Norton proposed that the organisation's strategy is first analysed by a small group comprising key personnel supported by consultants. Their analysis should then be used to drive the selection of objectives on behalf of the organisation's management team" (Shulver *et al*, 2000 and Kaplan & Norton, 1996 cited by 2GC Limited, 2009:13).

"The design elements that make up the 2nd Generation Balanced Scorecard now represent 'mainstream' thinking on Balanced Scorecard design – as evidenced by considerable consistency of definition across a range of practitioner and academic texts" (2GC Limited, 2009:13).

"According to Cobbold and Lawrie, in response to these challenges, a new design element, the 'Destination Statement', emerged in the late 1990s and new design approaches based on full management participation were developed in response to these challenges. Cobbold and Lawrie referred to these developments as the emergence of 3rd Generation Balanced Scorecard" (Cobbold & Lawrie, 2002 cited by 2GC Limited, 2009:13).

According to 2GC Limited (2002a:11), the rigid definition of the four perspective labels that typifies Balanced Scorecard definitions can cause problems in the public sector organisations in particular. The suggesting of alternative labels for application in the public sector is common. The original motivation for the four perspectives was to encourage consideration of non-financial aspects of performance during the selection of measures for the Balanced Scorecard. With the Destination Statement driving the selection of strategic objectives the public sector is starting to use 'activity' and 'outcome' objectives, linked with simple causality, on a regular basis.

2GC Limited (2002a:12) refers to Balanced Scorecards that incorporate destination statements and optionally two perspective strategic linkage models as '3rd Generation Balanced Scorecards'. The primary enhancements over a 2nd Generation Balanced Scorecard are:

➢ **Destination statement:** A description, ideally including quantitative detail, of what the organisation (or part of organisation managed by the Balanced Scorecard users) is likely to look like at an agreed future date. Typically the destination statement is sub-divided into descriptive categories that serve a similar purpose (but may have different labels) to the 'perspectives' in 1st and 2nd Generation Balanced Scorecards.

➢ **Strategic Linkage Model with 'Activity' and 'Outcome' Perspectives:** A simplification of a 2nd Generation Balanced Scorecard strategic linkage model – with a single 'outcome' perspective replacing the Financial and Customer perspectives, and a single 'activity' perspective replacing the learning and growth and internal business process perspectives.

Although the two-perspective strategic linkage model is a notable departure from Kaplan & Norton's four perspective model, the main difference between 2nd and 3rd Generation is found in how the strategic linkage model is designed, not the way it looks. The strategic objectives, define the most important activities and their associated results for the

management team to focus on in the near-term in order to make sure the organisation achieves the medium- to long-term goals described in the destination statement. Identifying strategic objectives with the participation of the full management team and taking a starting point directly in the destination statement, by first asking the question, "so what do we do in order to reach our destination" deals with another critical aspect of the weaknesses in the 2nd Generation design approach" (2GC Limited, 2002a:12).

"Across its three generations, the Balanced Scorecard has evolved to be a strategic management tool that involves a wide range of managers in the strategic management process, provides boundaries of control, but is not prescriptive or stifling and most importantly removes the separation between formulation and implementation of strategy" (2GC Limited, 2002a:14).

APPENDIX C

BALANCED SCORECARD EXAMPLES

1.   Summary of Generic Business Scorecard. (**Source:** Van Grembergen, 2009:7-17)

Perspective	Mission	Objectives	Measures
Financial How do the shareholders view the company?	Assure added value for shareholders both in the short and long term	➢ Survive ➢ Prosper	➢ ROI and cash flow ➢ Market share
Internal business process How can the company improve its internal operations to improve the service to the customers?	Efficiently produce and deliver products and services	➢ Excellence in production ➢ Excellence in deliveries	➢ Cost price per unit ➢ Average throughput time for orders
Learning and growth What should the company do to remain successful in the future?	Innovate, improve and learn to the maximum	➢ Technological leadership ➢ Product focus	➢ Time necessary to develop a new generation of products ➢ Number of old products to number of new products
Customer How do the customers view the company?	To deliver the best added value to the customer	➢ New products ➢ Partnership with customer	➢ % of new products of turnover ➢ Joint development efforts

2.   Summary of Generic IT Scorecard. (**Source:** Van Grembergen, 2009:7-17)

Perspective	Mission	Objectives	Measures
Corporate Contribution How does management view the IT department?	To obtain a reasonable business contribution of investments in IT	Control of IT expenses	➢ Percentage over or under IT budget ➢ Allocation to different budget items ➢ IT budget as a percentage of turnover ➢ IT expenses per staff member
		Business value of new IT projects	➢ Financial evaluation based on ROI, NPV, IRR, PB ➢ Business evaluation based on Information Economics
		Business value of the IT function	➢ Percentage of the development capacity engaged in strategic projects ➢ Relationship between new developments/ infrastructure investments/ replacement investments
Future Orientation Is IT positioned to meet future challenges?	Develop opportunities to answer future challenges	Permanent training and education of IT personnel	➢ Number of educational days per person ➢ Educational budget as percentage of total IT budget
		Expertise of IT personnel	➢ Expertise of IT Personnel ➢ Number of years of IT experience per staff member ➢ Age pyramid of IT staff
		Research into emerging information technology	➢ Percentage of IT budget spent on research
		Age of application portfolio	➢ Number of applications per age category
Operational Excellence How effective and efficient are the IT processes?	Efficiently deliver IT products and IT services	Efficient software development	➢ Number of lines of code per person per month ➢ Average days late in delivering software ➢ Average unexpected budget increase ➢ Percentage of projects

Perspective	Mission	Objectives	Measures
			performed within SLA ➢ Percentage of maintenance activities
		Efficient computer operations	➢ Percentage unavailability of mainframe and network ➢ Response times per category of users ➢ Percentage of jobs done within time
		Efficient help desk function	➢ Average answer time of help desk ➢ Percentage of questions answered within time
User Orientation How do the users view the IT department?	To be the preferred supplier of IS and to exploit business opportunities maximally through IT	Preferred IT supplier	➢ Percentage of applications managed by IT ➢ Percentage of applications delivered by IT
		Partnership with users	➢ Index of user involvement in generating strategic applications ➢ Index of user involvement in developing new applications
		User satisfaction	➢ Index of user friendliness of applications ➢ Index of user satisfaction

3.   Summary of 360° Report Card. (**Source:** The Meta Group (2004:4,6-14)

Module	Measures
IT spending comparison	➢ IT spending as a % of revenue ➢ IT spending per company employee ➢ Percent of company employees dedicated to IT ➢ IT spending breakdown per service tower
Key tower benchmarks	➢ Cost benchmark to measure efficiency and effectiveness of internally run and managed IT functions ➢ Price benchmark to determine the price competitiveness of outsourced IT functions

IT effectiveness surveys	➢ End-user satisfaction survey
	➢ Business effectiveness survey:
	          ➢ IT and Business Unit (BU) planning and decision processes
	              ➢ IT decision process reflects BU needs
	              ➢ IT organisation understands BU needs
	          ➢ IT strategy aligned with BU goals

Operational Assessment	➢ Eight critical operational management areas reviewed against best practise (touching 38 IT processes):
	          ➢ Operations planning
	          ➢ Process development / refinement
	          ➢ Rapid assimilation
	          ➢ Product development and definition
	          ➢ Centres of excellence
	          ➢ Organisational structure
	          ➢ Metrics and performance reporting
	          ➢ Service level agreements

