THE MANAGEMENT OF FRAUD RISK IN SOUTH AFRICAN PRIVATE HOSPITALS

by

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Submitted in accordance with the requirements
for the degree of

MASTER OF COMMERCE

in the subject of

BUSINESS MANAGEMENT

at the

University of South Africa

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November 2014

DECLARATION

I declare that this dissertation entitled “The management of fraud risk in South African private hospitals” is my own work and that all the sources that I have utilised or quoted have been indicated and acknowledged by means of complete references.

_____ _____

SIGNATURE DATE

GPM GREBE

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God for blessing me with the opportunity of embarking on this challenging yet valuable and satisfying learning experience. Without his grace, power and love none of this would have been possible.

My supervisor, Prof. Mynhardt, thank you for being a mentor to whom I can look up to. Without your encouragement, commitment, knowledge and guidance I would not have been able to complete this dissertation.

My co-supervisor, Prof. Marx, thank you for the shared commitment with my research. I feel privileged to have received your guidance, continuous encouragement and support along this learning path. Your academic excellence and leadership ability have truly inspired me.

Dr Marthi Pohl, thank you for your assistance with the statistical aspects of this dissertation.

My editor, Jackie Viljoen, thank you for editing my dissertation.

To my wonderful mother, “Baie dankie vir Ma se onvoorwaardelike liefde, ondersteuning en geloof in my. Ek voel geseënd om Ma in my lewe te hê.”

To my father, who cannot witness and share this special achievement and moment with me, I know that you are with me and we will meet again one day! “Lief vir jou, Pappa.”

To my brother, whom I admire and respect and look up to, “Coenie, ek is uiteindelik klaar!”

ABSTRACT

The concept of sustainability has become imperative for any organisation in order to survive and prosper in the long term. As such, the management of fraud risk has become an important component for organisations in order to achieve this objective. The purpose of this study was to explore the management of fraud risk within the South African private hospital sector. The study endeavoured to ascertain how private hospitals in South Africa manage fraud risk. In this regard, problem areas in the management of fraud risk were identified, and recommendations are provided in order to improve the management of fraud risk in the South African private hospital sector. Primary data was collected by means of survey research, which involved management staff at head office level and at hospital level, as these two groups were identified to have the required expertise and experience with regard to risk management procedures and practices within South African private hospitals. The findings suggested that South African private hospitals could improve their current risk management practices, in particular with regard to fraud risk. By implementing the recommendations provided by the study, private hospitals will be able to manage fraud risk more effectively. These recommendations will not only be beneficial to private hospitals, but will also have a positive effect on numerous external stakeholders, because the effective management of fraud risk could lead to considerable cost savings. The public hospital sector of South Africa would equally find the research findings and recommendations of value because it could also be applied to their fraud risk management practices.

Keywords: *Fraud risk, risk management, risk classification, strategy, private hospital sector, South Africa*

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CHAPTER 1
INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 INTRODUCTION

According to the World Health Organization (WHO), the ultimate goal of the healthcare sector is better health for all (WHO, 2003; WHO, 2011).The healthcare sector is a multifaceted sector, consisting of many subsectors and providing a wide collection of services (WHO, 2011). This sector creates employment and investment opportunities, provides development opportunities, creates international linkages and promotes healthcare scalability through continual innovation and improvement in productivity (Econex, 2013).

The private hospital sector of South Africa makes a significant contribution towards the South African economy. According to the Hospital Association of South Africa (HASA) it has been estimated that the total population covered by the private hospital sector is as high as 10 million individuals and that this sector is generating an annual turnover of R17.5 billion (Hospital Association of South Africa [HASA], 2009; Matsebula & Willie, 2007).

In South Africa, an estimated 50% of the national healthcare expenditure is being spent in the private healthcare sector. Private healthcare refers to healthcare services which are provided by entities other than government and which are predominantly financed by medical schemes (Basu, Andrews, Kishore, Panjabi & Stuckler, 2012). The private healthcare sector has grown and developed to such an extent that in 2012 this sector provided primary healthcare services for an estimated 38% of the South African population (Econex, 2013; WHO, 2011).

However, fraud risk has become a problem for industries and organisations across the globe (Samociuk & Iyer, 2010). The risk of fraud moreover has also been found to be a problem in the healthcare sector (Jones & Jing, 2011; Nouss, 2013). The title of this dissertation, “The management of fraud risk in South African private hospitals” serves as an outline to this study, which explored fraud risk and the management thereof in the South African private hospital sector.

1.2 BACKGROUND

Any organisation needs to have a strategy in order to be successful (Johnson, Scholes & Whittington, 2008). The purpose of management strategies is to gain a competitive advantage and to ensure the sustainability of the organisation. A strategy can be defined as the direction and scope an organisation follows in order to achieve the ultimate objective of satisfying the expectations of stakeholders (Johnson, Scholes & Whittington, 2008; Swayne, Duncan & Ginter, 2008).

Strategic management has to ensure the competitive advantage and sustainability of an organisation (Louw & Venter, 2010). Competitive advantage can be described as a situation in which an organisation earns a higher rate of economic return than the average competitor in the market (Elahi, 2010; Gottschalg & Zollo, 2007). Sustainability relates to the management of the organisation's resources in such manner that the objective of value creation in the future is achieved. This consequently ensures that the organisation will continue with its operation in the future (Crowther, 2002).

The ultimate goal of any organisation is to create and protect shareholder value by means of a strategic management approach which includes risk management (Frigo & Anderson, 2011; Louw & Venter, 2010). Risk management has been practiced for thousands of years but has only become prominent in the 21st century, following tragic events such as the terrorist attacks on the Twin Towers and the financial scandals and disasters of leading business enterprises such as WorldCom, Enron and Lehman brothers, to name but a few (Fraser & Simkins, 2010; Rejda, 2011).

Risk management can be defined as the architecture for the effective and efficient management of risks (International Organization for Standardization [ISO], 2009). Originally organisations practiced risk management by following a silo approach, which entailed that each risk was identified individually and treated in isolation (Chapman, 2011). However, in modern times, organisations do not make use of the silo approach, but rather employ the enterprise risk management approach. With enterprise risk management (ERM), risks are managed in a coordinated and integrated fashion across an entire business enterprise. This allows for the

acknowledgement of the interdependencies between risks and therefore improves the overall risk management process (Chapman, 2011).

As risk management has grown in importance, so corporate governance has become important for any organisation seeking to remain relevant, competitive and sustainable. Corporate governance is defined as the system by which an organisation is directed and controlled (Keasey, Thompson & Wright, 2005). Corporate governance forms an essential component of enterprise risk management, as it provides for the top-down monitoring and management of risks (Chapman, 2011).

The risk management process discussed for the purpose of this study was adopted from the International Organization for Standardization (ISO), as this model is considered to be the finest model developed so far (Fraser & Simkins, 2010; ISO, 2009; Rejda, 2011). According to this model (Fraser & Simkins, 2010), the risk management process consists of six steps:

- establishing a context;
- risk assessment;
- risk treatment,
- monitoring and reviewing;
- communication and consultation; and finally
- recording the entire process.

The risk classification that exists within organisations is important as it enables organisations to grasp the extent and importance of each risk type. Within the current study, risks were classified to belong to a wide range of categories, which highlights the existence of the broad spectrum of risks organisations are confronted with and are required to manage accordingly.

The study however focused on fraud risk and the management thereof in the private hospital sector of South Africa. It is therefore appropriate to provide an overview of the healthcare sector and more specifically the private hospital sector of South Africa.

The healthcare sector or medical sector is an aggregation of sectors within the economic system that provides goods and services to treat patients with curative,

preventive, rehabilitative and palliative care. The modern healthcare industry is divided into a broad spectrum of sectors and is dependent on interdisciplinary teams of trained professionals and paraprofessionals to meet the health needs of individuals and populations (Anderson, 2013; Basu *et al*., 2012).

The delivery of healthcare services can be divided into three categories, namely primary care, secondary care and tertiary care. Primary care refers to the work of healthcare professionals who act as the first point of consultation with patients within the healthcare system. Secondary care refers to the work done by specialists such as cardiologists, urologists and dermatologists to whom patients are referred by primary healthcare professionals. Tertiary care comprises specialised consultative healthcare which is made available to inpatients and on referral from a primary or secondary healthcare professional in facilities that promote and enable sound medical inspection and treatment (WHO, 2011).

Apart from the various categories into which the healthcare sector can be divided, it is important to distinguish between a public and private hospital sector. A private hospital refers to a facility which is owned and governed by a private entity, whereas public hospitals are entirely funded and operated by a government body (Simaya & Malandela, 2011).

This study report provides both an international as well as a South African perspective on the manner in which risk management occurs with the private hospital sector. The areas of interest include:

- the risk management hierarchy;
- the risk management process; and
- the classification of risks.

Internationally as well as in South Africa, private hospitals do not necessarily classify and manage fraud risk as a separate risk category. This is addressed in the problem statement of the study.

1.3 PROBLEM STATEMENT

Since the 2007 global financial crisis, numerous corporate collapses and corporate frauds have transpired, resulting in the devotion of significant amounts of management attention within organisations towards the recognition and management of fraud risk (Samociuk & Iyer, 2010).

The King III Report on Corporate Governance in South Africa states that an acceptable and appropriate methodology ought to be adopted by organisations to identify, respond to and monitor risks (Ernst & Young, 2009).

Literature, however, identifies that the risk of fraud in the private hospital sector across the globe, as well as in South Africa, is a problem; yet, fraud risk might not be appropriately dealt with. The current study thus investigated how private hospitals in South Africa manage fraud risk. This leads to the research questions of this study.

1.4 RESEARCH QUESTIONS

Based on the problem statement, the following primary research question was formulated:

- How do private hospitals in South Africa manage fraud risk?

From the primary research question, the secondary questions were derived:

- Are there problem areas in the management of fraud risk within South African private hospitals that need to be addressed?
- How can private hospitals in South Africa improve their risk management practices regarding fraud risk?

1.5 OBJECTIVE OF THE STUDY

The King III Code of Governance Principles is applicable to all entities in South Africa regardless of the manner and form of incorporation or establishment and whether in

the public, private or non-profit sectors (Institute of Directors in Southern Africa [IoDSA], 2009). According to the Listing Requirements of the Johannesburg Stock Exchange (JSE), it is a formal requirement that a policy and plan for a system of risk management should be developed by organisations (IoDSA, 2009). It is therefore evident that all companies, including private hospitals, need to monitor and manage risk effectively in their organisations. The management of risk furthermore includes the management of fraud risk. The following primary and secondary objectives were therefore formulated.

1.5.1 PRIMARY OBJECTIVE

The primary objective of this study was to explore the management of fraud risk within the South African private hospital sector.

1.5.2 SECONDARY OBJECTIVES

The secondary objectives were to:

- identify problem areas (gaps) in the management of fraud risk in the South African private hospital sector; and
- to provide appropriate recommendations in order to address and improve the identified problem areas.

1.6 IMPORTANCE OF THE STUDY

This study focused on the management of fraud risk in the South African private hospital sector. Whether they be organisations, management staff, patients, hospital staff, specialists, medical aid providers and their members, investors, society or any other external stakeholder, all will benefit from effective management and mitigation of fraud risk within the private hospital sector.

Research conducted by the Centre for Counter Fraud Studies at the University of Portsmouth in the United Kingdom found that 7.29% of the annual global healthcare

expenditure or an estimated US$415 billion[1] is lost to fraud each year, whereas in South Africa, it was found that fraud in the healthcare sector amounted to between 4 and 8 billion rand per year (Jones & Jing, 2011). The mitigation and elimination of fraud risk will be beneficial to organisations and management staff as it will contribute towards the ultimate goal of creating shareholder wealth and achieving sustainable business operations (Elahi, 2010; Gavare & Johansson, 2010). Patients will benefit as a better quality of service will be provided. Medical aid providers and investors will benefit as a result of the elimination of additional costs. The reason being that the ultimate cost of healthcare fraud is covered by members of medical schemes who pay their monthly contributions towards their medical cover. This monthly contribution increases the cost of providing insurance benefits to employees and in turn increases the overall cost of doing business (Ramjee, Vieyra, Abraham, Kaplan & Taylor, 2013). In addition, investor confidence may be promoted, whereas risk management procedures and ethical behaviour amongst medical personnel and hospital personnel may be improved.

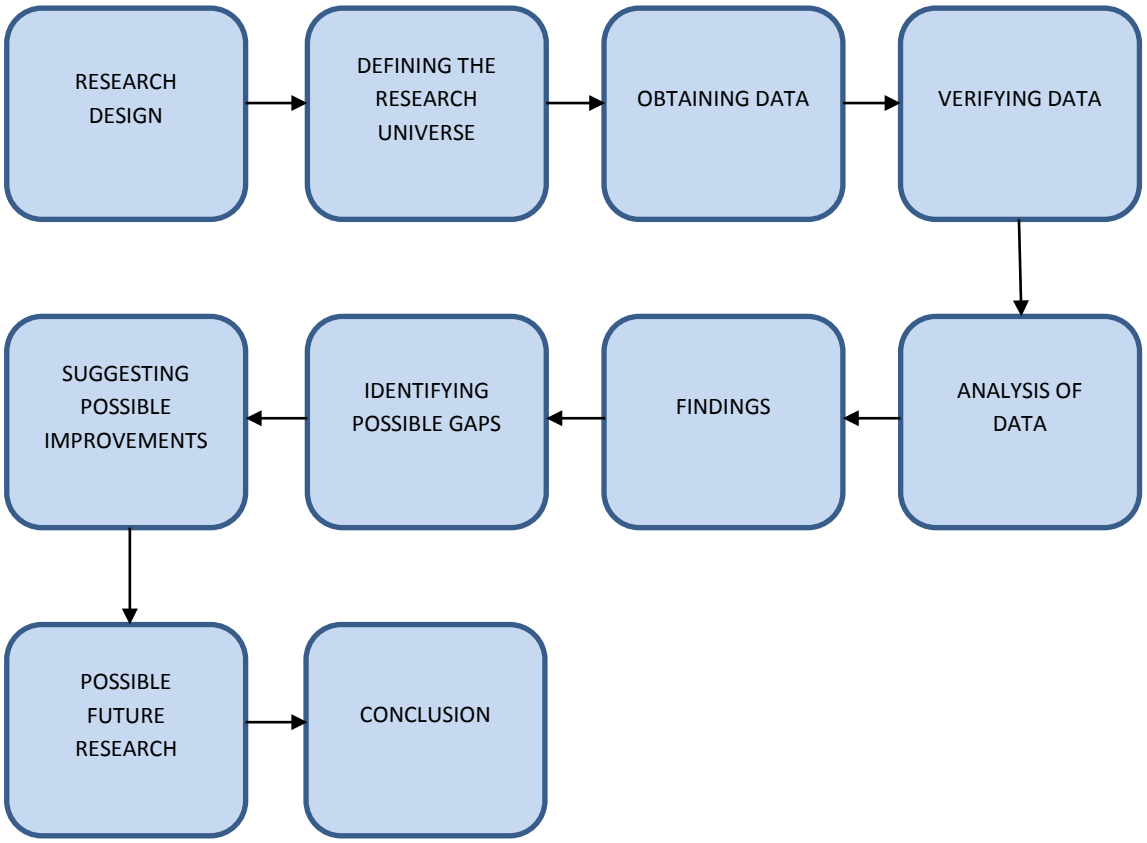
During this study, private hospitals in South Africa were examined with regard to their fraud risk management practices to identify possible problem areas and to provide potential suggestions for improvements. The study consequently intended to contribute towards the body of knowledge regarding risk management, particularly the management of fraud risk in the private hospital sector.

1.7 METHOD OF INVESTIGATION

In an attempt to accomplish the intended objectives of this study, the following research methodology was employed, illustrated in Figure 1.1:

[1] US$415 billion is equal to R4660 billion. Rand/Dollar exchange rate on 2014/11/12 was R11.23 (Standard Bank, 2014).

Figure 1.1: Research methodology employed



Source: Author, 2012 (Adopted from: Flick, 2011)

1.7.1 Research design

The research arose from the perceived need to understand, evaluate, manage and possibly mitigate fraud risks in South African private hospitals.

According to Saunders, Lewis and Thornhill (2007), a research design is imperative for any study in order to accomplish the research objectives. A research design is described by Blumberg, Cooper and Schindler (2011) as the plan and structure of investigation so conceived as to obtain answers to the research question.

For this study, a non-experimental, descriptive research design was followed. The research design was furthermore of a quantitative nature. Quantitative methodologies measure knowledge, opinions or attitudes and therefore the data of these methodologies often consist of participant responses that are coded,

categorised and reduced to numbers in order to enable statistical analysis (Cooper & Schindler, 2008).

The data required for this study were collected from primary and secondary sources. A literature review of secondary sources was conducted in order to establish the theoretical background and context to the study. The primary data were collected by means of a questionnaire and consequently served as the research instrument for the study. From the work by McDaniel, Lamb and Hair (2008) as well as Krathwohl (1998), it became apparent that for the purpose of this study, purposive sampling would be the most appropriate sampling technique to be used in order to collect the required data. This non-probability sampling technique was consequently implemented for this study. The analysis of the data included descriptive as well as inferential statistical analysis techniques, as recommended by Boslaugh (2013) and Zikmund, Babin, Carr and Griffin (2013).

1.7.2 Research instrument

The research instrument that was used for this study was a questionnaire. Collecting data by means of questioning is acknowledged by Crowther and Lancaster (2009) as being one of the most effective ways of collecting data. The questions included in the questionnaire consisted of closed-ended, open-ended as well as scale-response questions (cf. Cooper & Schindler, 2008). The questionnaire was subjected to a pilot test, involving a representative group of 10% of the sample group. In addition the questionnaire was distributed amongst colleagues within the department of Finance, Risk Management and Banking at UNISA in order to provide supplementary feedback on the accuracy and quality of the questionnaire.

A 5-point Likert-type scale was the measuring instrument employed in this study. According to DeVillis (2012), a Likert-type scale is the most accurate and strongest measure when assessing the perspectives of a population. In addition, a 5-point Likert-type scale enabled the testing for normality (cf. Bezzina, Grima & Mamo, 2014), which strengthened the reason for employment.

1.7.3 Reliability and validity

Reliability refers to the quality of the measurement method, which suggests that identical data would be collected at every occasion if repeated observations of the exact same phenomenon were to be conducted (Babbie, 2008). According to Gill and Johnson (2010), reliability is closely related to consistency, which is the extent to which the measuring tool will deliver similar results when applied multiple times to the same phenomena under similar conditions. The reliability of the data was ascertained by means of conducting pilot-testing of the questionnaire utilised for the purpose of this study (Lavrakas, 2008; Remenyi, Williams, Money & Swartz, 1998).

Ghosh and Chopra (2003) define validity as “an absence of self-contradiction”. Validity relates to the extent to which the data collection method or research method describes or measures what it is supposed to describe or measure (Crowther & Lancaster, 2009). Validity consequently refers to the accuracy of the measurement process. The collection of data by means of a questionnaire is valid with regard to the objective of this study.

1.7.4 Defining the research universe

In the section below, an overview of the research universe will be provided.

1.7.4.1 Population

The private hospital sector of South Africa is predominately owned by three major hospital groups, namely Netcare Limited, Mediclinic and Life Healthcare. The population of this study thus encompassed private hospitals belonging to these three private hospital groups. Collectively, 170 private hospitals are owned by the abovementioned private hospital groups, which subsequently represented the population for the study (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

1.7.4.2 Sampling

For the purpose of this study, a non-probability sampling method in the form of purposive sampling was chosen. With this sampling method, the researcher decides upon the individual elements to be included in the study, based on a variety of criteria. These criteria are specialist knowledge of the research problem, accessibility, capacity and willingness to participate in the research (Krathwohl, 1998; McDaniel *et al.,* 2008).