APPENDIX D

DESCRIPTIVE STATISTICS

Descriptive statistics for each variable

```
                                         Cumulative   Cumulative
            S1_1    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             1       12.50          1        12.50
Undecided            2       25.00          3        37.50
Agree                5       62.50          8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                  Chi-Square     3.2500
                  DF                  2
                  Pr > ChiSq     0.1969
        WARNING: The table cells have expected counts less
            than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                         Cumulative   Cumulative
            S1_2    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             2       25.00          2        25.00
Undecided            1       12.50          3        37.50
Agree                5       62.50          8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                  Chi-Square     3.2500
                  DF                  2
                  Pr > ChiSq     0.1969
        WARNING: The table cells have expected counts less
            than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                         Cumulative   Cumulative
            S1_3    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             3       37.50          3        37.50
Undecided            1       12.50          4        50.00
Agree                3       37.50          7        87.50
Strongly agree       1       12.50          8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                  Chi-Square     2.0000
                  DF                  3
                  Pr > ChiSq     0.5724
        WARNING: The table cells have expected counts less
            than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                         Cumulative   Cumulative
            S1_4    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             2       25.00          2        25.00
Undecided            5       62.50          7        87.50
Agree                1       12.50          8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                  Chi-Square     3.2500
                  DF                  2
                  Pr > ChiSq     0.1969
        WARNING: The table cells have expected counts less
            than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                         Cumulative   Cumulative
            S1_5    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             4       50.00          4        50.00
Undecided            3       37.50          7        87.50
Agree                1       12.50          8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                  Chi-Square     1.7500
                  DF                  2
                  Pr > ChiSq     0.4169
        WARNING: The table cells have expected counts less
            than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                         Cumulative   Cumulative
            S1_6    Frequency    Percent   Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Disagree             3       37.50          3        37.50
Undecided            3       37.50          6        75.00
Agree                2       25.00          8       100.00
```

```
                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      0.2500
                        DF                   2
                        Pr > ChiSq      0.8825
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
             S2      Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Internal IT        1       12.50           1        12.50
Service lines      1       12.50           2        25.00
Both               6       75.00           8       100.00


                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      6.2500
                        DF                   2
                        Pr > ChiSq      0.0439
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
           S2_1_1_1  Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average      2       25.00           2        25.00
Average            4       50.00           6        75.00
Above average      2       25.00           8       100.00


                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      1.0000
                        DF                   2
                        Pr > ChiSq      0.6065
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
           S2_1_1_2  Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average      1       12.50           1        12.50
Average            3       37.50           4        50.00
Above average      3       37.50           7        87.50
Excellent          1       12.50           8       100.00


                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      2.0000
                        DF                   3
                        Pr > ChiSq      0.5724
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
          S2_1_2_1_1 Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average      1       12.50           1        12.50
Average            3       37.50           4        50.00
Above average      4       50.00           8       100.00


                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      1.7500
                        DF                   2
                        Pr > ChiSq      0.4169
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
          S2_1_2_1_2 Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
0                  1       12.50           1        12.50
Average            5       62.50           6        75.00
Above average      2       25.00           8       100.00


                          Chi-Square Test
                        for Equal Proportions
                       ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      3.2500
                        DF                   2
                        Pr > ChiSq      0.1969
             WARNING: The table cells have expected counts less
                     than 5. Chi-Square may not be a valid test.
                          Sample Size = 8

                                          Cumulative    Cumulative
          S2_1_2_2_1 Frequency    Percent   Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Very poor          1       12.50           1        12.50
Below average      3       37.50           4        50.00
Average            3       37.50           7        87.50
Above average      1       12.50           8       100.00
```

154

```
                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      2.0000
                       DF                   3
                       Pr > ChiSq      0.5724
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_2_2_2   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Very poor              1       12.50          1         12.50
Below average          1       12.50          2         25.00
Average                3       37.50          5         62.50
Above average          3       37.50          8        100.00


                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      2.0000
                       DF                   3
                       Pr > ChiSq      0.5724
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_2_2_3   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Below average          3       37.50          3         37.50
Average                2       25.00          5         62.50
Above average          3       37.50          8        100.00


                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      0.2500
                       DF                   2
                       Pr > ChiSq      0.8825
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_3_1_1   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Below average          3       37.50          3         37.50
Average                3       37.50          6         75.00
Above average          2       25.00          8        100.00


                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      0.2500
                       DF                   2
                       Pr > ChiSq      0.8825
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_3_1_2   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Below average          3       37.50          3         37.50
Average                3       37.50          6         75.00
Above average          2       25.00          8        100.00


                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      0.2500
                       DF                   2
                       Pr > ChiSq      0.8825
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_3_2_1   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Below average          2       25.00          2         25.00
Average                3       37.50          5         62.50
Above average          3       37.50          8        100.00


                        Chi-Square Test
                       for Equal Proportions
                      ∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
                       Chi-Square      0.2500
                       DF                   2
                       Pr > ChiSq      0.8825
              WARNING: The table cells have expected counts less
                      than 5. Chi-Square may not be a valid test.
                        Sample Size = 8


                                        Cumulative    Cumulative
     S2_1_3_2_2   Frequency    Percent   Frequency      Percent
∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄∄
Very poor              1       12.50          1         12.50
Below average          2       25.00          3         37.50
Average                2       25.00          5         62.50
```

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Above average              3     37.50          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     1.0000
                       DF                  3
                       Pr > ChiSq     0.8013

        WARNING: The table cells have expected counts less
                 than 5. Chi-Square may not be a valid test.
                       Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_3_3_1   Frequency   Percent  Frequency     Percent
####################################################################
Below average              2     25.00          2     25.00
Average                    4     50.00          6     75.00
Above average              1     12.50          7     87.50
Excellent                  1     12.50          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     3.0000
                       DF                  3
                       Pr > ChiSq     0.3916
        WARNING: The table cells have expected counts less
                 than 5. Chi-Square may not be a valid test.
                       Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_3_3_2   Frequency   Percent  Frequency     Percent
####################################################################
Very poor                  1     12.50          1     12.50
Below average              2     25.00          3     37.50
Average                    4     50.00          7     87.50
Above average              1     12.50          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     3.0000
                       DF                  3
                       Pr > ChiSq     0.3916

        WARNING: The table cells have expected counts less
                 than 5. Chi-Square may not be a valid test.

                         Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_4_1_1   Frequency   Percent  Frequency     Percent
####################################################################
Below average              2     25.00          2     25.00
Average                    4     50.00          6     75.00
Above average              1     12.50          7     87.50
Excellent                  1     12.50          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     3.0000
                       DF                  3
                       Pr > ChiSq     0.3916
        WARNING: The table cells have expected counts less
                 than 5. Chi-Square may not be a valid test.
                       Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_4_1_2   Frequency   Percent  Frequency     Percent
####################################################################
          0                8    100.00          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     0.0000
                       DF                  0
                       Pr > ChiSq         .
                       Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_4_1_3   Frequency   Percent  Frequency     Percent
####################################################################
Below average              3     37.50          3     37.50
Average                    2     25.00          5     62.50
Above average              2     25.00          7     87.50
Excellent                  1     12.50          8    100.00

                          Chi-Square Test
                       for Equal Proportions
                       ####################
                       Chi-Square     1.0000
                       DF                  3
                       Pr > ChiSq     0.8013
        WARNING: The table cells have expected counts less
                 than 5. Chi-Square may not be a valid test.
                       Sample Size = 8

                                        Cumulative   Cumulative
       S2_1_4_1_4   Frequency   Percent  Frequency     Percent
####################################################################
```

156

```
Average                 4      50.00           4       50.00
Above average           4      50.00           8      100.00