Participants included in the study were required to have a holistic view of their organisations and had to be familiar with risk management within private hospitals and had to have an important role in this regard. For this reason, the participants included in the study comprised management staff at head office level as well as management staff at hospital level. This included risk managers, risk analysts, hospital managers, general managers, line managers as well as general physicians involved in management responsibilities at the private hospitals.

Hospitals were selected based on the number of hospital beds per hospital. Hospitals with fewer than a hundred beds were excluded from the sample. This exclusion was made because small hospitals (with fewer than a hundred beds) often lack well-developed risk management practices and procedures and consequently would not have been able to provide meaningful results[2]. To this end, a total of 40 private hospitals were included in the sample.

1.7.5 Obtaining data

To initiate the communication with the private hospitals and to create awareness of the research project, the hospital managers of every private hospital included in the sample were contacted telephonically. The background to and an overview of the study were provided, with the ultimate purpose of setting up a formal meeting with key stakeholders of each private hospital group.

[2] This information was obtained during the telephonic conversations with hospital managers of the participatory private hospitals included in the sample.

During meetings with these stakeholders, more detailed background to the study was provided, comprising of –

- the presentation of the research problem;
- the research objectives;
- the research purpose;
- the research methodology; as well as
- the importance of the study.

From these meetings, the e-mail addresses of potential participants were obtained, which were then utilised to distribute the questionnaires.

On receipt of the completed questionnaires, all the questionnaires were printed and safely stored by the researcher. The completed questionnaires were also safely stored on an external hard drive for back-up purposes. The data were collected in an ethical manner. The ethical considerations are discussed in section 1.9 of this chapter as well as in Chapter 5 of this research report.

1.7.6 Analysing data

The completed questionnaires were inspected to ensure that all the questions had been answered. All the questions in the questionnaire were coded, except for questions 6.2, 6.4, 7.2, 9.3, 10.3, 10.4. 13.1 and 13.2, as these were open-ended questions. The data were captured on an Excel spreadsheet and the SPSS statistical package was utilised for the analysis of the data.

The descriptive statistical analysis was performed where the data were summarised and presented by means of bar charts and pie charts, as recommended by Cooper and Schindler (2008) and Zikmund *et al*. (2013). The next phase was to conduct the inferential statistical analysis and to develop and test hypotheses forthcoming from the statistics. The data analysis and findings are presented in Chapter 6 of this research report.

1.8 LIMITATIONS AND DELIMITATIONS

The research was limited to private hospitals in South Africa. The data obtained were therefore not relevant for analysis and interpretation of the public hospital sector. The private hospital population of South Africa comprises a total of 209 private hospitals (Econex, 2013). Due to a number of constraints such as time, geographical challenges and budget, a non-probability sampling method was used in order to select the participating private hospitals. The limitations of the study are addressed in detail in the final chapter of the study (see section 7.8).

1.9 RESEARCH ETHICS

The study adhered to the policy on research ethics of the University of South Africa (UNISA) as available from the university's website (Unisa, 2014).

Diener and Crandall (1978) indicate four main areas to ensure that research is conducted in an ethical manner, namely not harming participants, the lack of informed consent, whether there is no invasion of privacy and whether no form of deception is involved. These areas were all adhered to in order to ascertain that the research was conducted in an ethical manner.

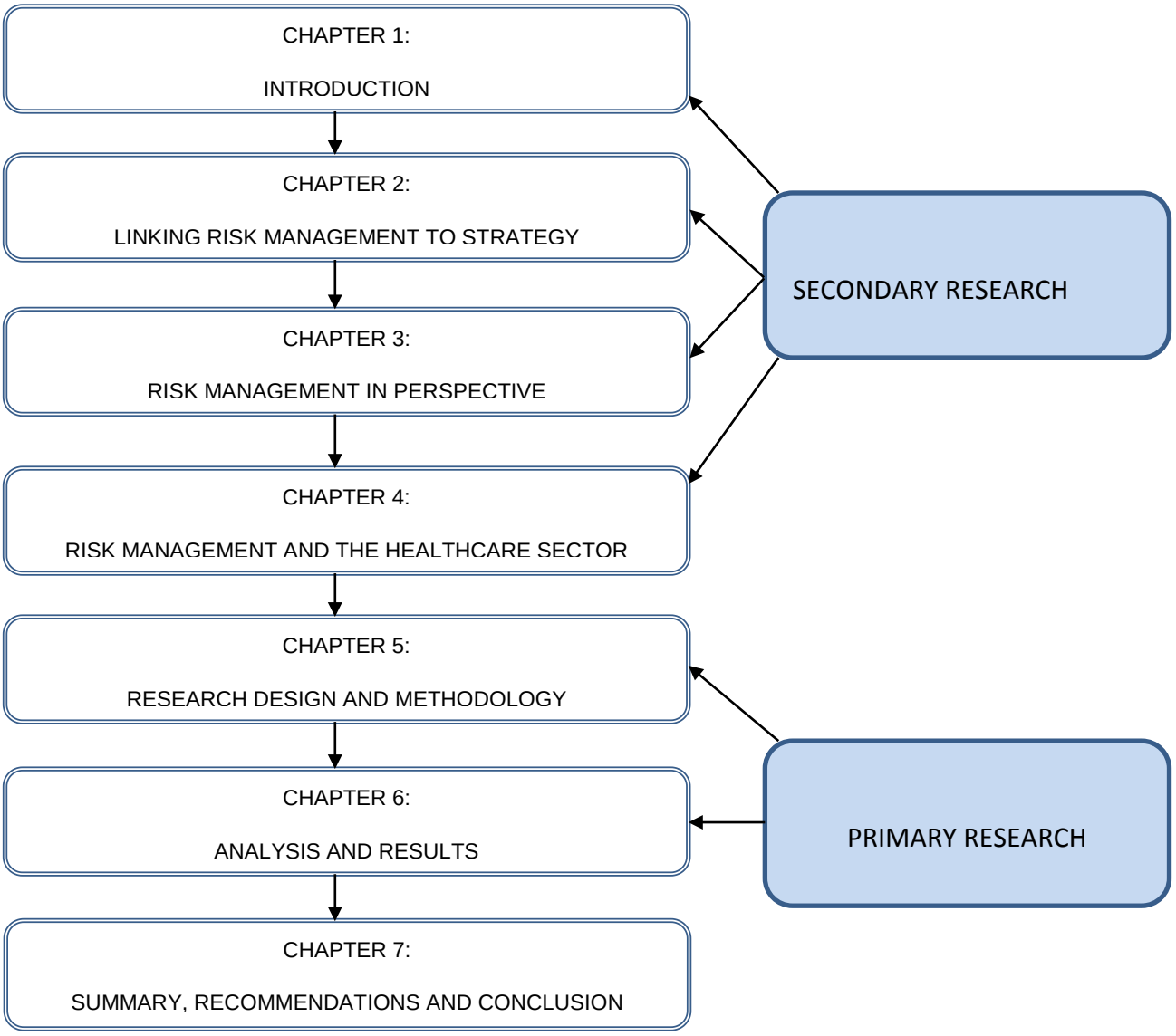
Permission from the private hospital groups of South Africa was obtained, in order for their hospital staff to participate in the study. The purpose and the benefits of the research were explained to the participants beforehand (Cooper & Schindler, 2008). The participants' rights and protections were explained in detail and informed consent was obtained. The study did not intend to harm participants in any way. No form of deception was involved. The study adhered to the principle of protecting participants' right to privacy and an assurance of confidentiality was given. The identity of the participants and the participatory private hospitals will remain anonymous. No information that may lead to the disclosure of the names of any of the participating private hospitals will be included in this research report. The collected data will be stored safely by the researcher for a period of five years and will then be destroyed (Cooper & Schindler, 2008).

The study also adhered to the relevant ethical clearance procedures of the University of South Africa (Unisa). Please refer to Appendix E for a copy of the ethical clearance certificate, which was obtained prior to commencing the study.

1.10 STRUCTURE OF THE STUDY

In this section, the layout of this study is presented, followed by a brief description of the content of each chapter. Figure 1.2 outlines the logical flow of the chapters, which are subsequently briefly discussed.

Figure 1.2 : Structure of the study



Source: Author, 2012

Chapter 1 serves as an introduction to the research report. In this chapter, a background to the study is provided. Perspective is provided on the important connection that exists between risk management and strategy setting within organisations. Risk management has been found to play a significant part in the achievement of a competitive advantage and the sustainability of organisations.

The problem statement is identified, followed by the research objectives, from which the research questions were derived. The importance of the study is explained followed by an introduction to the methodological approach that was adopted to conduct the research. The chapter concludes with the ethical considerations and limitations of the study.

In Chapter 2, the concepts of competitive advantage and sustainability are explained, followed by a description of what a strategic management approach involves. The chapter concludes by clarifying the connection that exists between risk management and strategy setting within organisations.

Chapter 3 is the second literature review chapter. Chapter 3 offers a literature review on the concept of risk and discuss risk management, the historical development of risk management, enterprise risk management, corporate governance, the risk management process and the classification of risk. A theoretical background and a perspective and understanding of risk and risk management within organisations are provided, followed by information on the development of enterprise risk management. Corporate governance is also addressed with specific reference to its contribution towards the evolvement of risk management. The risk management process is then systematically addressed, and the chapter concludes with a classification of risks.

Chapter 4 provides a broad overview of the healthcare sector. Specific attention is devoted to the private hospital sector of South Africa. This chapter continues with a discussion of the ways in which risk management occurs in the private hospital sector. This is done by providing an international as well as a South African perspective on risk management in the private hospital sector.

Chapter 5 addresses the research methodology that was implemented for the purpose of this study. The chapter consequently provides information on the

suggested methodology that was employed throughout the study, in order to achieve the research objectives. This includes a discussion of the research design, the data type, the research instrument, the levels of measurement, the characteristics of good measurement which include validity, reliability and practicality, the population of the study, sampling techniques used, the collection of data, the analysis of data and, finally, ethical considerations.

In Chapter 6, the analysis of data and results of the study are addressed. Both descriptive and inferential analyses were utilised in order or to assess the primary and secondary objectives of this study. This consequently serves as an introduction to the final chapter.

Chapter 7 provides a summary of the study. In this regard, a review of the literature is provided, the findings are summarised and synthesis is achieved. Recommendations in order to address and possibly improve the management of fraud risk within private hospitals in South Africa are provided. Opportunities for further research are also addressed, which will enable fellow researchers to make further contributions to the research topic.

1.11 SUMMARY

Chapter 1 provided an introduction and outline of the study. It was highlighted that any organisation ought to have a strategy in order to be successful, which include the two important concepts of competitive advantage and sustainability. Part of the strategy setting within organisations should comprise an effective risk management approach. The current study emphasised the need to manage fraud risk within the private hospital sector. A problem statement was formulated. Based on the problem statement, the research questions were formulated, followed by the primary and secondary objectives.

This study focused on South African private hospitals, as this sector has been found to make a significant contribution towards the South African economy (Econex, 2013; WHO, 2011). In order to accomplish the objectives of this study, the research methodology was presented, namely an overview of the research design, the

research instrument, the research universe and the collection and analysis of data. Attention was further given to the limitations of the study and the research ethics. The chapter is concluded by presenting and explaining the structure of the study.

The next chapter will consider the relationship that exists between risk management and strategy. In doing so, important concepts will be explained, such as competitive advantage and sustainability.

CHAPTER 2

LINKING RISK MANAGEMENT TO STRATEGY

2.1 INTRODUCTION

In view of the opportunities and threats facing any organisation, as well as having to manage the organisation's own strengths and weaknesses, top management is required to deploy a strategy (Louw & Venter, 2010). As a result, top management is required to have a vision for the firm and needs to formulate a mission statement that would provide a clear indication of the reason(s) for the existence of the organisation and its sphere of influence that are inspiring for all its employees (Hitt, Ireland & Hoskisson, 2009). Typically during the formulation of its strategy, top management is required to evaluate the strengths, weaknesses, opportunities and threats facing the firm (the so-called SWOT analysis) prior to formulating its strategy.

The strategy can either be to follow a cost leadership, differentiation or a focus strategy.[3] A cost leadership strategy entails being the lowest cost producer in the industry as a whole. A differentiation strategy aims to exploit a product or service which is perceived to be unique within the industry as a whole. However, rather than competing across the industry as a whole, a firm can concentrate on a more narrowly defined segment. A focus strategy is found where an organisation concentrates its activities on one or more particular segments of the market and thereby does not attempt to serve the entire market (Porter, 1996). The strategy that the organisation pursues is aimed at ensuring both competitive advantage and sustainability.

The purpose of this chapter is to explain the concepts of competitive advantage and sustainability, followed by a description of what a strategic management approach involves, and finally the link between risk management and strategy is explained. Attention will first be given to the concepts of competitive advantage and sustainability.

[3] The literature also refers to numerous other strategies, but in the interest of brevity, only the generic strategies are mentioned here. Others may include the competitive forces approach (Porter, 1996), the balanced scorecard (Kaplan and Norton, 2007) and end-game strategies (Myerson, 1997).

2.2 THE CONCEPTS OF COMPETITIVE ADVANTAGE AND SUSTAINABILITY

The goal of management strategies is to ensure that a competitive advantage is achieved and that the sustainability of the organisation is ensured. Since these concepts are the cornerstones of management strategy, the next section explains the concepts of competitive advantage and sustainability.

2.2.1 Competitive advantage

Competitive advantage refers to a situation in which an organisation earns a higher rate of economic return than the average competitor (Gottschalg & Zollo, 2007). However, this is not the only definition found in literature.

Peteraf and Barney (2003) define competitive advantage as a condition that occurs when an entity is capable of creating more economic value than the marginal (breakeven) competitor. Campbell, Coff and Kryscynski (2012) agree with Peteraf and Barney's view and elaborate on this outlook by stating that organisations are positioned to sustain such an advantage when isolating mechanisms hinder their rivals from acquiring key resources.

According to the views of Lippman and Rumelt (1982) and Gottschalg and Zollo (2007), the sustainability of competitive advantage depends on the presence of isolating mechanisms that limit the competition's ability to imitate or substitute. Teece, Pisano and Shuen (1997) argue that only the superior ability to innovate continuously in products and processes leads to continuous competitive advantage. Gottschalg and Zollo (2007) have the same opinion on this matter.

Owing to the dynamics in the business environment, Eisenhardt and Martin (2000) are of the opinion that long-term competitive advantage can only be achieved when organisations develop and apply capabilities sooner and more astutely than competitors. An organisation has a competitive advantage when it implements a strategy competitors are unable to duplicate or find too costly to try to imitate (Hitt *et al*., 2009).

With regard to strategy, Louw and Venter (2010) comment that an organisation could achieve a competitive advantage through value creation by means of a low-cost

strategy, or by adopting a differentiation strategy. With a low-cost strategy, the emphasis is on lowering production costs, whereas with a differentiation strategy, the primary focus is on creating superior quality through increased product differentiation and attractiveness (Ehlers & Lazenby, 2010).

A resource only becomes a competitive advantage when it is applied to an industry and brought to the market (Delmas, 2001). In this context, one may consider risk management to be a resource. This resource ought to be actively and accurately managed to be of value for organisations and to serve as a tool to sustain and create additional value (Elahi, 2010; Delmas, 2001).

From an investment perspective, Buehler, Freeman and Hulme (2008) argue that engineering and managing an entity's evolving risk portfolio have become an organising principle for strategic choice, whereas companies that succeed in doing this generate far higher returns on their equity than those competitors that stick with their traditional portfolios.

From a risk management perspective, Buehler *et al.* (2008) state that organisations ought to focus on managing and even acquiring risks for which they are competitively advantaged. Buehler *et al*. (2008) argue that risk management is a management tool which, if properly employed, could create competitive advantage and ensure sustainability for organisations. Elahi (2010) confirms this view, stating that proper risk management capabilities could lead to competitive advantage.

In consequence of the perspectives reflected above, the probability of achieving strategic competiveness in the competitive landscape is enhanced for entities that realise and acknowledge that their survival depends on the ability to practise and execute risk management in an effective and efficient manner. By doing this, the sustainability objectives of the organisation will be enhanced (Elahi, 2010).

From the aforementioned it should be clear that a competitive advantage aids to ensure the sustainability of an organisation, especially when or if a sustainable competitive advantage is found that could not easily be emulated by competing firms. In the next section, attention is given to the concept of sustainability.

2.2.2 Ensuring sustainability

Sustainability can be described by employing the concept of the triple bottom line. The triple bottom line was first introduced in 1997 by a leading sustainability consultant, Elkington (Anderson, 2006).

For business organisations, the triple bottom line comprises the traditional bottom line- financial performance, the organisation's environmental record, as well as its social responsibility efforts in treating employees, communities and greater society in a fair and equitable manner (Carter & Rogers, 2008).

From a financial management perspective, sustainability refers to the management of the organisation's resources in such a manner at a certain time that it will ensure value creation in future. Crowther (2002) argues that, in order for organisations to achieve sustainability, they ought to utilise resources in a responsible manner which will ensure longevity for both the organisation and its resources. Callens and Tyteca (1999) commented that, in an economic sense, sustainability refers to an organisation's duty to reduce unemployment and rely on long-term indicators to measure success.

Lozano (2007) suggests that collaborative approaches could contribute to building stronger and more sustainable organisations. He argues that incorporating integral thinking of economic, environmental and social aspects in both short- and long-term processes should contribute to promoting organisational sustainability.

Aras and Crowther (2008) are of the opinion that a sustainable company will only exist by recognising environmental and social issues and incorporating them into its strategic planning. They expand the triple bottom line approach by suggesting that there are four aspects of sustainability for organisations that need to be recognised and analysed, namely social influence, environmental impact, organisational culture and finance. In their opinion, these four aspects are considered the key dimensions of sustainability, all of which are equally important for organisational success (Aras & Crowther, 2008).

From a risk management perspective, sustainability relates to the management of risks in such a manner that ensures longevity, growth and investor confidence for the organisation (Elahi, 2010).

For organisations to survive in the long term in a volatile and uncertain environment, in other words attaining organisational sustainability, they ought to manage all risks in a comprehensive, systematic and responsible manner (Gavare & Johansson, 2010). Risk is an important concept in the management field of finance, operations and human resources. Gavare and Johansson (2010) further acknowledge that sustainability issues are examined within a risk management framework.

In addition, corporate sustainability is a business approach to create long-term shareholder value. Sustainability leaders embrace opportunities and manage risks which derive from economic, environmental and social developments. Risk management correlates with sustainability, which in return can reduce overall costs, increase profits, produce competitive advantages, improve reputations, increase the share price and result in greater financial gain for the organisation and its shareholders (Anderson, 2006). As a result, the triple bottom line of the organisation is improved. This of course equates to the survival of and prosperity for the organisation.

To this end, a strategic management approach has to be adopted by top management. Hence, the process of strategic management is explained in the next section.

2.3 STRATEGIC MANAGEMENT

Before strategic management is discussed and explained one first needs to understand the meaning and purpose of strategy in an organisational context.

The concept of strategy dates back to ancient Athens of 500 BC and has always been considered to be a key element of managerial activity (Louw & Venter, 2010). According to Johnson *et al.* (2008), strategy is the direction and scope of an organisation over the long term, which achieves advantage in a changing environment through the organisations configuration of resources and competencies with the aim of fulfilling stakeholder expectations. Hitt *et al.* (2009) define a strategy as an integrated and coordinated set of commitments and actions designed to exploit core competencies and gain a competitive advantage. Chapman (2011) comments

that risk management ought to support both the selection and setting of the strategy, as setting a strategy is all about directing, indicating the way ahead and providing leadership to the organisation.