                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    0.0000
                     DF                 1
                     Pr > ChiSq    1.0000
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_4_2_1   Frequency    Percent   Frequency    Percent
############################################################
Below average           2      25.00           2       25.00
Average                 3      37.50           5       62.50
Above average           3      37.50           8      100.00


                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    0.2500
                     DF                 2
                     Pr > ChiSq    0.8825
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_4_2_2   Frequency    Percent   Frequency    Percent
############################################################
Below average           2      25.00           2       25.00
Average                 4      50.00           6       75.00
Above average           2      25.00           8      100.00


                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    1.0000
                     DF                 2
                     Pr > ChiSq    0.6065
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_5_1_1   Frequency    Percent   Frequency    Percent
############################################################
Below average           3      37.50           3       37.50
Average                 4      50.00           7       87.50
Above average           1      12.50           8      100.00


                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    1.7500
                     DF                 2
                     Pr > ChiSq    0.4169
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_5_1_2   Frequency    Percent   Frequency    Percent
############################################################
Below average           4      50.00           4       50.00
Average                 2      25.00           6       75.00
Above average           2      25.00           8      100.00


                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    1.0000
                     DF                 2
                     Pr > ChiSq    0.6065
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_5_1_3   Frequency    Percent   Frequency    Percent
############################################################
Below average           4      50.00           4       50.00
Average                 2      25.00           6       75.00
Above average           2      25.00           8      100.00


                        Chi-Square Test
                      for Equal Proportions
                     #####################
                     Chi-Square    1.0000
                     DF                 2
                     Pr > ChiSq    0.6065
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                       Sample Size = 8


                                       Cumulative   Cumulative
     S2_1_5_1_4   Frequency    Percent   Frequency    Percent
############################################################
Below average           2      25.00           2       25.00
Average                 5      62.50           7       87.50
```

```
Above average          1      12.50          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    3.2500
                   DF                 2
                   Pr > ChiSq    0.1969
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_1_5    Frequency    Percent  Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average          3      37.50          3       37.50
Average                4      50.00          7       87.50
Above average          1      12.50          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    1.7500
                   DF                 2
                   Pr > ChiSq    0.4169

          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_2_1    Frequency    Percent  Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Very poor              1      12.50          1       12.50
Below average          4      50.00          5       62.50
Average                1      12.50          6       75.00
Above average          2      25.00          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    3.0000
                   DF                 3
                   Pr > ChiSq    0.3916
          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_2_2    Frequency    Percent  Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average          3      37.50          3       37.50
Average                4      50.00          7       87.50
Above average          1      12.50          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    1.7500
                   DF                 2
                   Pr > ChiSq    0.4169

          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_3_1    Frequency    Percent  Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average          2      25.00          2       25.00
Average                6      75.00          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    2.0000
                   DF                 1
                   Pr > ChiSq    0.1573

          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_3_2    Frequency    Percent  Frequency      Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average          1      12.50          1       12.50
Average                5      62.50          6       75.00
Above average          2      25.00          8      100.00

                       Chi-Square Test
                     for Equal Proportions
                   ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                   Chi-Square    3.2500
                   DF                 2
                   Pr > ChiSq    0.1969

          WARNING: The table cells have expected counts less
                  than 5. Chi-Square may not be a valid test.
                   Sample Size = 8

                                      Cumulative    Cumulative
   S2_1_5_3_3    Frequency    Percent  Frequency      Percent
```

158

```
################################################################
Below average          5        62.50         5        62.50
Average                3        37.50         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    0.5000
                  DF                 1
                  Pr > ChiSq    0.4795

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                      Cumulative    Cumulative
   S2_1_6_1_1    Frequency    Percent    Frequency      Percent
################################################################
Below average          2        25.00         2        25.00
Average                3        37.50         5        62.50
Above average          3        37.50         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    0.2500
                  DF                 2
                  Pr > ChiSq    0.8825

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                      Cumulative    Cumulative
   S2_1_6_1_2    Frequency    Percent    Frequency      Percent
################################################################
Below average          3        37.50         3        37.50
Average                5        62.50         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    0.5000
                  DF                 1
                  Pr > ChiSq    0.4795

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                      Cumulative    Cumulative
   S2_1_6_2_1    Frequency    Percent    Frequency      Percent
################################################################
Below average          2        25.00         2        25.00
Average                5        62.50         7        87.50
Above average          1        12.50         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    3.2500
                  DF                 2
                  Pr > ChiSq    0.1969

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                      Cumulative    Cumulative
   S2_1_6_2_2    Frequency    Percent    Frequency      Percent
################################################################
Below average          2        25.00         2        25.00
Average                2        25.00         4        50.00
Above average          4        50.00         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    1.0000
                  DF                 2
                  Pr > ChiSq    0.6065

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
                    Sample Size = 8


                                      Cumulative    Cumulative
   S2_1_6_2_3    Frequency    Percent    Frequency      Percent
################################################################
Below average          1        12.50         1        12.50
Average                2        25.00         3        37.50
Above average          4        50.00         7        87.50
Excellent              1        12.50         8       100.00

                    Chi-Square Test
                  for Equal Proportions
                  ####################
                  Chi-Square    3.0000
                  DF                 3
                  Pr > ChiSq    0.3916

        WARNING: The table cells have expected counts less
                than 5. Chi-Square may not be a valid test.
```

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			Cumulative	Cumulative
S2_1_6_2_4	Frequency	Percent	Frequency	Percent
Below average	1	12.50	1	12.50
Average	1	12.50	2	25.00
Above average	5	62.50	7	87.50
Excellent	1	12.50	8	100.00

Chi-Square Test
for Equal Proportions
############################
Chi-Square   6.0000
DF   3
Pr > ChiSq   0.1116

WARNING: The table cells have expected counts less
than 5. Chi-Square may not be a valid test.

Sample Size = 8

			Cumulative	Cumulative
S2_1_6_3_1	Frequency	Percent	Frequency	Percent
Below average	1	12.50	1	12.50
Average	5	62.50	6	75.00
Above average	2	25.00	8	100.00

Chi-Square Test
for Equal Proportions
############################
Chi-Square   3.2500
DF   2
Pr > ChiSq   0.1969

WARNING: The table cells have expected counts less
than 5. Chi-Square may not be a valid test.

Sample Size = 8

			Cumulative	Cumulative
S2_1_6_3_2	Frequency	Percent	Frequency	Percent
Below average	2	25.00	2	25.00
Average	2	25.00	4	50.00
Above average	4	50.00	8	100.00

Chi-Square Test
for Equal Proportions
############################
Chi-Square   1.0000
DF   2
Pr > ChiSq   0.6065

WARNING: The table cells have expected counts less
than 5. Chi-Square may not be a valid test.

Sample Size = 8

			Cumulative	Cumulative
S2_1_7_1_1	Frequency	Percent	Frequency	Percent
Below average	4	50.00	4	50.00
Average	4	50.00	8	100.00

Chi-Square Test
for Equal Proportions
############################
Chi-Square   0.0000
DF   1
Pr > ChiSq   1.0000

WARNING: The table cells have expected counts less
than 5. Chi-Square may not be a valid test.

Sample Size = 8

			Cumulative	Cumulative
S2_1_7_2_1	Frequency	Percent	Frequency	Percent
Below average	3	37.50	3	37.50
Average	5	62.50	8	100.00

Chi-Square Test
for Equal Proportions
############################
Chi-Square   0.5000
DF   1
Pr > ChiSq   0.4795

WARNING: The table cells have expected counts less
than 5. Chi-Square may not be a valid test.

Sample Size = 8

			Cumulative	Cumulative
S2_1_7_2_2	Frequency	Percent	Frequency	Percent
Very poor	1	12.50	1	12.50
Below average	3	37.50	4	50.00
Average	1	12.50	5	62.50
Above average	3	37.50	8	100.00

Chi-Square Test
for Equal Proportions