Without a strategy the organisation is like a ship without a rudder, floating around without any direction. Strategies are the routes that will take the organisation to its destination (Louw & Venter, 2010).

Now that a concise understanding on the importance of a strategy have been provided attention will be devoted to a discussion of strategic management.

According to the views of Nag, Hambrick and Chen (2007), strategic management entails specifying the organisation's mission, vision and objectives, developing policies and plans, which are designed to achieve these objectives, and then allocating resources to implement the policies and plans. Lamb, Robert and Boyden (1984) define strategic management as the identification of the purpose of the organisation and the plans and actions to achieve the purpose. According to Swayne *et al.* (2008), strategic management is fundamental in leading organisations in dynamic environments, providing the required direction and momentum for change. Strategic management is concerned with the overall effectiveness and choice of direction in a dynamic, complex and ambiguous environment (Louw & Venter, 2010).

Gavare and Johansson (2010) argue that the demands, wants and expectations of stakeholders should become an accepted input for strategic management. In their view, strategic management entails the setting of managerial decisions and actions that determine the long-term performance of the business enterprise.

Hamel (2002) claims that the role of strategic management is to identify core competencies and then assemble assets that would increase value added and provide a competitive advantage. Hitt *et al.* (2009) further maintain that strategic competitiveness is only achieved when an organisation has developed and learned how to implement a value-creating strategy. Louw and Venter (2010) argue that strategic management encompasses more than just strategic decision-making and the strategic planning process. It also has to ensure that the strategy is implemented, in other words that the strategy of the organisation is working in practice.

Hitt *et al*. (2009) comment that a strategic management process is the full set of commitments, decisions and actions required for an organisation to achieve strategic competitiveness and earn above-average returns. The initial step in the process is to analyse the organisation's external and internal environments and to determine its resources, capabilities and core competencies, the source of its 'strategic inputs'.

With this information, the organisation could then develop its vision and mission and formulate its strategy (Hitt *et al*., 2009). Elahi (2010) points out that, before an organisation can employ risk management capabilities as a source of competitive advantage, the required capabilities must first be acquired and aligned with the strategy of the organisation.

Just as a strategy ought to be formulated in the context of the organisation that will be expected to execute it, so strategic risk management can occur only if the organisation is aligned from top to bottom with a common understanding of the key risks and overall level of exposure of the company (Buehler *et al.*, 2008).

Strategic risk management is however a process of identifying, assessing and managing risks and uncertainties that could inhibit the organisation's ability to achieve its strategy and strategic objectives (Ehlers *et al.,* 2010). It requires a strategic view of risk and consideration of how external and internal events or scenarios will affect the ability of the organisation to achieve its objectives. It should be kept in mind that strategic choice is an on-going process rather than an event, and requires flexibility. The ultimate goal for any organisation is one of creating and protecting shareholder and stakeholder value (Frigo & Anderson, 2011; Louw & Venter, 2010). This consequently contributes towards the achievement of a sustainable competitive advantage and therefore making organisational sustainability a reality.

The strategic management approach that was used for the purposes of this study was based on the model of Louw and Venter (2010).

Strategic decisions are made at three levels, which are graphically portrayed in Figure 2.1. Each level of strategy has a different focus and involves different parties of the organisation.

Figure 2.1: Levels of strategy

Source: Louw and Venter (2010)

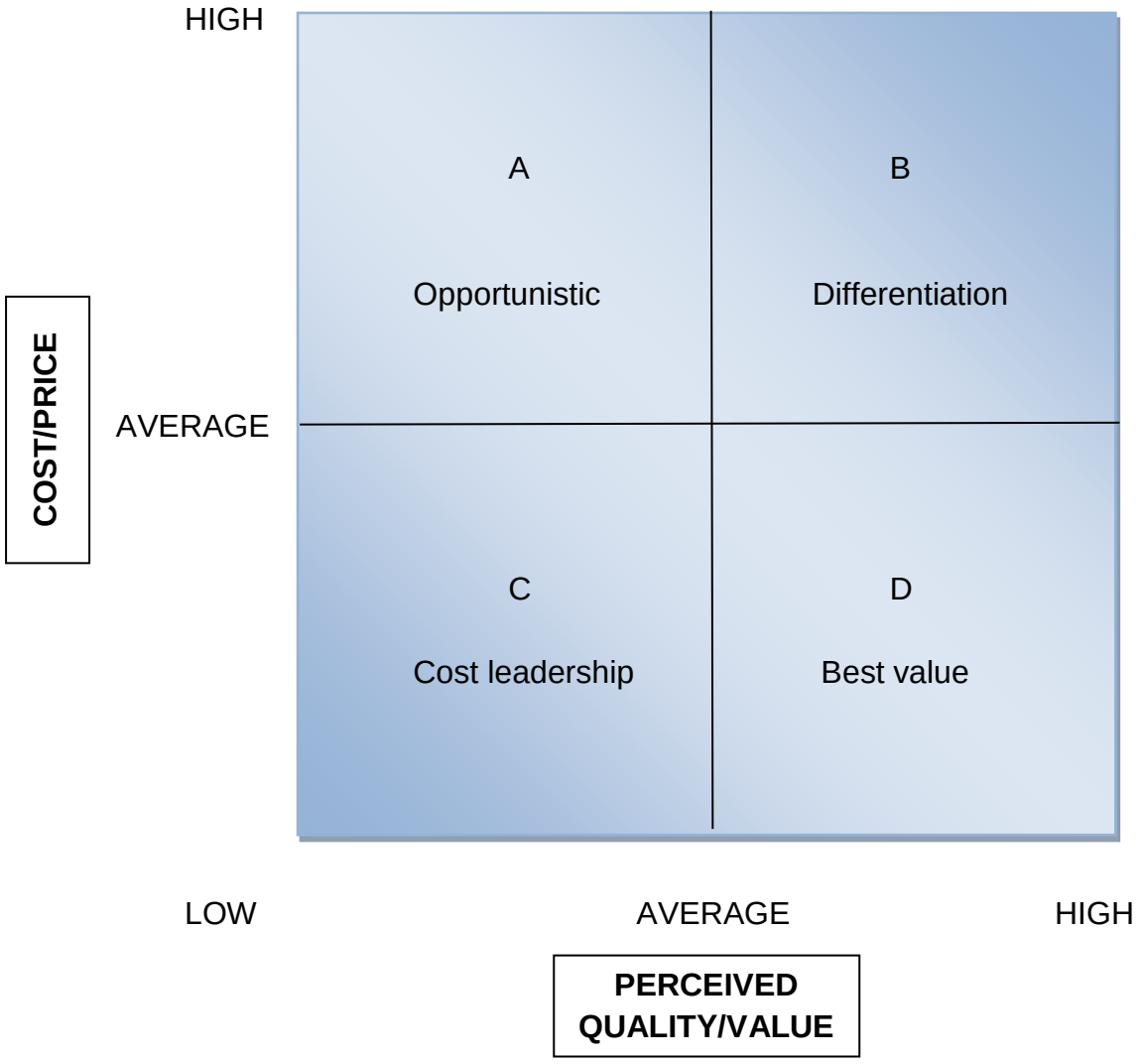
Corporate level strategy is concerned with the overall scale and scope of the organisation. Business-level strategy, also referred to as competitive strategy, describes the manner in which an organisation ought to compete successfully in particular markets. Business-level strategies deal with the positioning of organisations in the market in order to achieve competitive advantage and long-term survival. Operational-level strategies are concerned with how the component parts of an organisation deliver the corporate- and business-level strategies. Operational strategies deal predominantly with strategies in the short to medium term (Louw & Venter, 2010).

For the purpose of this study, further attention will be given specifically to business-level strategies, as business-level strategies are responsible for the manner in which an organisation intends to compete in a specific industry by positioning the organisation in an environment that brings a competitive advantage (Bowman & Helfat, 2001; Louw & Venter, 2010).

In most cases, being successful in the market is the result of deliberate actions an organisation seize to seek and secure sustainable a competitive advantage (Chen,

McDonald & Eisenhardt, 2010; Louw & Venter, 2010). These strategies relate to the organisation's decisions on how to meet the needs of their customers, how to counter competitive efforts from rivals, how to deal with current market conditions and how to sustain and build a competitive advantage (Louw & Venter, 2010). Figure 2.2 depicts these strategic options diagrammatically. This diagram forms the framework for the discussion below of the business-level strategies. In Figure 2.2, the y-axis represents the cost/price component and the x-axis represents the perceived quality or value.

Figure 2.2: Business level strategies



Source: Louw and Venter (2010)

The four quadrants of Figure 2.2 will now be discussed:

- Opportunistic strategy (Quadrant A)

  In a situation when high/value cost is coupled with a low perceived quality or value, one finds a monopolistic position. An example to illustrate these conditions is typically found in a local government organisation or the electricity provider, Eskom. The poor service delivery and rate increases South African citizens and companies experienced during 2008 and 2009 demonstrate the opportunistic approach that was pursued by Eskom. It is however important to note that strategies in this quadrant are generally not sustainable (Louw & Venter, 2010).

- Differentiation strategy (Quadrant B)

  An organisation pursuing a differentiation strategy seeks to produce products and services which are considered to be unique across the industry. A differentiation strategy may be achieved in a number of ways:

  - The uniqueness may be based on dimensions widely valued by customers. In this case, the objective is to achieve a higher market share than competitors, which in return could yield cost benefits by offering improved products or services at matching price.
  - Alternatively, the aim could be to enhance margins by pricing slightly higher than other competitors in the market. For this strategy to be successful, additional investment in research and development as well as design expertise is required. This will ensure that products are improved in ways that render them unique.
  - Another approach could be to demonstrate the manner in which the product or service serves customer needs better than competition. With this approach, emphasis is placed on the power of the brand/trademark by implementing promotional approach activities.
  - The final approach could be for the organisation to support its differentiation efforts regarding the organisation's own expertise and competencies (Louw & Venter, 2010).

The extent to which the different variations in a differentiation strategy will be successful is likely to be dependent on a number of factors:

- a clear identification of the customer is required;
- an understanding of what is valued by customers or what customers are willing to pay for is important;
- a clear identification of competition is required
- an awareness of the globalisation of markets and the possible consequences, which refers to the difficulty in identifying relevant competitors as markets tend to globalise, is necessary; and
- the ease with which competition could imitate the organisation's products or services should be considered. An organisation may have to reconsider its strategic options if the bases of a specific strategy can easily be duplicated by competitors.

- Cost leadership or low-cost provider strategy (Quadrant C)

This strategy comprise of the under-pricing of competitors. The motivation for implementing this strategy is to gain a competitive advantage over competitors by maintaining a lower overall cost base. This is achieved by the mass production of a standardised product or service and marketing it at a competitive price due to economies of scale. It combines a low price and low perceived added value and focuses on a price-sensitive market. This strategy can be viable because there may well be a segment of the market which, while recognising that the quality of the product or service might be low, cannot afford or chooses not to buy the higher-quality goods. This, however can only be realised if the organisation's product or service appeals to a broad spectrum of customers (Louw & Venter, 2010).

- Best-value strategy (Quadrant D)

This strategy seeks to achieve a lower price than the competition whilst striving to maintain products and services of similar quality. If the organisation's objective is to achieve a competitive advantage through a low-price strategy, it has two options in striving to achieve sustainability. The first is to identify and focus on a market segment that is unattractive to competitors. In this way, it avoids

competitive pressures to erode prices below levels that would achieve acceptable returns. The second, more challenging situation refers to where there is competition on the basis of price. Here, tactical advantage may be gained by reducing prices. However, if the competition pursues this approach, there is a danger in the reduction of profit margins across the industry as a whole. This in turn may result in an inability to reinvest in order to develop the product or service for future purposes.

A low-price strategy cannot be followed without the adoption of a low cost base. This implies that there exists a need for a low-cost base that the competition is unable to match. The key challenge, which simultaneously serves as an opportunity is to search for methods to reduce costs which other organisations are unable to imitate, thus providing the organisation with a sustainable advantage.

Now that a perspective on the existence of the different business-level strategies has been provided, it is appropriate to introduce the next section, which discusses the importance of risk management and the way it fits into the larger picture of achieving a competitive advantage and ensuring organisational sustainability.

2.4 THE ROLE OF RISK MANAGEMENT

Why do organisations implement risk management? The answer lies in the multiple objectives of ensuring successful strategic management, maintaining and promoting a competitive advantage and contributing towards the achievement of organisational sustainability. Ultimately, implementing risk management will lead the organisation to experience the longevity of its business operations.

One of the lessons organisations have learned from the 2007 global financial crisis is the need to clearly link strategy and risk management, as well as the ability to identify and manage risk in a highly uncertain environment (Chapman, 2011). Frigo and Anderson (2011) argue that an additional lesson is the need to focus risk management on the creation and protection of value.

Ferguson and Ferguson (2011) state that successful risk management is critical to top-level decision-makers in any organisation, involving a fundamental strategic policy and planning to identify and allocate scarce resources to projects or activities that generate a sustainable competitive advantage and maximise available long-term growth opportunities.

The claims for the benefits of risk management are numerous (Elahi, 2010). In financial services organisations, risk management has enabled a new focus on the quality of assets and earnings. In the corporate sector more generally, risk management is perceived as integral to business strategy and to value creation. Risk management has been shifted from a back-office, transaction-veto defensive role to a fundamental part of the business model (Elahi, 2010).

In the public sector, risk management is becoming part of the way organisations challenge themselves in the absence of market mechanisms. And in all these settings, it is widely accepted that managed risk taking is essential to progress and in creating value (Power, 2004).

Weber, Scholz and Michalik (2010) state that improving risk management within organisations would be of value for both science and the industry in which the organisation operates. This pursuit, when it is performed through an integrated strategic approach, could lead to a proper set of risk management capabilities, which in turn lead to competitive advantage (Elahi, 2010).

Elahi (2010) is of the opinion that when organisations are able to respond to and treat risks better than competitors, they are in a position to enter riskier ventures with higher potential profits. This of course is a competitive advantage. If risk management capabilities justify taking the extra risk, seeking riskier businesses could be a great differentiator, provided the organisation has the capability of managing risk properly.

Elahi (2010) further comments that modern organisations have come to realise that their risk management capabilities could be leveraged as a source of competitive advantage. He argues that, if organisations have stronger capabilities in managing risks, they should be able to grow faster in more uncertain business environments.

Hendricks and Singhal (2005, in Elahi, 2010) illustrate in their research how the lack of proper risk management could have a negative effect on the long-term shareholder's value.

Knowledge gained from the literature leads one to conclude that proper risk management is essential for value creation and sustainability, whereas the lack thereof could have detrimental effects to organisational goals in terms of achieving a competitive advantage and ensuring the sustainability of business operations.

2.5 SUMMARY

This chapter provided explanations of the concepts of competitive advantage and sustainability. A strategic management approach and the role of risk management in the strategic management approach were explained, especially in identifying critical risks emanating from the threats and weaknesses facing the organisation.

Competitive advantage was defined as a situation in which an organisation is capable of creating more economic value, thus allowing the organisation to generate higher returns than the competition (Peteraf & Barney, 2003). Evidence from the literature indicated and concluded that, if risk management processes are correctly employed, they could create a competitive advantage, ensuring sustainability for organisations. Proper risk management is essential within an organisation, not only serving as a competitive advantage but also as part of the strategic management approach an organisation pursues.

The concept of sustainability was explained with the aid of the triple bottom line approach. It was argued that, for organisations to be successful, they ought to pay equal attention to their financial performance, environmental impact and social responsibility if they want to survive and prosper in the long term. Crowther (2002) defines sustainability as the management of resources in a manner that will guarantee creation of value in future. From a risk management perspective, sustainability refers to the management of risks in ways that improve investor confidence and ensure longevity for the organisation (Ferguson & Ferguson, 2011).

A strategic management approach is fundamental in leading organisations in dynamic environments (Swayne *et al*., 2008). It entails the identification of the purpose of the organisation and the development of the required policies and plans in order to accomplish the organisation's objectives. The model of Louw and Venter (2010) was used to provide a better understanding of strategic management. Further attention was given to business-level strategies, as the strategies at this level are centred on creating and sustaining competitive advantage.

Improving risk management within organisations is valuable and necessary for firms seeking sustainability and longevity of business operations. It was argued and became apparent that if and when risk management was employed correctly it could serve as a competitive advantage, putting organisations in favourable positions well above competitors.

CHAPTER 3
RISK MANAGEMENT IN PERSPECTIVE

3.1 INTRODUCTION

Risk is a comprehensive concept, which covers numerous disciplines and is present in almost every organisational function of modern enterprises. The constant presence of risk in organisational activities makes the active management of risks vital in order to minimise the adverse effects or loss exposures. Risk management can be described as a process by which an organisation identifies loss exposures and the selection of the most appropriate techniques for treating such exposures (Rejda, 2011).

On an individual firm basis, organisations have been aware of the need for risk management, and there exists a wide body of literature from diverse fields such as economics, finance, strategic management and international management (Juttner, Peck & Christopher, 2003).

Risk management can be explored at many different levels. Some of the techniques commonly used in specific risk management sub-disciplines can involve quite sophisticated mathematics. Others, particularly at the 'entity-wide' end of the spectrum can focus more on governance and other similar topics that are less mathematical in nature (Kemp & Patel, 2011). For the purpose of this study report, attention will be drawn to the governance aspects rather than the mathematical components of risk management.

The aim of this chapter is therefore to offer a review of literature on the concept of risk, risk management, the historical development of risk management, enterprise risk management, corporate governance, the risk management process and the classification of risks. In doing so, a theoretical background, perspective and understanding on risk and risk management within organisations are provided, followed by a discussion on the development of enterprise risk management. Corporate governance and the role it plays in the development of risk management are then discussed awarding specific attention to the various codes and reports that address corporate governance internationally as well as in South Africa. The chapter

continues with an in-depth discussion of the risk management process and the chapter concludes with a classification of the numerous risks with which organisations are confronted.

3.2 RISK MANAGEMENT IN PERSPECTIVE

In this section, perspective on risk management will be provided by focussing attention on the definition of risk, the historical development of risk management as well as gaining an understanding of risk management.

3.2.1 Risk defined

The concept of risk is derived from the early Italian verb *risicare,* which means “to dare”. In line with this, Bernstein (1996) argues that risk is a choice rather than fate.

The context in which risk can be viewed is so diverse that no single definition is sufficient to cover all possible meanings for risk (Bezzina, Grima & Mamo, 2014). In an actuarial context, risk has a statistical interpretation; while in the insurance industry, the term risk may be used to describe the subject of the policy (the property or liability that is insured). Contemporary finance theory makes prevalent use of the notion of risk; therefore it is not surprising to find various definitions of risk among authors (Valsamakis, Vivian & Du Toit, 2010).

In his seminal work, Pfeffer (1956) defines risk as a combination of hazards measured by probability. Deneberg, Eilers, Melone and Zelten (1974) describe risk as uncertainty of loss, where the term risk is implicitly understood as uncertainty of financial loss. Drucker (1979) argues that the ability and willingness to take risks comprise the essence of economic activity, while Chapman (2006) acknowledges that nearly all operational tasks and processes are currently viewed through the prism of risk.

Purdy (2010) in addition notes that risk is the consequence of an organisation setting and pursuing objectives amidst an uncertain environment. An organisation’s ability to

prosper in the face of risk, as well as its ability to respond to unplanned events, good or bad, is a key indicator of its ability to compete (Chapman, 2011).

Following the seminal work of Knight (1921) and Keynes (1937), distinctions are made between risk (where probabilities are known) and uncertainty (where probabilities are unknown) (Bernstein, 1996; Hopkins & Nightingale, 2006). This implies that risk taking involves the likelihood of a certain number of outcomes from becoming reality, although the exact probability of each outcome remains uncertain.