```
                            ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                            Chi-Square      2.0000
                            DF                   3
                            Pr > ChiSq      0.5724

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S2_1_7_3_1   Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average        2      25.00        2       25.00
Average              6      75.00        8      100.00

                          Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      2.0000
                        DF                   1
                        Pr > ChiSq      0.1573

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S2_1_7_3_2   Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average        2      25.00        2       25.00
Average              5      62.50        7       87.50
Above average        1      12.50        8      100.00

                          Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      3.2500
                        DF                   2
                        Pr > ChiSq      0.1969

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S3_1_1     Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Contract A           2      25.00        2       25.00
Contract B           2      25.00        4       50.00
Both                 4      50.00        8      100.00

                          Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      1.0000
                        DF                   2
                        Pr > ChiSq      0.6065

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S3_2_1     Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Very poor            1      12.50        1       12.50
Below average        1      12.50        2       25.00
Average              4      50.00        6       75.00
Above average        2      25.00        8      100.00

                          Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      3.0000
                        DF                   3
                        Pr > ChiSq      0.3916

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S3_2_2     Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average        2      25.00        2       25.00
Average              3      37.50        5       62.50
Above average        3      37.50        8      100.00

                          Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square      0.2500
                        DF                   2
                        Pr > ChiSq      0.8825

             WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                            Sample Size = 8

                                      Cumulative    Cumulative
        S3_2_3     Frequency   Percent   Frequency    Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average        4      50.00        4       50.00
```

```
Average              1       12.50        5       62.50
Above average        3       37.50        8      100.00
```

                        Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square   1.7500
                        DF   2
                        Pr > ChiSq   0.4169

            WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                        Sample Size = 8

```
                                        Cumulative   Cumulative
        S3_2_4    Frequency    Percent    Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average     1        12.50        1        12.50
Average           3        37.50        4        50.00
Above average     2        25.00        6        75.00
Excellent         2        25.00        8       100.00
```

                        Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square   1.0000
                        DF   3
                        Pr > ChiSq   0.8013

            WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                        Sample Size = 8

```
                                        Cumulative   Cumulative
        S3_2_5    Frequency    Percent    Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Average           4        50.00        4        50.00
Above average     3        37.50        7        87.50
Excellent         1        12.50        8       100.00
```

                        Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square   1.7500
                        DF   2
                        Pr > ChiSq   0.4169

            WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                        Sample Size = 8

```
                                        Cumulative   Cumulative
        S3_2_6    Frequency    Percent    Frequency     Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Below average     1        12.50        1        12.50
Average           4        50.00        5        62.50
Above average     3        37.50        8       100.00
```

                        Chi-Square Test
                        for Equal Proportions
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Chi-Square   1.7500
                        DF   2
                        Pr > ChiSq   0.4169

            WARNING: The table cells have expected counts less
                    than 5. Chi-Square may not be a valid test.
                        Sample Size = 8

```
                                                                      Cumulative  Cumulative
S3_3_1                                                      Frequency  Percent   Frequency   Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Establish a culture of appropriate human behaviour that support the roles and    1     20.00     1      20.00
responsibilities for all individuals.
Less reporting on governance. Mostly managers are so occupied with compulsory reporting   1     20.00     2      40.00
that they do not have any time left to focus on the business an their main
responsibilities.
Strive to leverage and emulate international capability / maturity with respect to    1     20.00     3      60.00
governance within the local country organization.
The importance of governance across all disciplines and levels / hierarchy of the    1     20.00     4      80.00
organization is not dealt with in a consistent, sustainable manner.
To implement the basics effectively to ensure a proper governance structure.    1     20.00     5     100.00

                            Frequency Missing = 3
                                                                      Cumulative  Cumulative
S3_3_2                                                      Frequency  Percent   Frequency   Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
Governance should be an integral part of the culture of the organization, and as it does   1    100.00     1     100.00
not come naturally, the necessary frameworks must be defined and effectively
institutionalized through managed programs, initiatives, awareness exercises,

                            Frequency Missing = 7


                                                                      Cumulative  Cumulative
S3_3_3                                                      Frequency  Percent   Frequency   Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
As well as taught in formal training interventions.    1    100.00     1     100.00

                            Frequency Missing = 7


                                                                      Cumulative  Cumulative
```

```
S3_3_4                                                          Frequency  Percent  Frequency   Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
The implication of failed governance must be communicated to all, and governance       1    100.00         1   100.00
violations should be dealt with in a consistent manner, irrespective of who the individual
/ unit responsible for the violation is.

                             Frequency Missing = 7


                                                                                      Cumulative  Cumulative
S3_3_5                                                          Frequency  Percent  Frequency   Percent
ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
The ideal should be that "governance" is not perceived as bureaucracy or red tape, but as  1  100.00       1   100.00
a value-add component of achieving targets, results and positive customer engagements