Risk is inherent in business activity (Hampton, 2009). As Drucker (1979) explains, dating back as far as the 1970s, that economic activity by definition commits present resources to an uncertain future. One thing that is certain about the future is its uncertainty and its risks. For this reason, to take risk is the essence of economic activity (Drucker, 1979).

Greene and Serbein (1983) state that the term risk can be interpreted to mean mainly the uncertainty of the occurrence of economic loss. Athearn and Pritchett (1984) define risk as a condition in which a loss or losses are possible, thus implying that risk involves only the possibility of loss or no loss.

Zsidisin (2003) however points out that the use of the term risk can be confusing, because risk is perceived to be a multidimensional construct. Rejda (2011) agrees with Zsidisin's outlook, stating that risk is ambiguous and has different meanings resulting in the term loss exposure being used among several authors to identify potential losses.

In Chicken and Posner's view (1998), risk involves both a hazard and an exposure. Hazard here refers to the way in which a thing or situation can cause harm, while exposure refers to the extent to which the likely recipient can be influenced by the hazard (Chicken & Posner, 1998). Rejda (2011) elaborates on the views of Chicken and Posner (1998), arguing that loss exposure is a condition in which a loss is possible, regardless of whether the loss actually occurs.

From the abovementioned literature, it is evident that risks are not events or just consequences. Risks are rather descriptions of what could happen or what it could lead to in terms of how or if the objectives of the organisation will be achieved or affected. Nonetheless, authors have made it clear that the interpretation of risk

depends to some extent on the particular point of reference regarding the discussion of risk. Notwithstanding such qualifications, however, evidence exists of non-uniformity rather than disagreement concerning the fundamental tenets of risk when defining risk in the context of risk management.

The growing importance of risk management as a systemised discipline therefore necessitates a more specific definition of risk adding clarity to the more contemporary definitions. Valsamakis *et al*. (2010) provide the following definition: “Risk is the variation of the actual outcome from the expected outcome”. From this definition, the following are implied:

- Uncertainty surrounds the outcome of the event. The decision-maker is uncertain concerning the outcome; nevertheless, an expected outcome is predicted.
- The level of risk is determined by the extent of the uncertainty between the actual and expected outcomes. Thus, the greater the possible deviation between the expected and actual outcomes, the greater the amount of risk.

From Valsamakis *et al.’*s (2010) point of reference on the definition on risk, it is apparent that a definite relationship between risk and uncertainty exists. As a result, it can be argued that the degree of uncertainty that exists, determines the extent of the risk (Rejda, 2011).

Following the definition of the risk concept, which provided a deeper understanding on the meaning and interpretations of risk, the following section presents a historical development of the field of risk management.

3.2.2 Historical development of risk management

Risk management has been practiced for thousands of years (D’ Arcy, 2001). Early examples of risk management represent humans burning a fire at night to be safe and to keep wild animals away. Early lenders quickly gained knowledge of the fact that to reduce the risk of loan defaults, limits had to be placed on the amount loaned to any one individual and by restricting loans to those considered most likely to repay them. In 1667, individuals and organisations could for example manage the risk of

fire through the choice of building materials and safety practices, as well as the introduction of fire insurance (D'Arcy, 2001).

However, it was not until the 1960s that the field of risk management was formally named, principles developed and guidelines established. Mehr and Hedges are widely acclaimed as the fathers of risk management (Dickenson, 2001). Initially, the risk management process focused on what has been termed 'pure risks' (D'Arcy, 2001).

Pure risks refers to those risks in which either a loss or no loss occurs (Valsamakis *et al*., 2010). At the time the field of risk management first emerged, interest rates were stable, foreign exchange rates were intentionally maintained within narrow bands and inflation was not a concern yet (Dickenson, 2001). Consequently, for the majority of organisations, financial risks were not a concern. The field of finance was instrumental in the development of risk management (D'Arcy, 2001). Although Markowitz introduced the portfolio theory (Markowitz, 1952), the capital asset pricing model (CAPM) had not yet been developed. The mathematics for quantifying financial risks was inadequate to place financial risks in the same framework as pure risks and so the primary risks of the time were hazard risks: the risks of fire, windstorms or other property damage (Bernstein, 1996).

Given the fact that the primary risks facing organisations in the 1960s were hazard risks, the initial focus of risk management was on managing these types of risks. Risks were quantified and evaluated, and different methods of dealing with risk were developed (D'Arcy, 2001).

Beginning in the 1970s, financial risk became an important source of uncertainty for organisations and, shortly thereafter, tools for handling these risks started to be developed (Bernstein, 1996; D'Arcy, 2001). In 1972 the major developed countries put an end to the Bretton Woods agreement which had kept exchange rates stable for three decades (Bernstein, 1996). Termination of this agreement resulted in the instability of exchange rates. As fluctuation of foreign exchange rates ensued, the balance sheets and operating results of organisations engaging in international trade also began to fluctuate. This instability affected the performance of many firms. In addition, oil prices began to rise as the Organisation of Petroleum Exporting Countries (OPEC) reached agreements to reduce oil production that raised oil prices

even further. In the same decade, a policy shift by the US Federal Reserve to counter inflation (because of the sudden oil price increases), instead of stabilising interest rates led to a rapid rise and increase in the volatility of interest rates in the United States. This of course spilled over to other countries as well (Bernstein, 1996).

Financial risk had become crucial for organisations to take into account by the early 1980s although the standard risk management tools and techniques had not yet been customised and developed to incorporate financial risk (D'Arcy, 1999). According to D'Arcy (1999), the reason for this failure was based on the artificial categorisation of risk into pure and speculative risk only. Risk managers had built a wall around their speciality, namely pure risk, within which they operated. As a result, the volatility in foreign exchange rates, prices and interest rates caused financial risk to become a concern for organisations (D'Arcy, 1999).

Initially the emergence of new risk classes did not cause organisations and risk managers to include it into their domain. This exclusion however proved costly to organisations and to the risk management field, particularly in the 21st century with events such as the terrorist attack in New York on 11 September 2001, the collapse of Enron in the same year, the collapse of Worldcom in 2002, the Fidentia scandal experienced in South Africa in 2007 and the bankruptcy of Lehman brothers in 2008 (Chapman, 2011; Solomon, 2007 Steenkamp, 2007; Thompson, Wright & Keasey, 2005). The most prominent event however has been the global financial and economic crises of 2007–2010, whose epicentre lay in the United States, while the 'aftershocks' continued to be felt across the globe (Chapman, 2011).

Thus, the failure to expand risk management to include a wide variety of risk types did not prevent risk managers and organisations to learn from them, it simply delayed it by a few decades (D'Arcy, 2001). Since then, the risk management field have developed and have evolved considerably (Chapman, 2011; Fraser & Simkins, 2010).

This background on the historical development of risk management served as an introduction to the next section, which will discuss and provide perspective on risk management, providing clarity on the meaning and importance thereof.

3.2.3 Risk management defined

Global competition and turbulent markets with associated high levels of volatility have brought risk management to the forefront of business thinking. As previously mentioned (see 3.2.2), the events of 11 September 2001, where terrorists affiliated with the al Qaeda's international organisation, crashing two aircrafts into the World Trade Centre in New York City, have contributed towards the field of risk management and the importance of having the necessary control systems in place in order to minimise, control or prevent adverse events from crippling organisations (Power, Scheytt, Soin & Sahlin, 2009).

Chapman (2011) points out that the failure to understand and manage risk properly has been cited as the root cause for the global financial crises experienced from 2007 to 2010. So severe was this financial tsunami that many economists have described it as the worst financial disaster since the Great Depression of the 1930s (Chapman, 2011). The substantial costs of failure and the equally large benefits that accrue from managing the ratio of reward to risk, give reason for organisations to practice risk management efficiently. According to Power *et al.* (2009), a 'good' organisation is one which manages risk in accordance with established frameworks.

Bernstein (1996) views risk management as a process that guides an organisation over a vast range of decision-making initiatives. In Bernstein's view, the capacity to manage risk comprise the key elements of the energy that drives the economic system forward. Additionally, Bernstein (1996) regards the essence of risk management to be in maximising the areas where one has some control over the outcome, whilst minimising the areas where one has no control. Miller (1992) argues that risk management is not limited to the assessment of exposure to losses and the application of appropriate financial risk management practices such as insurance and hedging instruments. Rather, financial and strategic responses are interrelated in such a manner that decision-making in either area to exclusion of the other would be suboptimal.

Knight and Petty (2001) believe that risk management is about seeking out the upside risk or opportunities and that eliminating risk completely stifles the source of value creation and upside potential. Chapman (2011) agrees with the views of Knight

and Petty by arguing that the management of both upside (opportunities) and downside risks (threats) are at the heart of business growth and wealth creation.

Okoroh, Gombera and Ilozor (2002) are of the opinion that the focus of risk management lies in the identification and treatment of risks. In their view, the objective is to add maximum sustainable value to all the activities of the organisation.

Rejda (2011) defines risk management as a process that identifies loss exposures faced by organisations and selecting the most appropriate techniques for treating such exposures. Purdy (2010) is of the opinion that the management of risk is simply a process of optimisation, which makes the achievement of objectives more likely. As Chapman (2011) states, risk management involves controlling risk as far as possible, thereby enabling the organisation to maximise opportunities.

The ISO, in turn, defined risk management as the architecture for managing risks effectively (ISO, 2009). Valsamakis *et al.* (2010), on the other hand, believe that risk management is the art and science of managing risks. In their view, risk management should be treated as a managerial function aimed at protecting the organisation and its people, assets and profits against the physical and financial consequences of risk.

Now that various authors and organisations have been cited on their definitions and understanding of risk management, attention turns to providing a deeper understanding of risk management and the importance thereof.

The Institute of Risk Management (IRM) (2002) identifies that risk management is a fundamental part of any organisation's strategic management plan. With risk management, organisations methodically address the risks attached to their activities with the objective of attaining sustained benefit within each activity and across the portfolio of all activities (IRM, 2002). Risk management should be continuous and an ever-developing process which forms an integral part of the organisation's strategy. All risks surrounding the organisation's activities should be addressed, including the past, the present and the particular future. Purdy (2010) comments that risk management is considered to be an inseparable aspect of managing change and other forms of decision-making. Accordingly, it should be integrated into the culture of the organisation, providing support to accountability, performance measurement

and reward, hence promoting operational efficiency at all levels within an organisation (IRM, 2002). Valsamakis *et al*. (2010) state that risk management requires the engagement of all levels within the organisation, ensuring the interaction of strategic, management and operational activities. In their view, a risk management system signifies the anticipation of risk in advance, supported by the relevant risk control and financing arrangements.

Kemp and Patel (2011) are however of the opinion that there are two alternative articulations to the meaning of risk management. At the one end of the spectrum, risk management refers to the identification, quantification and/or mitigation of risk of loss, to the extent that is considered appropriate by senior management. At the other end of the spectrum, risk management might primarily be involved in the decision on which type of risks an organisation ought to carry. As far as an organisation as a whole is concerned, both points of view are required if the goal is to exercise risk management in an effective and efficient manner seeking sustainable, competitive business operations (Kemp & Patel, 2011).

Apart from the arguments for risk management being a good thing in its own right, it is becoming increasingly rare to find an organisation whose stakeholders are not demanding that its management exhibit risk management awareness (Chapman, 2011). Entities that treat risk management simply as a compliance issue expose themselves to nursing a damaged balance sheet (Chapman, 2011).

Risk management is aimed at facilitating the effective and efficient operation of an organisation, not only improving internal and external reporting but also aiding in the compliance of laws and regulations (Chapman, 2011). Proper risk management increases the probability of success, reduces both the probability of failure and the uncertainty and aids the organisation in achieving its objectives (Valsamakis *et al.,* 2010). Hence, taking and managing risk is critical for business survival, ensuring sustainability and promoting future growth.

Historically, within both private and public organisations, risk management has traditionally been segmented and carried out in ‘silos’. This has occurred for a number of reasons, such as the way the human mind operates in solving problems, the structure of business organisations and the evolution of risk management

practice (Chapman, 2011). The next section will focus on enterprise risk management.

3.3 ENTERPRISE RISK MANAGEMENT (ERM)

Chapman (2011) acknowledges the fact that the interest in enterprise risk management (ERM) has continued to grow in recent years and states that because of the diversity of risk, a broader approach towards risk management is required; hence, the development of ERM has transpired. Valsamakis *et al.* (2010) agree with the views of Chapman (2011) by pointing out that modern organisations are exposed to a volatile environment, which in return requires the adoption of an enterprise-wide approach towards the management of risk, which is comprehensive, inclusive and proactive of nature.

Traditional risk management manages individual risk categories in risk 'silos', whereas the new phenomenon, enterprise risk management, enables organisations to manage a wide array of risk in an integrated, enterprise-wide fashion (Hoyt & Liebenberg, 2011). ERM is synonymous with integrated risk management (IRM), holistic management, enterprise-wide risk management and strategic risk management (Hoyt & Liebenberg, 2011). For consistency, the abbreviation ERM will be used throughout this study report.

While ERM is not in its infancy, it is a maturing approach, where risks are managed in a coordinated and integrated manner across an entire business enterprise (Chapman, 2011). McCarthy and Flynn (2004) are of the opinion that this approach has little to do with any bold breakthrough in thinking, but rather involves the maturing, continual growth and evolution of the profession of risk management and its application in a structured and disciplined manner.

ERM involves understanding the interdependencies between the risks and the way the realisation of risk in one business area may increase the likely impact of risks in another business area. Consequently, ERM includes the manner in which risk mitigation action can address multiple risks spanning multiple business segments (Chapman, 2011).

Frigo and Anderson (2011) describe ERM as a process, affected by an organisation's board of directors, management and other personnel, applied in strategy setting and across the enterprise. It is designed to identify potential events that may affect the organisation and manage the risks to be within its risk appetite, so that assurance regarding the achievement of the organisation's objectives is provided. Bainbridge (2009) supports Frigo and Anderson's (2011) view and in addition states that ERM includes determining an appetite for risk which should be consistent with the interests of the organisation's shareholders.

Reflecting the Committee of Sponsoring Organisations of the Treadway Commission's (COSO) definition, ERM may be defined as:

> A systematic process embedded in a company's system of internal control, to satisfy policies effected by its board of directors, aimed at fulfilling its business objectives and safeguarding both the shareholder's investment and the company's assets. The purpose of this process is to manage and effectively control risk appropriately within the company's overall risk appetite. The process reflects the nature of risk, which does not respect artificial departmental boundaries and manages the interdependencies between the risks (COSO, 2007).

From the various definitions and opinions that exist amongst authors, Kemp and Patel (2011) acknowledge the fact that although there is no universally accepted definition of ERM to date, many authors and academics include in his or her scope this goal, i.e. ERM ought to involve effective, integrated holistic management of all the risks and opportunities encountered by an organisation (Kemp & Patel, 2011).

Included in gaining an understanding of the meaning and purpose of ERM, there are requirements in order for this process to be successful. Chapman (2011) identifies that ERM has to satisfy a series of parameters. These parameters must be embedded within an organisation's system of internal control, while simultaneously respecting, reflecting and responding to the other internal controls (Chapman, 2011; Dickenson, 2001). ERM entails protecting and enhancing shareholder value in order to accomplish the primary business objective of the organisation, which is the maximisation of shareholder wealth (Chapman, 2011; Hampton, 2009). Valsamakis *et al.* (2010) agree with this argument by indicating that risk management cannot be

practised and executed successfully if viewed and treated as isolated functions within a larger business enterprise.

D'Arcy (2001) points out that, since ERM encompasses a vast range of aspects of an organisation's operations and because it integrates a wide variety of different types of risks, no single individual is likely to have all the expertise necessary to handle this entire role. This necessitates a team approach, with the team drawing on the skills and expertise of a number of different areas, including traditional risk management, financial risk management, management information systems, auditing, planning and line operations (Meulbroek, 2002).

Dickenson (2001) has the same opinion on this matter, by stating that a coordinated effort throughout the organisation is required for ERM to be successful. Without the cooperation and dedication from all the employees and management, ERM will not be effective. If all the requirements are in place for ERM to be successfully employed, organisations are likely to experience a number of benefits (Rejda, 2011).

Academics and industry commentators argue that ERM benefits organisations by decreasing earnings and stock price volatility, reducing external capital costs, increasing capital efficiency and creating synergies between different risk management activities (Beasley, Pagach & Warr, 2008; Meulbroek, 2002; Miccolis & Shah, 2000).

More broadly, ERM is believed to promote increased risk awareness that facilitates improved operational and strategic decision-making (Hoyt & Liebenberg, 2011). Hoyt and Liebenberg (2011) further argue that organisations seeking profit maximisation should consider implementing an ERM programme as it contributes towards increases in expected shareholder wealth.

Advocates of ERM argue (Chapman, 2011; Fraser & Simkins, 2010; Hoyt & Liebenberg, 2011) that by integrating decision-making across all risk classes, organisations are able to avoid duplication of risk management expenditure by exploiting natural hedges. Organisations that engage in ERM ought to be better equipped to understand the cumulative risk inherent in different business activities. This in return will provide them with an added objective basis for allocating

resources, thus improving capital efficiency and return on equity (Hoyt & Liebenberg, 2011; Meulbroek, 2002).

Hoyt and Liebenberg (2011) further acknowledge that individual risk management activities may reduce earnings volatility by reducing the probability of catastrophic losses. However, there exist potential interdependencies between risks across activities that might go unnoticed in the traditional risk management model (Hampton, 2009). ERM provides a structure which combines all risk management activities into one integrated framework that facilitates the identification of such interdependencies. Thus, although individual risk management activities can reduce earnings volatility from a specific source, an ERM strategy seeks to reduce volatility by preventing aggregation of risk across different sources (Hoyt & Liebenberg, 2011).

Merkley (2001), on the other hand, argues that, if traditional theory is correct, for managers to invest time and resources in ERM is a pointless exercise and a misuse of assets from a shareholder's perspective. This view stems from the traditional CAPM. According to the CAPM, the required rate of return equals the risk-free rate plus the product of the organisation's beta and the equity risk premium. In Merkley's view, this formula maintains that economic risk is managed at the market level of the individual level of the organisation and basically makes ERM useless to investors. Dickenson (2001) disagrees with Merkley (2001), pointing out that risk is in reality managed at the company level of each individual organisation and not at the market level, thus making the traditional theory argument irrelevant.

Dickenson (2001) found that ERM not only adds value to an organisation's share price, but states that ERM should be considered to be one of the core investment criteria on which an investor makes investment decisions. In his opinion, ERM could be used as an offensive tool focused on maximising shareholder value. It may lead to increased investor confidence in an organisation. If the organisation is able to manage its risks more effectively, its earnings estimates are more confident and potentially the organisation's price/earnings (P/E) ratio may increase whereas the cost of capital may decrease. From a financial manager's perspective, this is an ideal situation, as increasing the P/E ratio and decreasing the cost of capital are the two

measures that play a key role in increasing shareholder value (Dickenson, 2001; Hampton, 2009).

To fully understand the concept of ERM, it is important to understand the elements of ERM once these have been implemented in an organisation. According to COSO, there are eight elements that encompass the ERM framework. These elements are:

1. Education and internal environment: Staff ought to be educated in the overall risk management philosophy and risk appetite, integrity and ethical values and the environment within which they operate.
2. Objective setting: The process of understanding how corporate objectives and risks interrelate and the manner in which they can affect the achievement of an organisation's goals.
3. Event identification: This determines important events that would affect the organisation's objectives.
4. Risk assessment: Risks are analysed, considering likelihood and effect and should be evaluated on an inherent or residual basis. Inherent risks occur without consideration of mitigating controls currently in place and residual risk occurs in light of existing controls.
5. Risk response: This refers to the methods by which management responds to risks whether through avoidance, acceptance, reduction or transfer. In doing so, management maintains that risks remain in line with the organisation's risk tolerances and risk appetite.
6. Control activities: The organisation develops and implements policies and procedures to ensure that the risk responses are executed.
7. Information and communication: Relevant and timely information regarding risks is identified, captured and communicated throughout the organisation, flowing down, across and up through the ranks.
8. Monitoring: The ERM programme is monitored, updated and maintained through on-going management evaluations (COSO, 2007).

To conclude the discussion on ERM, Chapman (2011) confirms that ERM involves a comprehensive and integrated framework for managing entity-wide risk, with the ultimate goal of maximising the value of the organisation. ERM assists in the achievement of organisational goals and objectives by looking at risk from a broader

perspective than traditional risk management (Hale, Boone & Maley, 2004). ERM is therefore imperative for any organisation seeking to maintain a competitive advantage, promoting sustainability and achieving the maximisation of shareholder wealth.

The next section provides a discussion on the governance of risk, more specifically corporate governance and the role it plays in promoting proper risk management procedures.

3.4 THE GOVERNANCE OF RISK

Organisations prosper in an environment of good and balanced governance (Solomon, 2007; Steenkamp, 2007). Achieving good governance is a complex task, yet sound governance practices offer numerous benefits and should be integrated into the operational practices of all organisations (IoDSA, 2009). Hence, 3.4.1 focuses the attention on corporate governance and the important role it plays in the promotion of sound risk management practices.

3.4.1 An understanding of corporate governance

Corporate governance, a term that scarcely existed before the 1990s, is now universally raised wherever business and finance are discussed. Corporate governance comprises a central and dynamic aspect of business. The term governance derives from the Latin *gubernare,* meaning ‘to steer’, usually applying to the steering of a ship, which implies that corporate governance provides direction rather than exercising control (Keasey *et al.*, 2005).

The importance of corporate governance for corporate success as well as for social welfare cannot be overemphasised. Examples of corporate collapses resulting from weak systems of corporate governance have highlighted the need to improve and reform corporate governance at international level (Chapman, 2011).

Corporate governance was first formally introduced with the publication of the Cadbury Report in 1992 in the United Kingdom. This report offered guidelines to

large enterprises as how they ought to conduct their affairs. At the core of the report was a Code of Best Practice ('the Code'), which provided specific procedures for companies to follow. Although these procedures were not mandatory at the time, the London Stock Exchange required every listed company to include a statement in its annual report confirming its compliance with the Code or otherwise providing legitimate reasons for non-compliance (Valsamakis *et al.,* 2010).

The Code resulted in the publication of a similar document in 1994 in South Africa, namely the King Report, written by former judge Mervyn King and Geoffrey Bowes (King & Bowes, 1999). The United States of America then, as a response to the many corporate failures, issued the Sarbanes–Oxley Act in July 2002, followed by the Higgs Report, and the Smith Report in January 2003 in the United Kingdom. In South Africa, however, the King II Report was made available in 2002, followed by the King III Report in 2009, which was an improvement and refinement of the previous two versions (Solomon, 2007). Based on this background on the existence and development of corporate governance, a better understanding of what corporate governance stands for is required.

The Cadbury Report defines corporate governance as: "the system by which companies are directed and controlled" (Keasey *et al*., 2005; Smerdon, 1998). The Hampel, Higgs and Smith Report accepts this definition of corporate governance, and the King Report on Corporate Governance in South Africa also uses this formulation as its working definition (Barrier, 2003; IoDSA, 1994).

Sir Adrian Cadbury (1999) is of the opinion that corporate governance is concerned with maintaining a balance between economic and social goals and between individual and communal goals. According to Cadbury, the ultimate objective of corporate governance is to align the interests of individuals, corporations and society in the closest possible manner.

Witherell (2004) argues that achieving good corporate governance is not solely the responsibility of the directors, investors and regulators, but it should rather be a core objective of senior management as well. Poor corporate governance weakens an organisation's potential and at worst can pave the way for financial difficulties and even open up opportunities for fraud (Vaughn & Ryan, 2006).

The Organisation for Economic Co-operation and Development (OECD, 2004) expands the definition on corporate governance to include issues of stakeholder management, objective setting and performance monitoring. Corporate governance involves a set of relationships between an organisation's management, its board, its shareholders and other stakeholders. Corporate governance in addition provides the structure through which the objectives of the organisation are set and the monitoring of performance is determined (Chapman, 2011).

Valsamakis *et al.* (2010) agree with the OECD's definition, confirming that corporate governance refers to the relationship among the management of an organisation, its board, its shareholders and other relevant stakeholders. The board of an organisation and its management are accountable to their shareholders, as the shareholders are the owners and suppliers of risk capital (Chapman, 2011).

Aras and Crowther (2008) further contend that corporate governance can be considered as an environment of trust, ethics, moral values and confidence.

Investors value organisations that practice good corporate governance (Valsamakis *et al*., 2010). McKinsey Consulting Group, a consulting organisation, performed a study which found that investors in emerging market countries would pay a premium of up to 28 per cent for shares in a company with good corporate governance practices, as opposed to a poorly governed company with similar financial performance (Rose, 2003; Solomon, 2007).

Findings from Reed (2003) indicate that South Africa is the largest and most developed economy in sub-Saharan Africa. One reason for South Africa's success in the region is its leadership in the area of corporate governance (Vaughn & Ryan, 2006). Literature thus suggests that the importance of corporate governance is fundamental for organisational success, but how does it apply to risk management and what role does it play in promoting sound risk management practices for organisations?

Corporate governance forms an essential component of ERM, because it provides the top-down monitoring and management of risk management. It places responsibility on the board of the company for ensuring that appropriate systems and

policies are in place for effective risk management. Good board practices and good corporate governance are crucial for successful risk management (Chapman, 2011).

Besides the many benefits that sound corporate governance practices promote, the importance of it in ensuring proper risk management procedures is essential. According to Chapman (2011) the correlation between poor business performance and correspondingly poor governance and poor risk management has been identified by many commentators.

Evidence further indicates that US organisations with weak corporate governance structures perform poorer than organisations with good corporate governance structures (Solomon, 2007). According to the chief executive of the Financial Services Authority (FSA), organisations lacking robust risk management and good governance will be negatively impacted in terms of their long-term investment performance (FSA, 2009).

Based on the literature provided, it is apparent that the comprehension and evolvement of corporate governance has become an important driving force behind promoting sound risk management practices within organisations. Adhering to the principles of good corporate governance addressed by the various reports applicable in different countries, acknowledges the importance of proper risk management procedures within organisations. Effective risk management is an essential component in business operations. This of course corresponds with the ultimate goal of achieving sustainability for organisations and the maximisation of shareholder wealth (Elahi, 2010; Frigo & Anderson, 2011).

The next section provides a discussion of the risk management process.

3.5 THE RISK MANAGEMENT PROCESS (RMP)

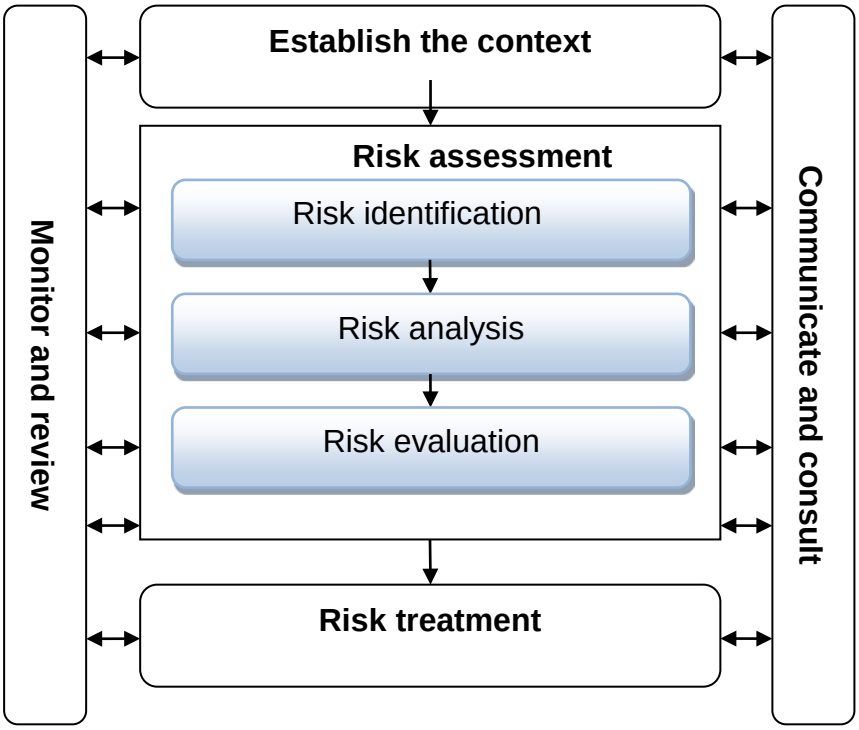
Numerous models and variations on the risk management process have been considered. However, for the purpose of this study, Figure 3.1 below, was adopted from Fraser and Simkins (2010). This model was specifically chosen as it proved to be identical to the model provided by the international standard 31000:2009 for managing risk and which is internationally recognised and accepted (ISO, 2009).

The risk management process as described below initially came from the Australian and New Zealand Standard, AS/NZS 4360, which was developed between 1992 and 2009 through three revisions and updates. This has since become the most widely used standard for risk management in organisations (Purdy, 2010).

Figure 3.1 below illustrates the traditional set of risk management tasks to support and assist decision-making by a risk manager in any organisation (Fraser & Simkins, 2010).

- **establish the context** sets the stage for the decision or activity requiring risk management;
- **risk assessment** identifies, analyses and evaluates the risks;
- **risk treatment** enhances the likelihood of positive consequences and reduces the likelihood of negative consequences to acceptable or tolerable levels;
- **monitoring and review** keep a close watch over the risk and the controls implemented to modify the risk;
- **communication and consultation** are continuous of nature, and ensure the engagement and contribution of all stakeholders in the management of risks.

Figure 3.1: The Risk Management Process



Source: Fraser and Simkins (2010)

3.5.1 Context

Establishing the context for the risk management process is a relatively new risk management activity, first introduced in the 2004 New Zealand and Australian Risk Management Standard. It builds on the framework context for the organisation, where the organisation-wide risk appetite is formulated and the risk management environment of the organisation is defined (Fraser & Simkins, 2010). Risk appetite can be defined as the amount of risk that an organisation is willing to take on in the pursuit of value. In other words, it comprises the total impact of risk an organisation is prepared to accept in the pursuit of its strategic objectives (KPMG, 2008).

The context is concerned with gaining an understanding of the background of the organisation as a whole. In general, it involves business activities, processes and projects the organisation is involved in. These activities, processes and projects form the subject of the risk management study (Fraser & Simkins, 2010). The context serves as a basic foundation for everything that follows in the process. The quality in which this initial step is executed will determine the quality of the remainder of the risk management process. As Chapman (2011) rightfully indicates, the preparation phase remains the most important phase of the entire risk management process.

According to Chapman (2011), the execution of the risk management process will have a direct bearing on the relevance, breadth, depth and currency of the information available in order to ensure that the identification and analysis phase will be completed in a non-superficial, meaningful manner.

Fraser and Simkins (2010) in addition argue that a secondary output of the context activity could be the specification of the other risk management activities, such as communication, consultation and risk assessment. The context phase comprises three perspectives:

- The external perspective**,** which refers to anything outside the organisation that must be taken into account in risk management, such as stakeholders, regulators, social norms and competition.
- The internal perspective**,** which refers to anything inside the organisation that must be considered in the risk management process, such as resources,

people and their expertise, information flows, internal stakeholders, policies and strategies within the organisation.

- The risk management perspective**,** which refers to activities in the risk management process that assist in finding the appropriate level of risk and associated risk treatments and controls. This comprises the responsibility for risk, the risk assessment methods to be used, the time available for the risk management process, coordination, communication, and the monitoring and review tasks.

3.5.2 Risk assessment

Fraser and Simkins (2010) point out that risk assessment involves three tasks, namely risk identification, risk analysis and risk evaluation.

- Risk identification

The risk identification phase comprises a transformation process, where experienced personnel are responsible for generating a series of risks and opportunities, which are then recorded in a risk register (Chapman, 2011).

Fraser and Simkins (2010) agree with the views of Chapman, stating that the identified risks must first be recorded in a risk register before the treatment of those risks can occur. In addition, risk identification may use historical data, often categorised in terms of credit risks, operational risks, market risks, technological risks, human behaviour risks, country risks and other convenient mutually exclusive categories that assist in the identification phase. The naming of risks assists stakeholders in relating to the risks and have the potential to improve the effectiveness of controls (Fraser & Simkins, 2010).

Risk identification nevertheless can be conducted in a number of ways, and is a facilitated process adopting either one or a combination of the following methods, namely questionnaires, interviews, interactive workshops using brainstorming and scenario analysis. In general, risk and opportunity identification is a group-orientated approach that draws on the combined knowledge and experience of the individuals

selected to take part (Chapman, 2011). Taleb (2007) comments that risk identification methods, such brainstorming and scenario analysis, are useful in assisting individuals to identify particular risks.

Valsamakis *et al*. (2010) state that the identification phase is accompanied by both hazard identification and exposure identification. A hazard refers to an activity or condition that creates or increases the likelihood of a loss (gain), whereas an exposure refers to the object, situation or individual subject to the loss (gain) (Valsamakis *et al*., 2010).

Barton, Shenkir and Walker (2001) argue that in the current, complex and ever-evolving business environment it becomes difficult to identify future risks as these risks are not apparent and obvious.

The chief executive officer (CEO) is also the organisation's chief risk management officer, yet decision-makers at all levels should consider risk management as a critical part of their occupational responsibilities (Barton *et al*., 2001). In order for this to be correctly executed, decision-makers at all levels of the organisation need to be involved and to be fully aware of the risks the organisational units are confronted with, as well as the risks that challenge other units (Barton *et al*., 2001).

- Risk analysis

The purpose of risk analysis is to provide the decision-maker with adequate understanding of the risks, in order to make the correct decisions on the treatment and acceptance thereof (Fraser & Simkins, 2010). In Chapman's (2011) opinion, the purpose of risk analysis is to provide a judgement of the likelihood of the risks and opportunities occurring, and their effect should they materialise. Rejda (2011) in return states that the measurement and quantification of risks are important in order to manage the risks appropriately.

Fraser and Simkins (2010) are of the opinion that risk analysis can be organised into estimates of likelihood of events, estimates of consequences of events and estimates of the combined effects of the likelihood and consequences. This is accomplished by making use of the risk criteria. The risk criteria are terms of reference that are used to evaluate the significance of an organisation's risks and to determine whether a specified level of risk is acceptable or tolerable (ISO, 2009).

Risk analysis in addition can be organised in the form of a probability distribution utilising the multiple outcomes and their likelihoods.

Chapman (2011) however believes that the risk analysis phase is sufficient when it satisfies the following sub-goals:

- the risk analysis phase was comprehensive and included an assessment of all the risks in the risk register;
- sufficient time was allocated towards the analysis phase;
- personnel were involved who made an informed and well-reasoned analysis of the risks; and
- the analysis phase was supported by risk management expertise.

- Risk evaluation

Risk evaluation involves the evaluation of the results gathered from the analysis stage (Chapman, 2011). Head (1982) refers to the process of risk evaluation as the analysis of loss exposures, where attention is focused on how frequent and how severe accidents are likely to be and in which manner such accidents may interfere with the success of the organisation.

Chapman (2011) states that the primary objective of risk evaluation is to assess both the risks and opportunities to the organisation in terms of their aggregated impact, on either the business as a whole, or specific projects. The evaluation stage is central to understanding the likely risk exposure or potential opportunity arising from a business activity.

Valsamakis *et al.* (2010) are of the opinion that risk evaluation is the most important step in the overall risk management process. Accordingly, risk evaluation concerns the evaluation of both loss frequency and loss severity as well as determining the financial strength of the organisation. Loss frequency refers to the probable number of losses that may occur during a given period, whereas loss severity is defined as the probable size of the losses that may occur (Rejda, 2011). The objective is to determine what the impact of a given risk relative to the financial strength of the organisation might be.

Rejda (2011) argues that, although both loss frequency and loss severity should be considered, severity is more important, due to the fact that a single catastrophic loss could have a devastating impact, threatening the entire future operation of the organisation. The organisation consequently ought to consider all losses that can result from a single event. This, in addition, requires the estimation of the maximum possible loss and probable maximum loss. The maximum possible loss suggests the worst loss an organisation could experience during its lifetime, whereas the probable maximum loss is the worst loss that the organisation is likely to experience (Rejda, 2011).

Fraser and Simkins (2010) point out that after each risk has been identified and analysed it is evaluated by comparing the residual risk after treatment with the risk criteria. This then enables the risk to be accepted as treated or not accepted and subjected to risk treatment. There are many risk evaluation methods, such as multidimensional objectives, risk matrices, testing by focus groups as well as statistical analysis models (Fraser & Simkins, 2010; Rejda, 2011).

Fraser and Simkins (2010) contend that care should be taken so that the risk evaluation method and results are accurately communicated to the decision-makers and other relevant stakeholders to ensure the acknowledgement of all the limitations and uncertainties.

Chapman (2011) notes that the process of risk evaluation is not an end in itself but rather an aid to decision-making. The value of the evaluation process will largely depend on the quality of the information that formed the inputs. Chapman (2011) finally contends that the risk evaluation phase is only sufficient when it satisfies the following sub-goals:

- personnel who can make an informed and well-reasoned assessment of the relationship between risks are involved;
- sufficient time is allocated towards the evaluation phase; and
- the evaluation phase is supported by risk management expertise.

3.5.3 Risk treatment

Risk treatment describes the phase of the risk management process in which decisions are made in the manner in which risks that have previously been identified and prioritised, ought to be treated (Fraser & Simkins, 2010). Chapman (2011) states that risk treatment is essential in the overall risk management process and therefore ought to be executed in the most accurate manner possible. The purpose of this step is to select the appropriate combination of techniques for treating the loss exposures.

Risk treatment plays a crucial role in the overall success of the risk management process. To spend considerable time, effort and energy in identifying and assessing the potential risks and opportunities, but failing to plan responses to them, would be a poor use of resources. Treating risks accurately and appropriately is a clear source of a competitive advantage (Chapman, 2011; Fraser & Simkins, 2010).

The risk treatment techniques can be classified into two categories, namely risk control and risk financing (Valsamakis *et al*., 2010). Risk control comprises techniques that reduce the frequency or severity of losses, whereas risk financing comprises techniques that provide for the funding of losses (Rejda, 2011). In Vivian's (1985) view, risk control refers to the physical control of risk, or the prevention or control of losses. Valsamakis *et al.* (2010) however elaborate on this outlook stating that risk control is a method of countering risk, including those activities that eliminate the factors that may cause losses and minimising the definite losses that occur.

Rejda (2011) points out that the major risk control techniques are: risk reduction/mitigation, risk avoidance/removal, risk transfer and risk acceptance/retention. Valsamakis *et al.* (2010), Barton *et al.* (2001) as well as Chapman (2011) agree with these risk control techniques presented by Rejda.

The most common form of risk reduction/mitigation is through risk diversification, in other words, the reduction of risk by distributing risk amongst various sources (Rejda, 2011). Valsamakis *et al*. (2010) are of the opinion that risk mitigation is an imperative risk response alternative. In the case of incidental economic losses, where the risk is incidental to the economic activity of the organisation, it is important

that the severity and occurrence of these risks be restricted to a minimum (Chapman, 2011).