                             Frequency Missing = 7
```

```
                                      Simple Statistics
         Variable     N       Mean    Std Dev         Sum    Minimum    Maximum    Label
         S1_1         8    3.50000    0.75593    28.00000    2.00000    4.00000    S1_1
         S1_2         8    3.37500    0.91613    27.00000    2.00000    4.00000    S1_2
         S1_3         8    3.25000    1.16496    26.00000    2.00000    5.00000    S1_3
         S1_4         8    2.87500    0.64087    23.00000    2.00000    4.00000    S1_4
         S1_5         8    2.62500    0.74402    21.00000    2.00000    4.00000    S1_5
         S1_6         8    2.87500    0.83452    23.00000    2.00000    4.00000    S1_6
         S2_1_1_1     8    3.00000    0.75593    24.00000    2.00000    4.00000    S2_1_1_1
         S2_1_1_2     8    3.50000    0.92582    28.00000    2.00000    5.00000    S2_1_1_2
         S2_1_2_1_1   8    3.37500    0.74402    27.00000    2.00000    4.00000    S2_1_2_1_1
         S2_1_2_1_2   8    2.87500    1.24642    23.00000          0    4.00000    S2_1_2_1_2
         S2_1_2_2_1   8    2.50000    0.92582    20.00000    1.00000    4.00000    S2_1_2_2_1
         S2_1_2_2_2   8    3.00000    1.06904    24.00000    1.00000    4.00000    S2_1_2_2_2
         S2_1_2_2_3   8    3.00000    0.92582    24.00000    2.00000    4.00000    S2_1_2_2_3
         S2_1_3_1_1   8    2.87500    0.83452    23.00000    2.00000    4.00000    S2_1_3_1_1
         S2_1_3_1_2   8    2.87500    0.83452    23.00000    2.00000    4.00000    S2_1_3_1_2
         S2_1_3_2_1   8    3.12500    0.83452    25.00000    2.00000    4.00000    S2_1_3_2_1
         S2_1_3_2_2   8    2.87500    1.12599    23.00000    1.00000    4.00000    S2_1_3_2_2
         S2_1_3_3_1   8    3.12500    0.99103    25.00000    2.00000    5.00000    S2_1_3_3_1
         S2_1_3_3_2   8    2.62500    0.91613    21.00000    1.00000    4.00000    S2_1_3_3_2
         S2_1_4_1_1   8    3.12500    0.99103    25.00000    2.00000    5.00000    S2_1_4_1_1
         S2_1_4_1_3   8    3.12500    1.12599    25.00000    2.00000    5.00000    S2_1_4_1_3
         S2_1_4_1_4   8    3.50000    0.53452    28.00000    3.00000    4.00000    S2_1_4_1_4
         S2_1_4_2_1   8    3.12500    0.83452    25.00000    2.00000    4.00000    S2_1_4_2_1
         S2_1_4_2_2   8    3.00000    0.75593    24.00000    2.00000    4.00000    S2_1_4_2_2
         S2_1_5_1_1   8    2.75000    0.70711    22.00000    2.00000    4.00000    S2_1_5_1_1
         S2_1_5_1_2   8    2.75000    0.88641    22.00000    2.00000    4.00000    S2_1_5_1_2
         S2_1_5_1_3   8    2.75000    0.88641    22.00000    2.00000    4.00000    S2_1_5_1_3
         S2_1_5_1_4   8    2.87500    0.64087    23.00000    2.00000    4.00000    S2_1_5_1_4
         S2_1_5_1_5   8    2.75000    0.70711    22.00000    2.00000    4.00000    S2_1_5_1_5
         S2_1_5_2_1   8    2.50000    1.06904    20.00000    1.00000    4.00000    S2_1_5_2_1
         S2_1_5_2_2   8    2.75000    0.70711    22.00000    2.00000    4.00000    S2_1_5_2_2
         S2_1_5_3_1   8    2.75000    0.46291    22.00000    2.00000    3.00000    S2_1_5_3_1
         S2_1_5_3_2   8    3.12500    0.64087    25.00000    2.00000    4.00000    S2_1_5_3_2
         S2_1_5_3_3   8    2.37500    0.51755    19.00000    2.00000    3.00000    S2_1_5_3_3
         S2_1_6_1_1   8    3.12500    0.83452    25.00000    2.00000    4.00000    S2_1_6_1_1
         S2_1_6_1_2   8    2.62500    0.51755    21.00000    2.00000    3.00000    S2_1_6_1_2
         S2_1_6_2_1   8    2.87500    0.64087    23.00000    2.00000    4.00000    S2_1_6_2_1
         S2_1_6_2_2   8    3.25000    0.88641    26.00000    2.00000    4.00000    S2_1_6_2_2
         S2_1_6_2_3   8    3.62500    0.91613    29.00000    2.00000    5.00000    S2_1_6_2_3
         S2_1_6_2_4   8    3.75000    0.88641    30.00000    2.00000    5.00000    S2_1_6_2_4
         S2_1_6_3_1   8    3.12500    0.64087    25.00000    2.00000    4.00000    S2_1_6_3_1
         S2_1_6_3_2   8    3.25000    0.88641    26.00000    2.00000    4.00000    S2_1_6_3_2
         S2_1_7_1_1   8    2.50000    0.53452    20.00000    2.00000    3.00000    S2_1_7_1_1
         S2_1_7_2_1   8    2.62500    0.51755    21.00000    2.00000    3.00000    S2_1_7_2_1
         S2_1_7_2_2   8    2.75000    1.16496    22.00000    1.00000    4.00000    S2_1_7_2_2
         S2_1_7_3_1   8    2.75000    0.46291    22.00000    2.00000    3.00000    S2_1_7_3_1
         S2_1_7_3_2   8    2.87500    0.64087    23.00000    2.00000    4.00000    S2_1_7_3_2
         S3_2_1       8    2.87500    0.99103    23.00000    1.00000    4.00000    S3_2_1
         S3_2_2       8    3.12500    0.83452    25.00000    2.00000    4.00000    S3_2_2
         S3_2_3       8    2.87500    0.99103    23.00000    2.00000    4.00000    S3_2_3
         S3_2_4       8    3.62500    1.06066    29.00000    2.00000    5.00000    S3_2_4
         S3_2_5       8    3.62500    0.74402    29.00000    3.00000    5.00000    S3_2_5
         S3_2_6       8    3.25000    0.70711    26.00000    2.00000    4.00000    S3_2_6
```

```
                            Cronbach Coefficient Alpha
                        Variables              Alpha
                        ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
                        Raw                 0.927919
                        Standardized        0.931896
```

```
                    Cronbach Coefficient Alpha with Deleted Variable
                          Raw Variables            Standardized Variables
          Deleted      Correlation               Correlation
          Variable     with Total      Alpha     with Total      Alpha     Label
          ƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒƒ
          S1_1          0.355032     0.927135     0.308705     0.931591    S1_1
          S1_2          0.131111     0.929063     0.117730     0.932933    S1_2
          S1_3         -.014960      0.931418    -.051044      0.934103    S1_3
          S1_4          0.554638     0.925978     0.558341     0.929805    S1_4
          S1_5          0.477825     0.926304     0.524037     0.930052    S1_5
          S1_6          0.254289     0.927922     0.291442     0.931713    S1_6
          S2_1_1_1      0.270098     0.927712     0.219095     0.932223    S2_1_1_1
          S2_1_1_2      0.715699     0.924182     0.659604     0.929070    S2_1_1_2
          S2_1_2_1_1    0.104624     0.928798     0.059710     0.933337    S2_1_2_1_1
          S2_1_2_1_2   -.483196      0.936727    -.472843      0.936956    S2_1_2_1_2
          S2_1_2_2_1    0.627624     0.924938     0.625985     0.929315    S2_1_2_2_1
          S2_1_2_2_2    0.703989     0.924020     0.673733     0.928967    S2_1_2_2_2
          S2_1_2_2_3    0.603727     0.925142     0.570236     0.929719    S2_1_2_2_3
          S2_1_3_1_1    0.400159     0.926827     0.439632     0.930659    S2_1_3_1_1
```

```
S2_1_3_1_2      0.626690        0.925099        0.634810        0.929251        S2_1_3_1_2
S2_1_3_2_1      0.443396        0.926499        0.432491        0.930710        S2_1_3_2_1
S2_1_3_2_2      0.616097        0.924863        0.621128        0.929350        S2_1_3_2_2
S2_1_3_3_1      0.565019        0.925425        0.586536        0.929601        S2_1_3_3_1
S2_1_3_3_2      0.789463        0.923573        0.749992        0.928409        S2_1_3_3_2
S2_1_4_1_1      0.337082        0.927479        0.306997        0.931603        S2_1_4_1_1
S2_1_4_1_3      0.636021        0.924656        0.608177        0.929444        S2_1_4_1_3
S2_1_4_1_4     -.078060         0.929262       -.155359         0.934817        S2_1_4_1_4
S2_1_4_2_1      0.670743        0.924760        0.644517        0.929180        S2_1_4_2_1
S2_1_4_2_2      0.383462        0.926941        0.397243        0.930961        S2_1_4_2_2
S2_1_5_1_1      0.639906        0.925294        0.643733        0.929186        S2_1_5_1_1
S2_1_5_1_2      0.955038        0.922282        0.948654        0.926940        S2_1_5_1_2
S2_1_5_1_3      0.355463        0.927201        0.381022        0.931077        S2_1_5_1_3
S2_1_5_1_4      0.554638        0.925978        0.563065        0.929971        S2_1_5_1_4
S2_1_5_1_5      0.445440        0.926551        0.473511        0.930416        S2_1_5_1_5
S2_1_5_2_1     -.058545         0.931333       -.039480         0.934023        S2_1_5_2_1
S2_1_5_2_2      0.384572        0.926940        0.406348        0.930897        S2_1_5_2_2
S2_1_5_3_1      0.234546        0.927768        0.298695        0.931662        S2_1_5_3_1
S2_1_5_3_2      0.242437        0.927788        0.256954        0.931957        S2_1_5_3_2
S2_1_5_3_3      0.911007        0.924582        0.932569        0.927060        S2_1_5_3_3
S2_1_6_1_1      0.426083        0.926631        0.476600        0.930394        S2_1_6_1_1
S2_1_6_1_2      0.396075        0.927021        0.448291        0.930597        S2_1_6_1_2
S2_1_6_2_1     -.085411         0.929651       -.025160         0.933924        S2_1_6_2_1
S2_1_6_2_2      0.543591        0.925685        0.585383        0.929609        S2_1_6_2_2
S2_1_6_2_3      0.716150        0.924200        0.707525        0.928720        S2_1_6_2_3
S2_1_6_2_4      0.298814        0.927653        0.294016        0.931695        S2_1_6_2_4
S2_1_6_3_1      0.110489        0.928543        0.143700        0.932752        S2_1_6_3_1
S2_1_6_3_2      0.659638        0.924737        0.699323        0.928780        S2_1_6_3_2
S2_1_7_1_1      0.130811        0.928272        0.174635        0.932535        S2_1_7_1_1
S2_1_7_2_1      0.617094        0.925982        0.631675        0.929273        S2_1_7_2_1
S2_1_7_2_2      0.898196        0.921765        0.903878        0.927274        S2_1_7_2_2
S2_1_7_3_1      0.479299        0.926747        0.501406        0.930215        S2_1_7_3_1
S2_1_7_3_2      0.420086        0.926763        0.464061        0.930484        S2_1_7_3_2
S3_2_1          0.322550        0.927608        0.289760        0.931725        S3_2_1
S3_2_2          0.556537        0.925637        0.521526        0.930070        S3_2_2
S3_2_3          0.579901        0.925289        0.561346        0.929783        S3_2_3
S3_2_4          0.639854        0.924665        0.609549        0.929434        S3_2_4
S3_2_5          0.831611        0.923877        0.809139        0.927975        S3_2_5
S3_2_6          0.354235        0.927134        0.316099        0.931538        S3_2_6
```

Variable: Res_e

```
N                        8      Sum Weights              8
Mean                  3.25      Sum Observations        26
Std Deviation   0.75592895      Variance        0.57142857
Skewness        0.49607837      Kurtosis        -0.9953125
Uncorrected SS        88.5      Corrected SS             4
Coeff Variation 23.2593522      Std Error Mean  0.26726124
```

Basic Statistical Measures

```
       Location                    Variability
Mean     3.250000      Std Deviation          0.75593
Median   3.250000      Variance               0.57143
Mode     2.500000      Range                  2.00000
                       Interquartile Range    1.25000
```

Variable: Res_d

```
N                        8      Sum Weights              8
Mean                 3.125      Sum Observations        25
Std Deviation   0.64086994      Variance        0.41071429
Skewness        -0.6105831      Kurtosis        -0.021172
Uncorrected SS          81      Corrected SS         2.875
Coeff Variation 20.5078382      Std Error Mean  0.22658174
```

Basic Statistical Measures

```
       Location                    Variability
Mean     3.125000      Std Deviation          0.64087
Median   3.250000      Variance               0.41071
Mode     3.500000      Range                  2.00000
                       Interquartile Range    0.75000
```

Variable: Res_m

```
N                        8      Sum Weights              8
Mean            2.83333333      Sum Observations 22.6666667
Std Deviation   0.77664316      Variance         0.6031746
Skewness        -0.3614295      Kurtosis        -1.6132964
Uncorrected SS  68.4444444      Corrected SS    4.22222222
Coeff Variation 27.4109352      Std Error Mean  0.27458482
```

Basic Statistical Measures

```
       Location                    Variability
Mean     2.833333      Std Deviation          0.77664
Median   3.000000      Variance               0.60317
Mode     3.333333      Range                  2.00000
                       Interquartile Range    1.33333
```

Variable: Str_e