Risk avoidance/removal refers to the strategy adopted to eliminate a risk completely (Chapman, 2011). From a strategic management perspective, Miller (1992) argues that the avoidance of risk only occurs when management considers the risk of undertaking a specific project or operating in a specific geographic market to be unacceptable. Santomero and Babbel (1997) argue that, from an insurance management perspective, risk avoidance includes three types of actions. The first being the process of standardisation, insurance policies and procedures so that ineffective financial decisions are prevented. The second action comprises the construction of portfolios on both sides of the balance sheet, the application of the law of large numbers and the central limit theorem, which reduce the effects of any loss experience. The third action is the implementation of incentive-compatible contracts with management staff to oblige employees to be held accountable for their actions.

Chapman (2011) argues that in the case of risk avoidance/removal, three tests should be applied, namely:

1. **Opportunity** – on removal of the risk, one should ask whether an opportunity is being lost as a result of the risk.
2. **Business objective** – having removed a risk by selecting an alternative course of action, one should question whether the activity is going to satisfy the original business objective.
3. **Cost** – finally, one needs to consider whether the cost of removing the risk outweighs the impact should it materialise.

Risk transfer is the strategy adopted by an organisation to shift a risk onto a third party. Contracts and financial arrangements are the principal methods used to transfer risks. One should note that transferring a risk onto another entity does not reduce the likely severity of the risk; it merely moves it to another party. In the case of a risk transfer, it may occur that by transferring the risk, the impact increases significantly as the party to whom the risk is being transferred is unaware of the requirements to absorb such risk (Chapman, 2011). Fraser and Simkins (2010) in

addition point out that the decision to transfer a risk ought to be carefully evaluated in terms of the effect of the decision on the risk-return properties of the organisation.

The general form of risk transfer is by means of insurance (Chapman, 2011). Hence, in the case of risk transfer, Chapman (2011) argues that the following four tests should be applied, namely:

1. **Objectives of the parties** – the attempt to verify the party's motivation for transferring or accepting the risk.
2. **Ability to manage** – transfer can only be successful if the party that assumes the risk has the ability to manage the risk appropriately.
3. **Risk context** – the ability of an organisation to manage a risk will be determined not only by the organisation's ability to take direct action, but also by the context of the risk, that is, how static or volatile the source of the risk is.
4. **Cost-effectiveness** – it is common practice for a premium to be charged by the party accepting the transferred risk. The concern is whether or not the premium to be paid is less than the likely cost of absorbing the financial impact of the risk, should it materialise.

Chapman (2011) concludes that, even if organisations have transferred a risk, they are in most cases not immune to its impact. An example to illustrate this point of view is that of a case where a risk has been transferred to a contractor but the contractor failed to manage it appropriately. Although the contactor will be subjected to a penalty, the negative consequences will still be experienced by the organisation itself.

Risk retention or acceptance is a strategy adopted by an organisation when it is either more economical to do so or there is no alternative option available, as the option to transfer, reduce or remove the risk is unavailable (Chapman, 2011). Fraser and Simkins (2010) however argue that the acceptance of a risk should only commence if such acceptance will result in the improvement of the risk-return relationship.

Chapman (2011) states that, in the case of risk retention/acceptance, the following three tests should be applied:

1. **Options** – if the decision has been taken to retain the risk as there appears to be no viable alternative, one needs to ask whether all possible options for removal, reduction or transfer have been examined.
2. **Timing** – the business environment never remains static, and options may arise at any point in time, in terms of, for example, insurance, contract terms, outsourcing or pursuing alternative markets. Hence, it will be of importance to monitor the context of the risk through regular risk reviews and so to gain an understanding of when a final decision has to be made.
3. **Ability to absorb** – if the conscious decision has been taken to retain a risk as it is considered more economical to do so, the organisation should be aware of the outcome in the case that the risk materialises or be attentive to the likelihood of its occurrence.

Risk financing, on the other hand, is employed for mitigating the consequences of incidental risk, such as foreign exchange risks and financial risks. Risk financing entails the financial provision for losses that may occur and for funding other programmes to reduce uncertainty and risk (Rejda, 2011). The financing of these losses comprise measures such as the purchase of insurance coverage, hedging, the use of letters of credit and the establishment of a captive insurance subsidiary (Rejda, 2011).

3.5.4 Monitor and review

Fraser and Simkins (2010) contend that monitoring and review are two risk management process activities that ought to be applied to the three line activities of context, assessment and treatment. Within the risk management process, the monitor and review phase and the communication and consultation phase occur throughout the entire risk management process. Both Fraser and Simkins (2010) and Chapman (2011) agree that the monitoring and review phase is essential to the continuous improvement of risk management and in addition state that these two activities are critical in terms of the successful implementation of the risk management process as a whole.

According to Chapman (2011), the monitoring and review phase requires undertaking five activities:

- **reacting** to early warning indicators to forewarn managers to take the required action;
- **registering** changes in the details of the risks and opportunities already captured on the risk register;
- **recording** emerging risks and opportunities;
- **reviewing** whether the risk managers are implementing the responses for which they are accountable; and
- **reporting** on the risk and opportunity management actions implemented to date.

Chapman (2011) further maintains that it is important to note that the monitoring and review activities comprise a proactive process, which executes responses, monitors effectiveness and then intervenes accordingly to implement the corrective action.

Control is all about being proactive, and for risk management this implies managing the response process to ensure responses are implemented and that their effectiveness is monitored. Management intervention must be timely to be effective and with the rate of change in the market, timing is crucial (Chapman, 2011; Rejda, 2011).

3.5.5 Communication and consultation

The nature of risk and uncertainty requires a strong incentive for communication and consultation (Chapman, 2011). The communication and consultation phase refers to the dialogue that takes place amongst employees across all of the risk management stages to support effective implementation (ISO, 2009).

Fraser and Simkins (2010) contend that, to ensure the accuracy and effectiveness of activities in the risk management process, there ought to be extensive communication among team members and consultations with other experts in the organisation. Kloman (2008) is of the opinion that if an organisation fails in the correct execution of risk communication, it is likely to fail in the effective operation of risk management.

Risk communication and consultation form a connection between all the phases of the process and as a result they are another essential element of the overall risk management process (Fraser & Simkins, 2010). Chapman (2011) argues that an organisation should establish both internal and external communication and reporting mechanisms in order to support and encourage accountability and ownership of risk and opportunity management.

Fraser and Simkins (2010) argue that communication and consultation improve the effectiveness of risk management and, like monitoring and reviewing, are part of all the other tasks in the risk management process. Chapman (2011) concludes that it is important that the objectives of risk management be communicated clearly to all employees in order for it to be effective. Successful risk management cannot proceed in isolation as it affects everyone in the organisation and as a result requires every employee's cooperation.

3.5.6 Recording the risk management process

All activities in the risk management process should be documented (Chapman, 2011). Records created provide for the traceability of decisions. Recording contributes to continuous improvement in risk management and provides essential information for other management activities. The systems for record keeping, storage, protection, retrieval and disposal are consequently also required to be carefully designed, implemented, monitored and reviewed (Chapman, 2011; Fraser & Simkins, 2010).

Literature demonstrates and confirms that the risk management process is indeed a complex process which comprises various stages (Chapman, 2011; Fraser & Simkins, 2010). Each stage in this process is valuable and a necessity if the organisation wants to manage all risks effectively and prosper in achieving all its objectives. The next section reflects the classification of risk.

3.6 THE CLASSIFICATION OF RISK

A classification of risk is required by any organisation in order to understand the extent and importance of each risk type. Only then will the organisation be in a position to promote sound, efficient risk management (Bainbridge, 2009; Rejda, 2011). The different risks can accordingly be classified as follows:

3.6.1 Pure and speculative risks

A pure risk can be defined as a situation in which there exists only the possibility of a loss or no loss (D'Arcy, 2001; Valsamakis *et al.* 2010). Common examples of pure risks are premature death, catastrophic medical expenses and damage to property from fire, flood and lightning. Speculative risks refers to situations in which either a profit or a loss is a probable outcome (Rejda, 2011). An example of a speculative risk would be investing in real estate or betting on a horse in a race. In these situations, either a profit or loss is a possible outcome.

3.6.2 Diversifiable risk and non-diversifiable risk

Diversifiable risks refers to the risks that affect only specific individuals or a particular group, and therefore such risks are not applicable to the entire economy (Rejda, 2011). According to Valsamakis *et al.* (2010), diversifiable risks create losses that have their origin in discrete events, which are essentially personal. This type of risks can be reduced or eliminated by diversification. Rejda (2011) illustrates this point by providing an example of a diversified portfolio, which is comprised of shares, bonds and certificates of deposits. Such a portfolio is less risky than a portfolio that is fully invested in shares. The reason for this is that the nature of diversifiable risks, which affects only specific individuals or small groups. Diversifiable risks are also referred to as non-systematic or particular risks (Rejda, 2011).

Contrary to diversifiable risks, non-diversifiable risks are risks that affect the entire economy or a large group of people within the economy. This type of risks cannot be eliminated or reduced by diversification. Common examples include rapid inflation, war, cyclical unemployment, hurricanes and earthquakes (Valsamakis *et al.*, 2010).

Rejda (2011) states that non-diversifiable risks could moreover be classified as systematic or fundamental risks. Valsamakis *et al*. (2010) in addition argue that fundamental risks arise from losses that are impersonal in origin and in consequence and they originate in the economic, political or social interdependency of society.

3.6.3 Systematic risk

As could be noted from the previous discussion on diversifiable and non-diversifiable risks, Rejda (2010) classifies a non-diversifiable risk to be similar to a systematic risk. However, authors such as Valsamakis *et al*. (2010) and Santomero and Babbel (1997) have different opinions on the matter.

In the view of Valsamakis *et al.* (2010), a systematic risk can be regarded as a market-related risk. It refers to those risks that arise due to fluctuations and changes in the market. An example would be that of changes in the value of the rand against the dollar. As a result of changes in this value, the entire market is affected, causing a fluctuation in the value of shares.

Santomero and Babbel (1997) as well as Valsamakis *et al*. (2010) had similar views, stating that a systematic risk can also be referred to as a market risk. In the view of these authors, a systematic risk is a risk of fluctuations in asset and liability values associated with systematic factors. As such, it can be hedged against, but cannot be completely diversified away.

Santomero and Babbel (1997), however, categorise the different systematic risks to belong to the following risk categories:

- Credit risk

Credit risk is defined as the possibility that a change in the credit quality of a counterparty will affect the organisation's value. Credit risk includes not only the risk of default, but also such risks as the possibility that a credit-rating agency might downgrade the counterparty's creditworthiness (Bainbridge, 2009). Young (2014) points out that credit risk arises through the provision of loans and contracts to support a customer's obligations. It refers to the risk that a borrower will not perform in accordance with his or her obligations (Young, 2014). Kemp and Patel (2011) refer to credit risk as the risk that the creditworthiness of a name or counterparty to which

an entity is exposed to declines, causing the entity to suffer a loss. Santomero and Babbel (1997) further maintain that credit risk may arise from either an inability or unwillingness on the part of the borrower to perform in the pre-committed contracted manner. As a result, credit risk is diversifiable but difficult to eliminate (Kemp & Patel, 2011).

- Liquidity risk

Liquidity refers to a financial institution's capacity to meet its cash and collateral obligations without incurring unacceptable losses (FSA, 2009). According to Young (2014), liquidity is an organisation's ability to meet its financial obligations within a given time period. Liquidity risk can consequently be defined as the risk to an institution's financial condition or safety and soundness arising from its inability (whether real or perceived) to meet its contractual obligations (Basel Committee on Banking Supervision, 2008). The Financial Services Authority (FSA) in the United Kingdom furthermore defines liquidity risk as "the risk that an entity, although balance sheet-solvent, cannot maintain or generate sufficient cash resources to meet its payment obligations in full as they fall due" (FSA, 2009). Liquidity risk consequently entails the risk that an organisation may fall in the situation where it becomes unable to meet its financial obligations to counterparties as they become due.

- Operational risk

Young (2014) points out that, in the past, operational risk used to be a generic term that covered a variety of risks such as credit risk, market risk and liquidity risk. Kemp and Patel (2011) argue that depending on the granularity of the risk classification employed by an organisation, a wide range of risks may be considered to fall within this category, which includes legal risk and possibly reputational risk. D'Arcy (2001) has a similar opinion stating that operational risks cover a variety of situations, including customer satisfaction, product development, product failure, trademark protection, corporate leadership, information technology and management fraud. However, the increased focus on operational risk requires a more specific and clear definition thereof.

Schwartz and Smith (1997) define operational risk as the loss arising from human error, management failure and fraud, or from shortcomings in systems and controls.

Power (2005) regards operational risk as the risk that deficiencies in information systems or internal controls may result in unexpected losses. Valsamakis *et al.* (2010) furthermore refer to operational risk as risks of a non-speculative nature that have no potential for presenting a profit. This type of risk is associated with human error, system failures and inadequate procedures and controls. In conclusion, Kemp and Patel (2011) as well as Young (2014) identify operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

- Price risk

Price risk is the risk of a decrease in the value of a financial portfolio as a result of adverse movement in market variables such as prices, currency exchange rates and interest rates (Campbell, 2012). According to Young (2014) price risk refers to the exposure arising from adverse changes in the market value (the price) of a portfolio or a financial instrument.

Price risk hence entails the risk that the value of a security or a portfolio will decline in the future. Although price risk is unavoidable for investors, it can be mitigated through the use of hedging techniques. These techniques range from conservative decisions such as buying put options, to more aggressive strategies such as short-selling (Campbell, 2012).

- Interest rate risk

Interest rate risk refers to the risk of a loss that an organisation could suffer as a result of adverse consequences due to fluctuations in interest rates. Interest rate risk therefore refers to the exposure of an organisation's financial condition to adverse movements in interest rates. Accepting this risk is a normal part of banking and can be an important source of profitability and shareholder value for any financial institution (Basel Committee on Banking Supervision, 2004).

However, excessive interest rate risk can pose a significant threat to the earnings and capital base of an organisation, more specifically financial institutions. As such, an effective risk management process that maintains interest rate risk within acceptable levels is important (Basel Committee on Banking Supervision, 2004).

Alessandri and Drehmann (2010) are however of the opinion that, besides credit risk, interest rate risk is the second most important source of financial risk. In their findings, they point out that interest rates are an important determinant of credit risk. Young (2014), however, believes that interest rate risk is known to fluctuate and is by nature a speculative type of financial risk, in view of the fact that interest rate movements can result in profits or losses. As a result, interest rate risk depends on the state of the economy of the particular country in which the organisation operates.

- Market risk

Market risk refers to the exposure to a potential loss arising from reduced sales or margins due to changes in market conditions, which are outside of the control of the organisation. Bainbridge (2009) explains market risk as the fluctuation in value of an organisation linked to the performance of its assets.

Market risk is multifaceted and involves the market structure, the strategic direction adopted for market growth, price variation, price elasticity and the behaviour of suppliers and buyers (Chapman, 2011). Although different industries encounter specific forms of market risk, there are some market risks that are faced by all companies, such as the erosion of market share, an increase in the number of competitors, downturn in market size and substitute products (Chapman, 2011).

Market risk is however mostly relevant to banks (Bainbridge, 2009). From a bank's perspective, market risk refers to the risk of losses in a bank's trading book due to changes in equity prices, interest rates, credit spreads, foreign exchange rates, commodity prices and other indicators whose values are set in the public market. To manage market risk, banks deploy highly sophisticated mathematical and statistical techniques and financial models (Bainbridge, 2009; Mehta, Neukirchen, Pfetsch & Poppensieker, 2012).

3.6.4 Systemic risk

Valsamakis *et al.* (2010) define a systemic risk as the risk of an entire system collapsing. Schwarcz (2008) notes that, in the various definitions of systemic risk that exist, a common factor is the presence of a trigger event, such as an economic shock or institutional failure, which causes a chain of adverse economic

consequences. At times, this may be referred to as a ‘domino effect’. These consequences could include a chain of financial institution and/or market failures. Less dramatically, these consequences could include substantial financial market price volatility or significant losses to financial institutions. In either case, the consequences affect financial institutions, markets or both (Schwarcz, 2008).

The near collapse of the banking system in South Africa, because of the Reserve’s Bank refusal to intervene, which in turn led to the liquidation of Regal Bank, Saambou Bank and the near collapse of Absa bank, is an example of the significant effect of a systemic risk (Valsamakis *et al.*, 2010).

The effect of a systemic risk can also be illustrated by the example of the Great Depression. In response to the share market downturn in August 1929 and the crash in October 1929, depositors en masse attempted to convert their bank deposits into cash. Many banks were unable to satisfy these demands, causing them to fail and thus contracting the money supply. These failures caused many otherwise solvent banks to default and many companies, deprived of liquidity, were forced into bankruptcy (Bordo, Mizrach & Schwartz, 1998). Mishkin (2008) points out that, during the height of the Great Depression, from 1930 to 1933, there were in the region of two thousand bank failures annually, which illustrates the devastating effect systemic risk could have on an entire economy.

3.6.5 Other major risk types

In addition to the abovementioned risks, the following risk types are important:

- Country risk

Country risk represents the potentially adverse effect a country’s environment could have on the cash flows of a multinational organisation (Conklin, 2002). Country risk arises when conditions or events in a particular country hinder the ability of counterparties in that country to meet their respective obligations (Kytle & Ruggie, 2005). Conklin (2002) states that the analysis of country risks has attained a new importance and a complexity for corporations that are searching for foreign suppliers and customers, as well as those that are evaluating investment opportunities. Common conditions comprise the imposition of exchange controls, a debt

moratorium, insufficient foreign exchange, political instability and civil war (Young, 2014).

Multinational hospitals and banks with facilities and other assets in at least one country other than its home country, are exposed to country risk (Kytle & Ruggie, 2005)

- Legal risk

Legal risk arises from violations of or non-compliance with laws, rules, regulations and prescribed standards. PricewaterhouseCoopers (2003) defines legal risk (also known as regulatory risk) as the risk of material loss, reputational damage or liability arising from failure to comply with the requirements of the regulators or related codes of best practice that oversee regulated business in whichever area the organisation operates.

This can be by reference either to the external legal frameworks within which the organisation operates or in terms of the legal documents governing the specific behaviour of the entity in question (Kemp & Patel, 2011). An organisation guilty of non-compliance could suffer consequences such as fines, financial penalties, payment of damages and the voiding of contracts (Young, 2014). A diminished reputation, limited business opportunities, restricted developments and an inability to enforce contracts are additional consequences (Young, 2014). Kemp and Patel (2011) further argue that regulatory risk could be viewed as a subset of legal risk, where regulatory risk relates to the risk that a regulatory framework within which an organisation is operating might change adversely. This could involve a change in either the general regulatory framework applicable to the entity or its own relationship with its specific regulator.

- Reputational risk

Literature, which explicitly refers to the concepts of reputational risk, is relatively recent (e.g. Chartered Institute of Management Accountants [CIMA], 2007; Eccles, Scott & Roland, 2007; Larkin, 2002; Neef, 2003;) and it has come to be represented in practitioner texts as a risk category in much the same way as other specific risks such as credit and liquidity risk (Power *et al.*, 2009).

Reputational risk entails the risk of negative information regarding an organisation's business practices becoming apparent. The exposure to reputational risk may cause a decline in the customer base, which in return has a negative effect on an organisation's revenues (Power *et al.,* 2009).

Young (2014) argues that the more dependent an enterprise is on the public's confidence, the greater the potential financial cost of any reputational damage. Aula (2010) defines reputational risk as the possibility or danger of losing one's reputation. Power *et al.* (2009) argue that reputational risk differs in its social construction from other risk categories by being a purely 'man-made' product of social interaction and communication.

In some organisational fields, particularly finance, reputational risk is increasingly defined as an outcome of legal risk, itself an outcome of defective operations (Mcormick & Paterson, 2006). Power *et al*. (2009) indicate in their findings that the majority of organisations manage reputational risk as a sub-risk of other major risks such as credit and operational risk, and that reputational risk has grown to become a distinctive and pervasive risk category, which is not merely descriptive but also reactive in nature.

Literature confirms that reputational risk may be described as the organisational label for diverse institutional pressures for visibility and accountability. The category of reputational risk encompasses a multifaceted space of diverse issues, but it also describes and inscribes a generalised sense of organisational vulnerability to formal and informal frameworks for accountability, blame and performance assessment (Aula, 2010; Power *et al.,* 2009).

- Financial risk

Financial risk is the risk of financial loss to organisations or the probability of loss inherent in financial methods, which may impair the organisation's ability to provide adequate returns. It arises due to instability and losses in the financial market or as a result of the variability in commodity prices, foreign exchange rates and interest rates (D'Arcy, 2001; Lee, 2008; Valsamakis *et al.,* 2010). Barsky, Juster, Kimball and Shapiro (1997) explain financial risk as the willingness of organisations to trade off the increasing variance of returns against greater expected returns.

Financial risks include interest rate risk, liquidity risk, investment risk, credit risk and currency risk. As was noted in section 3.6.3, the discussion of systematic risk, interest rate risk, liquidity risk and credit risk all form part of the systematic risk category, which have already been discussed and therefore will not further be elaborated on. Investment risk can be defined as the possibility that investments may be adversely affected by losses stemming from risks to which they are exposed, whereas currency risk concerns the likely effect that exchange rate fluctuations could have on foreign exchange holdings or commitments payable in foreign currencies (Valsamakis *et al*., 2010).

- Group risk

Group risk occurs as a result of the interaction that occurs between parent companies and their subsidiaries and between fellow subsidiaries. Group risk is not applicable to all organisations, as this risk type is an additional risk to a particular legal entity, caused by it being within a larger group structure. Resources, for example, may be diverted from the entity in question to other group companies if the latter companies suffer a large loss. This could then have adverse knock-on effects which would not have transpired if the entity had been a stand-alone organisation (Kemp & Patel, 2011).

- Strategic risks

Strategic risk is defined as the system of future opportunities and threats that are so significant that they could materially affect the organisation's main purpose or even be a danger to its ultimate survival. Strategic risks are dynamic, looping processes that shift from inside the organisation to the outside environment and vice versa (Allan & Davis, 2006). Strategic risks include factors such as competition, customer preferences, technological innovation and regulatory barriers (D'Arcy, 2001).

Golany, Kaplan, Marmur and Rothblum (2009) are of the opinion that, when an organisation is exposed to strategic risks, the best policy to follow is one where resources are spread in such a manner as to decrease the potential damage level of the most vulnerable areas. In cases where an organisation is confronted with strategic risk, it should start by investing resources in the area which is most vulnerable and continue until the potential damage level equates that of the second

most vulnerable site. Allan and Davis (2006) further comment that strategic risks are different in nature from operational risks. In their opinion, strategic risks are strongly linked to people, behaviour and culture. Strategic risks are not events but rather a series of interconnected dynamic, complex processes and hence are required to be managed differently (Golany *et al.*, 2009).

- Fraud risk

Fraud is a worldwide phenomenon that ruins profitability, reputability and legitimacy of organisations whenever it occurs (Kroll, 2013; Rossouw, Mulder & Barkhuysen, 2000).

Fraud is defined as an intentional act by one or more individuals, management, employees, or third parties, which results in the misrepresentation of financial statements or existing material facts and in addition may result in further damage or injury to other stakeholders (American Institute of Certified Public Accountants [AICPA], 2002; Malaysian Institute of Accountants, 2001; Norman, Rose & Rose, 2009).

The term refers to the use of deception with the intention of obtaining an advantage, avoiding an obligation or causing loss to another party (HM Treasury, 2008). Moreover, fraud involves a perpetrator committing a deceptive act in order to obtain a benefit, which in effect drains the value of an organisation. Fraud comprises acts such as deception, bribery, forgery, extortion, corruption, theft, conspiracy, embezzlement, misappropriation, false representation, concealment of material facts and collusion (Samociuk & Iyer, 2010).

The healthcare sector is also confronted with fraud, which specifically include:

- misrepresentation of the type or level of service provided;
- misrepresentation of the individual rendering the service;
- billing for items and services that have not been documented;
- billing for items and services that were not medically necessary; and
- seeking increased payment or reimbursement for services that were correctly billed at a lower rate (Jones & Jing, 2011).

Fraud risk can be defined as the risk of a perpetrator committing a fraudulent act which has a detrimental effect on the organisation (Samociuk & Iyer, 2010). Young

(2014) defines fraud risk as the risk resulting from illegal actions of an organisation's employees or customers, additional parties to a transaction, or outside intruders. Risk, in the context of managing fraud risk, is the vulnerability or exposure of an organisation towards fraud and irregularity (HM Treasury, 2008). Based on the understanding that has been gained on fraud risk, the current study explored the effect that this important risk class has on the healthcare sector.

The Association for Certified Fraud Examiners reports that five per cent of business revenue across the globe, totalling approximately US$3.5 trillion, is stolen through fraud every year (Nouss, 2013).

Musau and Vian (2008) report that healthcare fraud in the United States of America (USA) has been estimated to amount to US$60 million per year of which the majority is found to be in the hospital sector. Moreover, research conducted by the Centre for Counter Fraud Studies at the University of Portsmouth in the United Kingdom (UK) confirmed that 7.29% of the annual global healthcare expenditure or an estimated US$415 billion is lost due to fraud (Jones & Jing, 2011). In South Africa, Qhubeka Forensic Services, a fraud investigation organisation, researched and found that fraud in the South African healthcare sector amounted to between 4 and 8 billion rand per year (Jones & Jing, 2011).

Samociuk and Iyer (2010) also believe that fraud risk is a key risk to an organisation and therefore it is unwise for risk management programmes to ignore this risk class. Research conducted by the Association of Certified Fraud Examiners (ACFE) from 2002 to 2008 across a wide range of industries has repeatedly indicated the following:

- fraud is a widespread problem that affects practically every organisation; and.
- the typical organisation loses between 5 and 7% of its annual revenue to fraud (Samociuk & Iyer, 2010).

Fraud risk therefore has become an area of concern in the healthcare sector as the problem causes organisations and countries to suffer substantial losses. Fraud risk has been proved to be a significant risk class. A proper classification and the management of fraud risk in the private hospital sector, more specifically in South Africa, is therefore imperative.

3.7 SUMMARY

The aim of this chapter was to offer a review of literature on the concepts of risk, risk management, the historical development of risk management, enterprise risk management, corporate governance, the risk management process and the classification of risks.

Literature confirms that risks are not events or just consequences. Risks are rather descriptions of what could happen or what it could lead to in terms of how/if the organisation's objectives will be achieved or affected (Chicken & Posner, 1998; Rejda, 2011; Zsidisin, 2003). Authors have made it evident that the interpretation of risk depends to some extent on the particular point of reference regarding the discussion of risk. To this end, there exists no universal definition of risk, although literature points out that a definite relationship exists between risk and uncertainty. Risk taking always involves a degree of uncertainty. Consequently, the degree of uncertainty that exists, determines the extent of the risk.

The history of the development of risk management serves as evidence to suggest that risk management has demonstrated to be an ever-growing, dynamic field which, if not appropriately addressed, could have a detrimental effect on organisations across the globe, and the private healthcare sector is no exception.

Risk management is a process that guides an organisation over a vast range of decision-making initiatives (Bernstein, 1996). The ISO (2009) defines risk management as the architecture for managing risks effectively. The purpose of risk management is to facilitate the effective and efficient operation of an organisation, not only improving internal and external reporting but also aiding in the compliance of laws and regulations (Chapman, 2011). Indeed, effective risk management increases the probability of success, reduces both the probability of failure and uncertainty and aids the organisation in achieving its objectives.

Risk management is no longer segmented and carried out in silos. The relatively new phenomenon of ERM enables organisations to manage a wide variety of risk in an integrated, enterprise-wide fashion (Hoyt & Liebenberg, 2011). ERM provides a structure which combines all risk management activities into one integrated

framework where the identification of such interdependencies is facilitated. ERM entails protecting and enhancing shareholder value and has been validated to be imperative for any organisation seeking to maintain a competitive advantage, promoting sustainability and achieving the maximisation of shareholder value (Chapman, 2011; Valsamakis *et al*., 2010).

Corporate governance was defined as the system by which companies are directed and controlled (Keasey *et al*., 2005; Smerdon, 1998). It involves a set of relationships between an organisation's management, its board, its shareholders and other stakeholders. Corporate governance is an essential component of enterprise risk management and provides the structure through which the objectives of the organisation are set as well as the monitoring of performance is determined (Keasey *et al.,* 2005; Smerdon, 1998). Good board practices and corporate governance are crucial for effective risk management (Chapman, 2011). Literature suggests that the development and implementation of corporate governance have been the driving forces behind promoting sound risk management practices within organisations. This corresponds with the ultimate goal of achieving sustainability for organisations and maximising shareholder value (Elahi, 2010; Ferguson & Ferguson, 2011).

The risk management process model that was chosen and illustrated for the purpose of this study, was adopted from Fraser and Simkins (2010) as this model proved to be identical to the model developed and published by the ISO 3100 risk management, which is internationally recognised and accepted. Each step of the risk management process was explained, together with perspectives on the extent, purpose and importance of each step within the ultimate risk management process.

Literature on the classification of risk made it clear that large organisations, such as hospitals, are exposed to a diverse range of risks classes. Although the importance of each risk class within an organisation varies from industry to industry, an understanding of each risk class is imperative, in order to have the necessary control measures in place to manage risks appropriately.

The chapter concluded with a classification of fraud risk and indicated that fraud risk has become an area of concern for organisations across the globe, including the healthcare sector. The proper management of fraud risk within organisations,

specifically in the healthcare sector, is therefore essential in order to remain sustainable in its business operations.

The next chapter will continue by providing information on the healthcare sector, more specifically the private hospital sector. Attention will be focused on the manner in which risk management occurs in this sector and will include an international as well as a South African perspective.

CHAPTER 4
RISK MANAGEMENT AND THE HEALTHCARE SECTOR

4.1 INTRODUCTION

The healthcare sector is a complex sector consisting of many sectors, involving many players and providing a wide range of services. This sector is an important contributor to the gross domestic product (GDP) of most developed nations (Global Healthcare Marketplace, 2012; WHO, 2011).

The purpose of this chapter will firstly be to provide a broad overview of the healthcare sector. Specific attention will then be paid to the hospital sector of South Africa.

The chapter reports on the manner in which risk management occurs in practice. This is done by providing an international perspective as well as a South African perspective on risk management within the private hospital sector. Risk management practices within the private hospital sector are compared with regard to the risk management hierarchy, the risk management process and the risk classification that exists in hospitals abroad and in South Africa. It will be indicated that the current research revealed that South African private hospitals have well-developed risk management procedures compared to their international counterparts.

4.2 THE HEALTHCARE SECTOR

This section provides background information on the healthcare sector in terms of its economic importance, the diverse range of sectors involved, the different activities and the different categories it comprises.

4.2.1 An overview of the healthcare sector in general

The healthcare sector can be defined as an economic sector concerned with the provision, distribution and consumption of healthcare services and related products (Mosby, 2008; National Institutes of Health [NIH], 1999). The healthcare sector generally comprises the services provided by hospitals, general practitioners and community clinics in the prevention, diagnosis, and treatment of illnesses. This sector is multifaceted, consisting of preventive, remedial and therapeutic services provided by various institutions (Mosby, 2008). Such treatments are delivered by means of providing products or services, which are provided either privately or publicly (Chartered Technofunctional Institute, 2012).

The healthcare sector is an economic activity consuming considerable fractions of the majority of developed nations' GDP and accounting for the employment of tens of millions of people across the world (Global Healthcare Marketplace, 2012). It is composed not just of healthcare service providers, but also of funders (both public and private) and consumers (patients). In addition, important economic sectors are actively associated with the sector, most notably pharmacies, pharmaceutical firms, medical aid schemes, chemical firms, medical equipment manufacturers and suppliers (Comas-Herrera & Wittenberg, 2003).The sector does not only draw on the services of medical professionals but also makes use of the services of public policy workers, medical writers, clinical research laboratory workers, information technology professionals and marketing specialists (Global Healthcare Marketplace, 2012).

For the purpose of finance and management, the healthcare industry can be divided into several categories. As a basic framework for defining it, the United Nations International Standard Industrial Classification (ISIC) categorises the healthcare industry as generally consisting of:

- hospital activities;
- medical and dental practice activities; and
- other human activities.

Hospital activities involve all the activities and procedures that are performed in a hospital. Dental practice activities involve the prevention, detection, management and treatment of oral and dental diseases (Petersen, 2003; The Guardian, 2011).

The third category, ‘Other human activities’, involves activities of or under the supervision of nurses, midwives, physiotherapists, diagnostic/scientific laboratories, pathology clinics and residential health facilities allied with health professions. This joint intervention includes optometry, hydrotherapy, medical massage, yoga therapy, music therapy, occupational therapy, speech therapy, homeopathy, chiropractics, and chiropody (United Nations Statistics Division, 2008).

The Global Industry Classification Standard and the Industry Classification Benchmark, on the other hand, subdivides the healthcare industry into two major groups (Global Healthcare Marketplace, 2012; Chartered Technofunctional Institute, 2012):

- healthcare equipment and services; and
- pharmaceuticals, biotechnology and related life sciences.

Healthcare equipment and services include organisations and entities that provide medical equipment, medical supplies and healthcare services such as hospitals, home healthcare providers and nursing homes. The second industry group consists of companies that produce biotechnology, pharmaceuticals and miscellaneous scientific services (Chartered Technofunctional Institute, 2012).

Other approaches to defining the scope of the healthcare industry lean towards a broader definition including other actions related to health, such as education, training of health professionals, regulation of management of health service delivery, provision of traditional and complementary medicines and the administration of health insurance (Hernandez, 2009).

Although there exist various descriptions of healthcare, depending on the different cultural, political, organisational and disciplinary perspectives, there appears to be some consensus that the healthcare sector can be divided into primary care, secondary care and tertiary care (Johns Hopkins Medicine, 2011; WHO, 2011).

- Primary care

This is the term for health services which play a role in the local community. It refers to the work of healthcare professionals who act as a first point of consultation for all patients within the healthcare system (Johns Hopkins Medicine, 2011; WHO, 2011).

- Secondary care

This term refers to healthcare services provided by medical specialists and other health professionals who generally do not have first contact with patients. It includes the services of cardiologists, urologists and dermatologists (Johns Hopkins Medicine, 2011; WHO, 2011).

- Tertiary care

Tertiary care or specialised consultative healthcare is made available to inpatients and on referral from a primary or secondary healthcare professional, in a facility that has personnel and the required resources that enable advanced medical investigation and treatment (Johns Hopkins Medicine, 2011; WHO, 2011).

Alongside the various players and sectors of which healthcare comprises, it can furthermore be subdivided into a public and private hospital sector. The services provided in private and public hospitals are similar but there exists comprehensible differences which set them apart.

A private hospital is one which is owned and governed by a private body. Financially privileged individuals often prefer private care due to the apparent superior quality of service delivery which emphasises the importance of individual care and attention, and the reliability of equipment. Private hospitals are in general more expensive than public hospitals. In comparison, public hospitals are operated entirely on government funding. The local government body is responsible for the functioning of these hospitals, from the construction, fees of the doctors, and the cost of equipment to the supply of medicines (Simaya & Malandela, 2011).

The overview that has been provided of the healthcare sector provides the required perspective in order to grasp an understanding of where and how the hospital sector fits into this industry. This consequently serves as an introduction to the next section, which will provide a discussion of the hospital sector of South Africa.

4.2.2 The hospital sector of South Africa

Within South Africa, the hospital system consists of a large public sector and a smaller, but fast-growing private sector. Health care varies from the most basic primary health care, offered free by government, to highly specialised health services available in the private sector. The public hospital sector is however under-resourced and over-utilised, while the ever-growing private hospital sector, managed by large companies, caters for middle- and high-income earners (Econex, 2013). The patients of the private hospital sector generally tend to be members of medical schemes and foreign patients who require quality surgical procedures. Research (Brand South Africa, 2012) made it evident that within South Africa, the majority of health professionals are employed in the private hospital sector. For the purpose of this study further attention is centred on the private hospital sector.

4.2.2.1 Structure

The private hospital sector has a long and rich history beginning in the early 1900s. The Hospital Association of South Africa (HASA) was established in 1996, after the amalgamation of various industry bodies over the preceding 30 to 40 years (Matsebula & Willie, 2007). At present, HASA represents the interests of approximately 85% of all private hospitals in the country (Ashton, 2011). The majority of private hospitals outside the three hospital groups are affiliated to the National Hospital Network (Ashton, 2011; Econex, 2013; Matsebula & Willie, 2007).

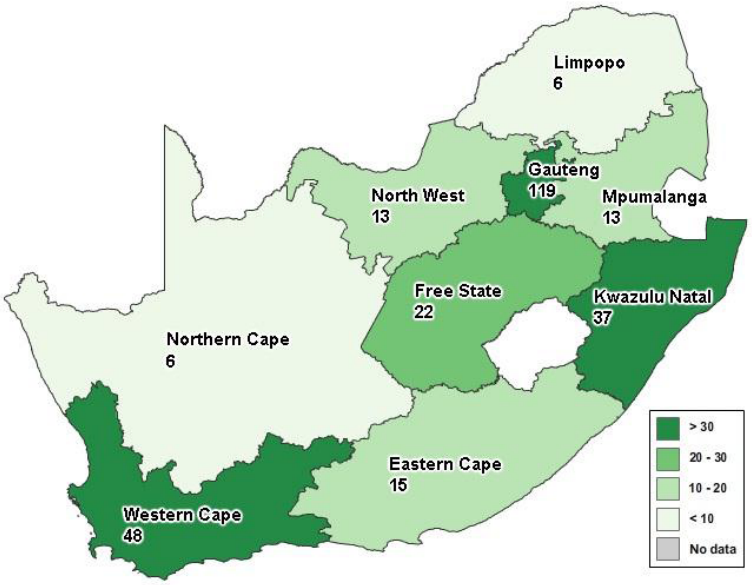
4.2.2.2 Ownership and distribution

At the time of the research, HASA members represents a total of 209 private hospitals representing 27 789 beds (Econex, 2013; Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013). This embodies more than 85% of the private hospital industry in South Africa. The private hospital sector of South Africa is further made up of three hospital groups, namely Life Healthcare, Netcare and Mediclinic, which are all listed on the Johannesburg Stock Exchange (JSE) and currently have a combined average market capitalisation of around R60 billion (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited,

2013). This, however, includes international subsidiaries (Ashton, 2011). All three groups have a number of hospitals in other countries too, but for the purposes of this study the focus was on the hospitals within South Africa's borders only (Ashton, 2011; Econex, 2013; Matsebula & Willie, 2007).