```
N                        8      Sum Weights              8
Mean                 2.875      Sum Observations        23
Std Deviation   0.74402381      Variance        0.55357143
Skewness        0.21678113      Kurtosis        -1.4101977
Uncorrected SS          70      Corrected SS         3.875
```

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```
Coeff Variation        25.879089     Std Error Mean       0.26305214

                        Basic Statistical Measures
            Location                      Variability
        Mean      2.875000    Std Deviation          0.74402
        Median    2.750000    Variance               0.55357
        Mode      2.000000    Range                  2.00000
                              Interquartile Range    1.25000


                          Variable:  Str_d

N                              8     Sum Weights                 8
Mean                           3     Sum Observations           24
Std Deviation         0.80178373     Variance            0.64285714
Skewness                       0     Kurtosis            -1.4777778
Uncorrected SS              76.5     Corrected SS               4.5
Coeff Variation       26.7261242     Std Error Mean      0.28347335

                        Basic Statistical Measures
            Location                      Variability
        Mean      3.000000    Std Deviation          0.80178
        Median    3.000000    Variance               0.64286
        Mode      2.000000    Range                  2.00000
                              Interquartile Range    1.50000


                          Variable:  Str_m

N                              8     Sum Weights                 8
Mean                       2.875     Sum Observations           23
Std Deviation         0.83452296     Variance            0.69642857
Skewness              0.52233127     Kurtosis            2.58461538
Uncorrected SS                71     Corrected SS             4.875
Coeff Variation       29.0268856     Std Error Mean      0.29504842

                        Basic Statistical Measures
            Location                      Variability
        Mean      2.875000    Std Deviation          0.83452
        Median    3.000000    Variance               0.69643
        Mode      3.000000    Range                  3.00000
                              Interquartile Range    0.50000


                          Variable:  Acq_e

N                              8     Sum Weights                 8
Mean                       3.125     Sum Observations           25
Std Deviation         0.99103121     Variance            0.98214286
Skewness              0.86227906     Kurtosis            0.84046281
Uncorrected SS                85     Corrected SS             6.875
Coeff Variation       31.7129987     Std Error Mean      0.35038244

                        Basic Statistical Measures
            Location                      Variability
        Mean      3.125000    Std Deviation          0.99103
        Median    3.000000    Variance               0.98214
        Mode      3.000000    Range                  3.00000
                              Interquartile Range    1.00000


                          Variable:  Acq_d

N                              8     Sum Weights                 8
Mean                      3.3125     Sum Observations          26.5
Std Deviation         0.70394298     Variance            0.49553571
Skewness              -0.339145     Kurtosis            -2.1352812
Uncorrected SS             91.25     Corrected SS           3.46875
Coeff Variation       21.2511087     Std Error Mean      0.24888143

                        Basic Statistical Measures
            Location                      Variability
        Mean      3.312500    Std Deviation          0.70394
        Median    3.500000    Variance               0.49554
        Mode      2.500000    Range                  1.50000
                              Interquartile Range    1.50000


                          Variable:  Acq_m

N                              8     Sum Weights                 8
Mean                      3.0625     Sum Observations          24.5
Std Deviation         0.72886899     Variance             0.53125
Skewness              0.08646987     Kurtosis            -1.1871478
Uncorrected SS             78.75     Corrected SS           3.71875
Coeff Variation       23.7998037     Std Error Mean       0.2576941

                        Basic Statistical Measures
            Location                      Variability
        Mean      3.062500    Std Deviation          0.72887
        Median    3.000000    Variance               0.53125
        Mode      2.500000    Range                  2.00000
                              Interquartile Range    1.25000


                          Variable:  Per_e

N                              8     Sum Weights                 8
Mean                       2.775     Sum Observations          22.2
Std Deviation         0.64531277     Variance            0.41642857
Skewness              0.25145039     Kurtosis            -0.9383722
Uncorrected SS             64.52     Corrected SS             2.915
Coeff Variation       23.2545142     Std Error Mean      0.22815252
```

```
                      Basic Statistical Measures
           Location                      Variability
     Mean      2.775000    Std Deviation           0.64531
     Median    2.800000    Variance                0.41643
     Mode      2.000000    Range                   1.80000
                           Interquartile Range     1.00000


                      Variable:  Per_d

N                        8     Sum Weights                    8
Mean                 2.625     Sum Observations              21
Std Deviation   0.83452296    Variance              0.69642857
Skewness        0.46088053    Kurtosis              -0.5964497
Uncorrected SS          60    Corrected SS               4.875
Coeff Variation 31.7913509    Std Error Mean        0.29504842

                      Basic Statistical Measures
           Location                      Variability
     Mean      2.625000    Std Deviation           0.83452
     Median    2.500000    Variance                0.69643
     Mode      2.000000    Range                   2.50000
                           Interquartile Range     1.25000


                      Variable:  Per_m

N                        8     Sum Weights                    8
Mean                  2.75     Sum Observations              22
Std Deviation   0.42724663    Variance              0.18253968
Skewness        -0.6105831    Kurtosis              -0.021172
Uncorrected SS  61.7777778    Corrected SS          1.27777778
Coeff Variation 15.5362411    Std Error Mean        0.15105449

                      Basic Statistical Measures
           Location                      Variability
     Mean      2.750000    Std Deviation           0.42725
     Median    2.833333    Variance                0.18254
     Mode      3.000000    Range                   1.33333
                           Interquartile Range     0.50000


                      Variable:  Con_e

N                        8     Sum Weights                    8
Mean                 2.875     Sum Observations              23
Std Deviation   0.64086994    Variance              0.41071429
Skewness         -0.474898    Kurtosis              -1.5455577
Uncorrected SS          69    Corrected SS               2.875
Coeff Variation 22.2911285    Std Error Mean        0.22658174

                      Basic Statistical Measures
           Location                      Variability
     Mean      2.875000    Std Deviation           0.64087
     Median    3.000000    Variance                0.41071
     Mode      3.500000    Range                   1.50000
                           Interquartile Range     1.25000


                      Variable:  Con_d

N                        8     Sum Weights                    8
Mean                 3.375     Sum Observations              27
Std Deviation   0.56694671    Variance              0.32142857
Skewness        -0.1469862    Kurtosis              -2.2361111
Uncorrected SS      93.375    Corrected SS                2.25
Coeff Variation  16.798421    Std Error Mean        0.20044593

                      Basic Statistical Measures
           Location                      Variability
     Mean      3.375000    Std Deviation           0.56695
     Median    3.500000    Variance                0.32143
     Mode      2.750000    Range                   1.25000
                           Interquartile Range     1.12500


                      Variable:  Con_m

N                        8     Sum Weights                    8
Mean                3.1875     Sum Observations            25.5
Std Deviation   0.65123509    Variance              0.42410714
Skewness        -0.9294081    Kurtosis               0.2221385
Uncorrected SS       84.25    Corrected SS           2.96875
Coeff Variation 20.4309048    Std Error Mean        0.23024637

                      Basic Statistical Measures
           Location                      Variability
     Mean      3.187500    Std Deviation           0.65124
     Median    3.500000    Variance                0.42411
     Mode      3.500000    Range                   2.00000
                           Interquartile Range     0.75000


                      Variable:  Hub_e

N                        8     Sum Weights                    8
Mean                   2.5     Sum Observations              20
Std Deviation   0.53452248    Variance              0.28571429
Skewness                 0    Kurtosis                    -2.8
Uncorrected SS          52    Corrected SS                   2
Coeff Variation 21.3808994    Std Error Mean        0.18898224

                      Basic Statistical Measures
           Location                      Variability
     Mean      2.500000    Std Deviation           0.53452
```

```
      Median     2.500000    Variance                    0.28571
      Mode       2.000000    Range                       1.00000
                             Interquartile Range         1.00000


                             Variable:  Hub_d

N                        8   Sum Weights                       8
Mean                2.6875   Sum Observations               21.5
Std Deviation    0.7989949   Variance                 0.63839286
Skewness        -0.2581915   Kurtosis                 -1.7422466
Uncorrected SS       62.25   Corrected SS                4.46875
Coeff Variation  29.730043   Std Error Mean           0.28248736

                      Basic Statistical Measures
            Location                      Variability
      Mean       2.687500    Std Deviation               0.79899
      Median     2.750000    Variance                    0.63839
      Mode       3.500000    Range                       2.00000
                             Interquartile Range         1.50000


                             Variable:  Hub_m

N                        8   Sum Weights                       8
Mean                2.8125   Sum Observations               22.5
Std Deviation   0.53033009   Variance                  0.28125
Skewness        -0.9128786   Kurtosis                 -0.1269841
Uncorrected SS       65.25   Corrected SS                1.96875
Coeff Variation  18.8561808   Std Error Mean               0.1875

                      Basic Statistical Measures
            Location                      Variability
      Mean       2.812500    Std Deviation               0.53033
      Median     3.000000    Variance                    0.28125
      Mode       3.000000    Range                       1.50000
                             Interquartile Range         0.50000
```

APPENDIX E

GOVERNANCE BODIES: ROLES AND RESPONSIBILITIES

1. COBIT: Roles and Responsibilities for IT Governance. (**Source:** Adapted by this author from ITGI:2003:50-52)

	IT Governance Domains				
	Strategic Alignment	**Value Delivery**	**IT Resource Management**	**Risk Management**	**Performance Measurement**
Board of Directors	➢ Ensure management has put in place an effective strategic planning process ➢ Ratify the aligned business and IT strategy ➢ Ensure the IT organisational structure complements the business model and direction	➢ Ascertain that management has put processes and practices in place that ensure IT delivers provable value to the business ➢ Ensure IT investments represent a balance of risk and benefit and that budgets are acceptable	➢ Monitor how management determines what IT resources are needed to achieve strategic goals ➢ Ensure a proper balance of IT investments for sustaining and growing the enterprise	➢ Be aware about IT risk exposures and their containment ➢ Evaluate the effectiveness of management's monitoring of IT risks	➢ Assess senior management's performance on IT strategies in operation ➢ Work with the executive to define and monitor high-level IT performance
IT Strategy Committee	➢ Provide strategy direction and the alignment of IT and the business ➢ Issue high-level policy guidance (e.g., risk, funding, sourcing, partnering) ➢ Verify strategy compliance (e.g., achievement of strategic goals and objectives)	➢ Confirm that the IT/business architecture is designed to drive maximum business value from IT ➢ Oversee the delivery of value by IT to the enterprise ➢ Take into account return and competitive aspects of IT investments	➢ Provide high-level direction for sourcing and use of IT resources, e.g., strategic alliances ➢ Oversee the aggregate funding of IT at the enterprise level	➢ Ascertain that management has resources in place to ensure proper management of IT risks ➢ Take into account risk aspects of IT investments ➢ Confirm that critical risks have been managed	➢ Verify strategy compliance, i.e., achievement of strategic IT objectives ➢ Review the measurement of IT performance and the contribution of IT to the business (i.e., delivering the promised business value)
CEO	➢ Align and integrate IT strategy with business goals ➢ Align IT operations with business operations ➢ Cascade strategy and goals down into the organisation ➢ Mediate between imperatives of the business and of the technology	➢ Direct the optimisation of IT costs ➢ Establish co-responsibility between the business and IT for IT investments ➢ Ensure the IT budget and investment plan is realistic and integrate into the overall financial plan ➢ Ensure that financial reporting has accurate accounting of IT	➢ Ensure the organisation is in the best position to capitalise on its information and knowledge ➢ Establish business priorities and allocate resources to enable effective IT performance ➢ Set up organisational structures and responsibilities that facilitate IT strategy implementation ➢ Define and support the CIO's role, ensuring the CIO is a key business player and part of executive decision-making	➢ Adopt a risk, control and governance framework ➢ Embed responsibilities for risk management in the organisation ➢ Monitor IT risk and accept residual IT risks	➢ Obtain assurance of the performance, control and risks of IT and independent comfort about major IT decisions ➢ Work with the CIO on developing an IT balanced scorecard ensuring it is properly linked to business goals
Business Executives	➢ Understand the enterprise's IT organisation,	➢ Approve and control service levels	➢ Allocate business resources required to ensure effective IT	➢ Provide business impact assessments to the	➢ Sign off on the IT balanced scorecard

	IT Governance Domains				
	Strategic Alignment	**Value Delivery**	**IT Resource Management**	**Risk Management**	**Performance Measurement**
(within Outsourcing Service Providers, the Business Executives often share the CIO responsibilities for IT)	infrastructure and capabilities ➤ Drive the definition of business requirements and own them ➤ Act as sponsor for major IT projects	➤ Act as customer for available IT services ➤ Identify and acquire new IT services ➤ Assess and publish operational benefits of owned IT investments	governance over projects and operations	enterprise risk management process	➤ Monitor service levels ➤ Provide priorities for addressing IT performance problems and corrective actions
CIO	➤ Drive IT strategy development and execute against it, ensuring measurable value is delivered on time and budget, currently and in the future ➤ Implement IT standards and policies ➤ Educate executives on dependence on IT, IT-related costs, technology issues and insights, and IT capabilities	➤ Clarify and demonstrate the value of IT ➤ Proactively seek ways to increase IT value contribution ➤ Link IT budgets to strategic aims and objectives ➤ Manage business and executive expectations relative to IT	➤ Establish strong IT project management disciplines ➤ Provide IT infrastructures that facilitate creation and sharing of business information at optimal cost ➤ Ensure the availability of suitable IT resources, skills and infrastructure to meet the strategic objectives ➤ Ensure that roles critical for driving maximum value from IT are appropriately defined and staffed ➤ Standardise architectures and technology	➤ Assess risks, mitigate efficiently and make risks transparent to the stakeholders ➤ Implement an IT control framework ➤ Ensure that roles critical for managing IT risks are appropriately defined and staffed	➤ Ensure the day-to-day management and verification of IT processes and controls ➤ Implement an IT balanced scorecard with few but precise performance measures directly and demonstrably linked to the strategy
IT Steering Committee	➤ Define project priorities ➤ Assess strategic fit of proposals ➤ Perform portfolio reviews for continuing strategic relevance	➤ Review, approve and fund initiatives, assessing how they improve business processes ➤ Ensure identification of all costs and fulfilment of cost/benefit analysis ➤ Perform portfolio reviews for cost optimisation	➤ Balance investments between supporting and growing the enterprise	➤ Ensure all projects have a project risk management component ➤ Act as sponsor of the control, risk and governance framework ➤ Make key IT governance decisions	➤ Define project success measures ➤ Follow progress on major IT projects ➤ Monitor and direct key IT governance processes
Technology Council	➤ Provide technology guidelines ➤ Monitor relevance of latest developments in IT from a business perspective	➤ Consult/advise on the selection of technology within standards ➤ Assist in variance review	➤ Advise on infrastructure products ➤ Direct technology standards and practices	➤ Ensure vulnerability assessments of new technology occur	➤ Verify compliance with technology standards and guidelines
IT Architecture Review Board	➤ Provide architecture guidelines	➤ Consult/advise on the application of architecture guidelines	➤ Direct IT architecture design	➤ Ensure that the IT architecture reflects the need for legislative and regulatory compliance, the ethical use of information and business continuity	➤ Verify compliance with architecture guidelines
Process Oversight Authority	➤ Ensure alignment of processes to business goals	➤ Ensure that the value derived from process improvements/ implementations are monitored	➤ Ensure sufficient capability exist to enable the processes under its jurisdiction to deliver the expected outcomes	➤ Ensure the implementation of all legislative and regulatory compliance requirements	➤ Directing, controlling and measuring the performance of the end-to-end processes under its jurisdiction

2. VAL IT: Roles and Responsibilities for IT Governance . (**Source:** Adapted by this author from ITGI:2008a:20)

	VAL IT Domains		
	Value Governance	**Portfolio Management**	**Investment Management**
Board of Directors	➢ Establish informed and committed leadership (A) ➢ Define portfolio characteristics (A) ➢ Align and integrate value management with enterprise financial planning (A) ➢ Establish effective governance monitoring and implement lessons learned (A)	➢ Establish strategic direction and target investment mix (A)	
CEO	➢ Establish informed and committed leadership (R) ➢ Define and implement VAL IT processes (A) ➢ Define portfolio characteristics (R)	➢ Establish strategic direction and target investment mix (R)	
CFO	➢ Define and implement VAL IT processes (R) ➢ Define portfolio characteristics. (R) ➢ Align and integrate value management with enterprise financial planning (R)	➢ Establish strategic direction and target investment mix (R) ➢ Determine availability and sources of funds (A/R)	➢ Develop the detailed candidate programme business case (R) ➢ Update the business case (R)
CIO	➢ Define and implement VAL IT processes (R) ➢ Define portfolio characteristics (R)	➢ Establish strategic direction and target investment mix (A/R) ➢ Determine availability and sources of funds (R) ➢ Manage the availability of human resources (R)	➢ Develop the detailed candidate programme business case (R) ➢ Launch and manage the programme (through to programme retirement) (R) ➢ Update operational IT portfolios (A) ➢ Update the business case (R)
Executive Management	➢ Establish effective governance monitoring and implement lessons learned (R)	➢ Evaluate and select programmes to fund (A) ➢ Optimise investment portfolio performance (A)	
Business Management (within Outsourcing Service Providers, the Business Executives often share the CIO responsibilities for IT)	➢ Establish effective governance monitoring and implement lessons learned (R)	➢ Determine availability and sources of funds (R) ➢ Manage the availability of human resources (A) ➢ Optimise investment portfolio performance (R) ➢ Develop and evaluate initial programme concept business case (R)	➢ Launch and manage the programme (through to programme retirement) (R)
ISB		➢ Evaluate and select programmes to fund (R) ➢ Optimise investment portfolio performance (R)	
VMO		➢ Evaluate and select programmes to fund (R) ➢ Monitor and report on investment portfolio performance (A/R)	
Business Sponsor			➢ Develop and evaluate initial programme concept business case (A) ➢ Understand the candidate programme and develop a programme plan (A) ➢ Develop full life-cycle costs and benefits (A) ➢ Develop the detailed candidate programme business case (A) ➢ Update the business case (A) ➢ Monitor and report on the programme (A)
Programme Manager		➢ Manage the availability of human resources (R)	➢ Understand the candidate programme and develop a programme plan (R) ➢ Develop full life-cycle costs and benefits (A) ➢ Develop the detailed candidate programme business case (R) Launch and manage the programme (through to programme retirement) (A)

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	VAL IT Domains		
	Value Governance	**Portfolio Management**	**Investment Management**
			➢ Update operational IT portfolios (R) ➢ Update the business case (R) ➢ Monitor and report on the programme (R)
Programme Management Office			➢ Update operational IT portfolios (R)