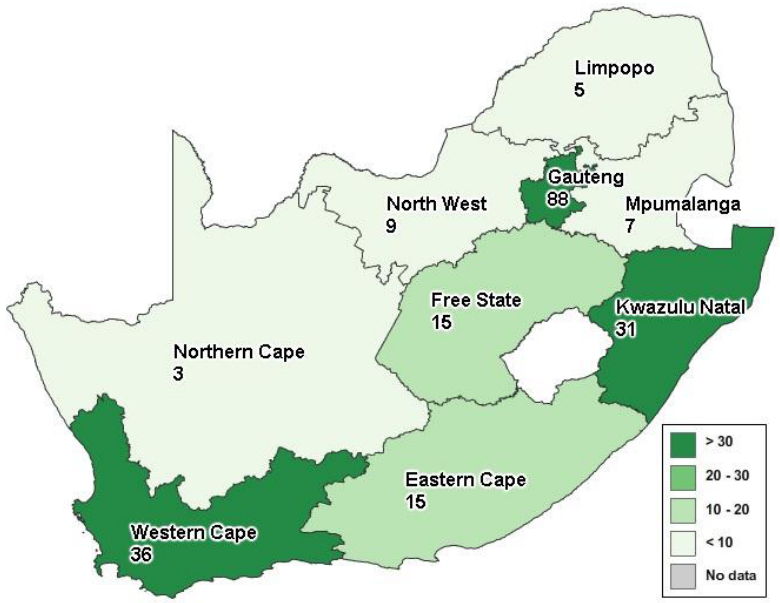
Figures 4.1 and 4.2 below illustrate the total number of private hospitals and the number of HASA member hospitals per province for 2013, respectively. Evident from these figures, is that the private hospitals are concentrated in the major metropolitan areas with the majority of hospitals situated in Gauteng, KwaZulu-Natal and the Western Cape, as this is where the medical scheme population is mostly situated (Econex, 2013).

Figure 4.1: All private hospitals per province, 2013



Source: Econex, 2013 (aggregated data obtained from HASA)

Figure 4.2: Hospital association of South Africa member hospitals per province, 2013



Source: Econex, 2013 (aggregated data obtained from HASA)

In the next section, the manner in which risk management occurs in practice within the private hospital sector is discussed. An international perspective as well as a South African perspective on risk management will be provided.

4.3 RISK MANAGEMENT IN HOSPITALS

4.3.1 International perspective

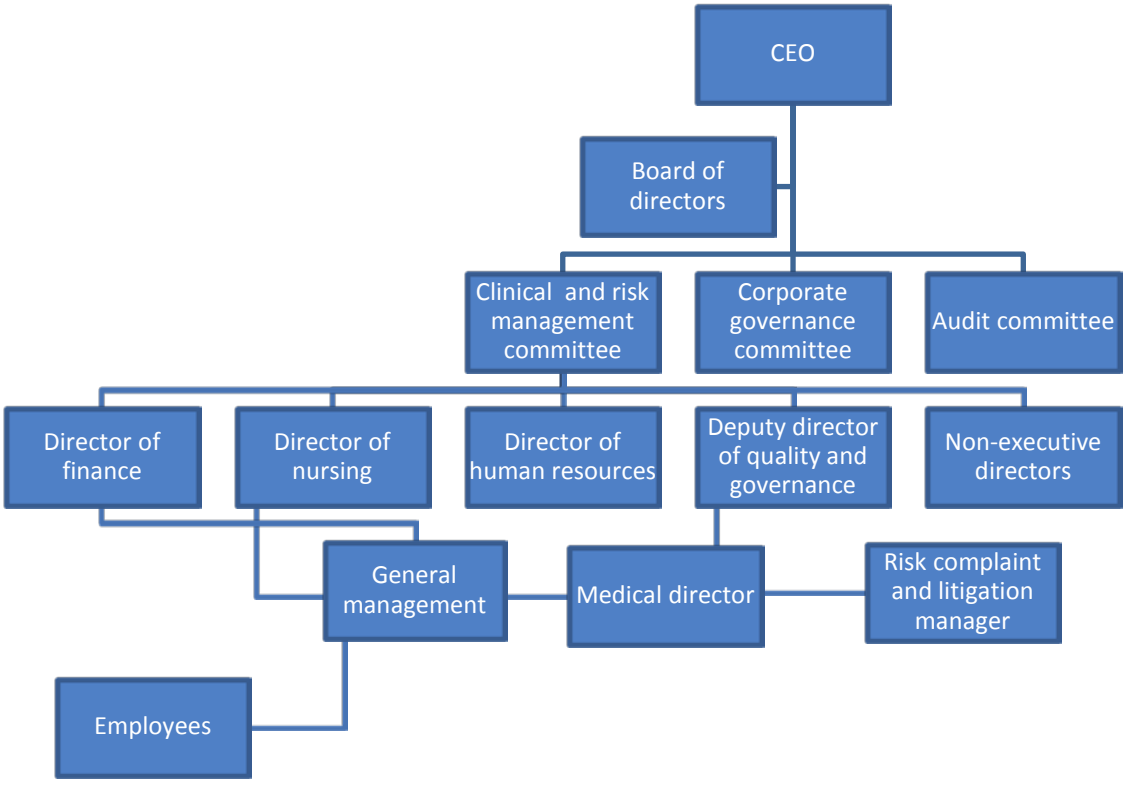
The international perspective on the risk management practices and processes of hospitals that is provided in the section below includes research from Australia, New Zealand, Canada and the United Kingdom. New Zealand and Australia are specifically included due to the fact that the ISO 31000 international risk management standard originated from the prior standards developed by these two countries. Canada and the United Kingdom are included because of the particular attention these countries devote to risk management in the hospital sector (Local Government Association of South Australia [LGA], 2006; Mercy Hospital, 2013;

Papworth Hospital NHS Foundation Trust, 2012; Royal National Orthopaedic Hospital Trust, 2008; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; University Hospitals Birmingham NHS Foundation Trust, 2008; Yukon Hospital Corporation, 2013).

4.3.1.1 Risk management hierarchy

The structure in which risk management occurs and is typically executed internationally is detailed in Figure 4.3 below.

Figure 4.3: Risk management responsibilities



Sources: Adopted from Netcare Limited, 2013; Mediclinic International, 2013; Mercy Hospital, 2013; Tameside Hospital NHS Foundation Trust, 2013; Yukon Hospital Corporation, 2013

- Chief executive

The chief executive has the overall responsibility for risk management, which carries a responsibility for health and safety of employees and those affected by the activities of the hospital. This includes ensuring that proper risk management systems are established, implemented and maintained. The chief executive is further responsible that the required resources are available to the respective parties involved in the process (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- The board of directors

The board has the overall responsibility for the implementation of the risk management strategy and policy. It is responsible for overseeing that the effectiveness of processes is in place for the identification, assessment and management of risk. The board further carries the responsibility for advising the chief executive as necessary. The board delegates responsibility for receiving, assessing and acting on identified risks to key board committees, namely the clinical and risk management committee, the corporate governance committee and the audit committee (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Clinical and risk management committee

This committee has overarching responsibility for all areas of risk, which include the overall responsibility for the maintenance and review of the hospital's risk register (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Corporate governance committee

This committee is responsible for assisting the board in maintaining the effectiveness and efficiency of its operations, to help ensure the reliability of internal and external reporting and to assist with the compliance of laws and regulations (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Audit committee

The audit committee has the primary responsibility for financial risk and associated controls, corporate governance and financial assurance. This committee provides additional assurance that the clinical and risk management committee as well as the corporate governance committee adequately monitors and carries out its responsibilities as required (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- The director of nursing

The director of nursing on behalf of the chief executive is charged with the responsibility for risk management throughout the hospital, with particular responsibility for clinical risk management. The clinical risk issues may then be referred to and become the responsibility of the medical director. The director of nursing further chairs the hospital's risk management committee (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- The medical director

The medical director is the professional lead for medical staff within the hospital and as such, is involved in a range of risk management matters on both a formal and ad hoc basis. The medical director together with the director of nursing is the joint lead for clinical governance, which reports directly to the board (Mercy Hospital, 2013;

Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- The director of human resources

The director of human resources is charged with the responsibility for risk management in relation to human resources and occupational health (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- The director of finance

On behalf of the chief executive, the director of finance is charged with responsibility for all areas of financial and business risk. The director of finance has responsibility for the risk management and committee corporate governance, which has the overarching responsibility for monitoring the hospital's risk register and the risk management committee (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Non-executive directors

The non-executive directors are responsible for providing independent assurance to the board on the risk management structure and processes (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Deputy director of quality and governance

The deputy director of quality and governance is responsible for the strategic management of risk management, legal services, clinical audit, quality assurance and complaints services (Mercy Hospital, 2013; Papworth Hospital NHS Foundation

Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- Risk, complaints and litigation manager

The risk, complaints and litigation manager leads the risk management, complaints and litigation team and provides leadership, advice and support for the implementation of the risk management policy and administration of the risk management committee (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

- General management

General management reports to the appropriate executive director and ultimately the chief executive and are responsible for the implementation of the risk management policy within their respective areas of accountability (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

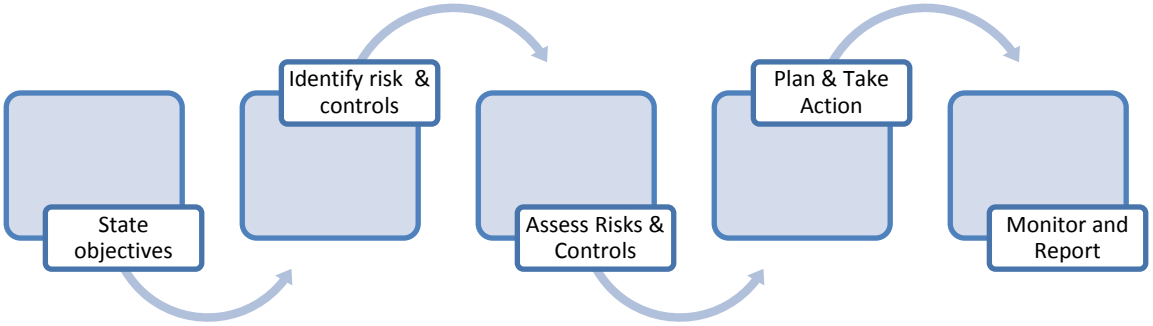
- Employees

All employees are accountable, through the terms and conditions of their employment, professional regulations, clinical governance and the statutory health and safety regulations. It is further their responsibility to report incidents, to be aware of the risk management strategy within the hospital and to attend training as specified in the hospital's risk management training needs analysis. All staff has a responsibility to manage risk within their sphere of responsibility (Mercy Hospital, 2013; Papworth Hospital NHS Foundation Trust, 2012; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

4.3.1.2 The risk management process

The research on the risk management processes that exists internationally indicates that a large number of hospitals have well-established risk management processes in place, which are in line with the international risk management standard (ISO 31000). Research, however also reveals that many hospitals internationally lack the implementation of a formal risk management process, which provides opportunities for future improvement. The risk management processes that were found to be implemented by hospitals abroad comprised the exact risk management process model, which was presented in Figure 3.1 as well as in the model represented in Figure 4.4 below:

Figure 4.4: The Risk Management Process



Source: Adopted from Mercy Hospital, 2013; Yukon Hospital Corporation, 2013

4.3.1.3 The classification of risks

The table below presents all the major risks identified and classified by hospitals internationally. These are all the risks that are perceived as being critical for the sustainability of the international operations, which collectively include hospitals from New Zealand, Australia, Canada, Switzerland and the United Kingdom.

Table 4.1: Risk classification

1	Clinical risk	9	Social risk
2	Infra-structure risk	10	Safety risk
3	Operational risk	11	Information technology
4	Governance risk	12	Human resources
5	Environmental risk	13	Political risk
6	Technical risk	14	Strategic risk
7	Financial risk	15	Privacy risk
8	Regulatory risk	16	Business risk

Source: Adopted from LGA, 2006; Mediclinic International, 2013; Mercy Hospital, 2013; Netcare Limited, 2013; Tameside Hospital NHS Foundation Trust, 2013; Yukon Hospital Corporation, 2013

From Table 4.1 it is apparent that internationally fraud risk is not identified and classified as an individual risk class.

Conversely, research conducted by the Centre for Counter Fraud Studies at the University of Portsmouth and accounting firm PKF in the United Kingdom state that 7.29% of the annual global healthcare expenditure or an estimated US$415 billion is lost due to fraud (Jones & Jing, 2011). Musau and Vian (2008) further indicate that healthcare fraud in the USA has been estimated to be $60 million per year of which the majority occurs in the hospital sector. In addition, the University of Portsmouth found that 3% of the National Health Service's expenditure in the United Kingdom was due to fraud (Jones & Jing, 2011).

The abovementioned literature suggests that globally fraud risk in the healthcare sector is a dilemma and requires urgent attention. Yet, internationally hospitals fail to identify and classify fraud risk. The question that requires attention is what the current state of affairs in the South African private hospital environment is.

4.3.2 South African perspective

The information regarding the risk management practices and processes that exist in the private hospital sector of South Africa was gathered and formulated from the integrated annual reports of the three major private hospital groups of South Africa for the 2013 financial year (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

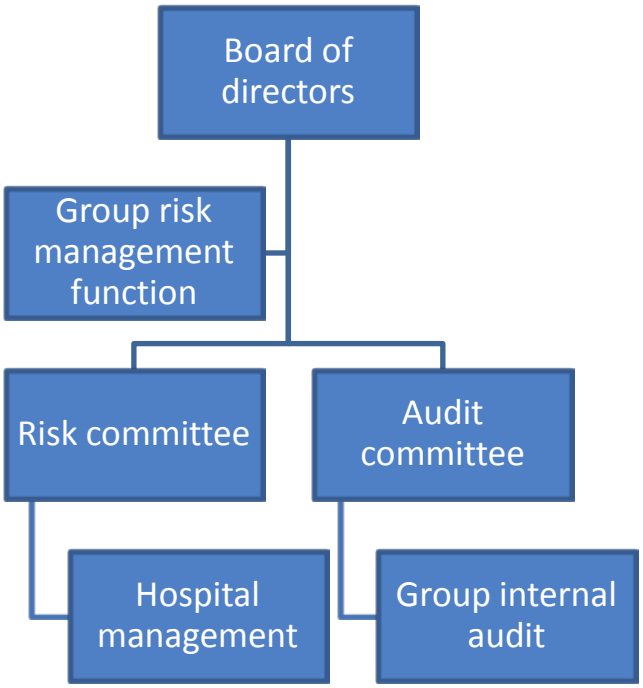
The risk management policy of the South African private hospital groups was revised and approved in May 2012, and took into account international standards such as those of COSO, The South African National Standard on Risk Management (ISO 31000) and International Best Practice (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

The objective of risk management in the private hospital sector of South Africa is to establish an integrated and effective risk management framework where important risks are identified, quantified and managed. The private hospital groups of South Africa acknowledge that risk management is important in their respective organisations in order to maintain a strategic advantage and to increase stakeholder/shareholder value (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

4.3.2.1 Risk management hierarchy

The structure within which risk management occurs and is executed within South African private hospital groups is illustrated in Figure 4.5:

Figure 4.5: Risk management responsibilities



Source: Adopted from Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013

- The board of directors

Within the private hospital setting of South Africa, the board of directors of each hospital group is ultimately responsible for the governance of risk. The board has to appoint a risk committee to assist in discharging this responsibility. The board, through the risk committee, sets the strategic direction for the process and system of risk management. The risk committee together with the audit committee forms the group risk management function. The board's responsibility comprises defining the risk appetite for the group in terms of the level of risk that it is willing to accept in pursuit of its vision and in creating sustainable value for all stakeholders (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

- Group risk management function

The risk management function is formed and operated through the cohesion of the risk and audit committee.

- Risk committee

The primary responsibility of the risk committee is to ensure that adequate risk management processes are in place to identify and monitor the management of key risks and to monitor and review the suitability of risk mitigation plans. The risk committee is concerned with the top risks facing the hospitals, and ensures risk management assessments are performed on a continual basis. It further warrants that risks are managed within the hospital's levels of tolerance and appetite as approved by the board (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

- Audit committee

The audit committee has specific oversight over the group's internal audit function.

- Internal audit

Internal audit is an independent objective assurance and consulting activity designed to add value in order to improve the private hospital's control environment and operations. The objective of internal audit is to assist the private hospital to accomplish its objectives by bringing a systematic disciplined approach towards evaluating and improving the effectiveness of risk management. Internal audit is an integral component of the risk management process and provides independent and objective assurance to the board through the audit committee on the effectiveness of the system of internal control and risk management. Internal audit additionally provides recommendations for improvement where necessary (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

- Hospital management

Hospital management is responsible for executing a group's strategy in accordance with the board's risk management policy and plan, as well as the application of its risk appetite in the hospital's day-to-day activities and operations. Hospital management is further accountable to the board for designing, implementing and monitoring the process and system of risk management (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

- Whistle-blowing mechanism

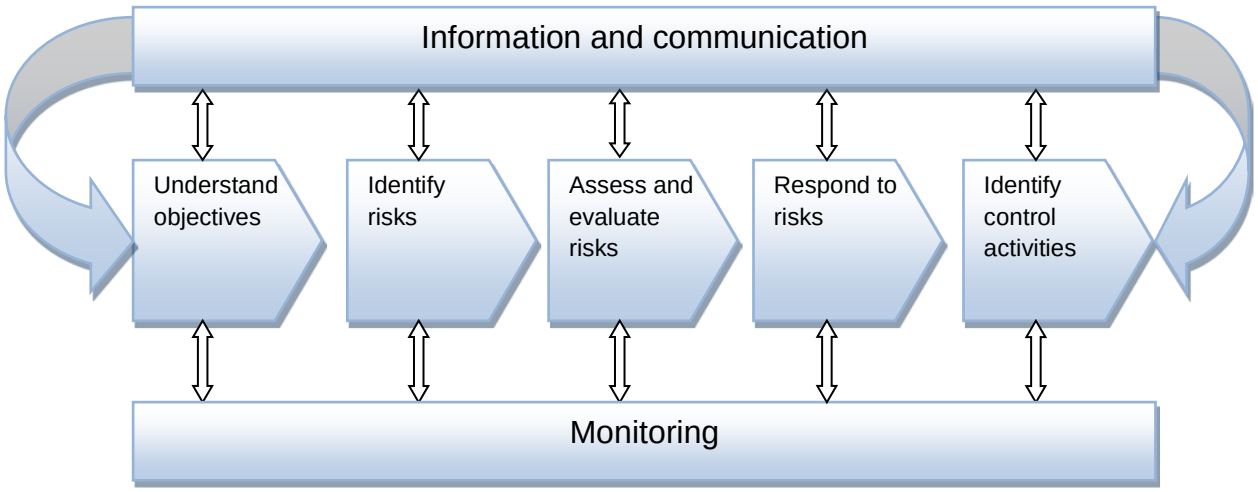
A whistle-blowing mechanism to facilitate the anonymous reporting of alleged fraudulent, corrupt or unethical behaviour exists in the private hospital groups of South Africa. This mechanism is facilitated through the Fraud and Ethics Hotline, and is available to all employees to report fraudulent behaviour of any nature. A zero tolerance approach towards fraud and corruption is adopted by which all identified cases are supposed to be reported to the South African Police Service (SAPS) (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

4.3.2.2 Risk management process

Within South Africa, the risk management process followed by private hospitals involves the coordinated and prudent application of activities and resources to minimise potential negative outcomes of risks to levels acceptable to stakeholders, while simultaneously recognising and pursuing the potential opportunities that can materialise in managing specific risks.

The risk management process typically implemented by the South African private hospital sector is graphically portrayed in Figure 4.6 below. This risk management process proves to be very similar to the international approved risk management process of the international standard (ISO 31000) for managing risk.

Figure 4.6: The Risk Management Process



Source: Adopted from Life Healthcare Group, 2013; Mediclinic International, 2013 Netcare Limited, 2013

4.3.2.3 The classification of risks

The risks identified in Table 4.2 represent all the major risks classified by the private hospital groups of South Africa. These are the risks that are perceived as being critical for the sustainability of the South African operations. The hospital groups of South Africa in addition provide information on the plans and processes that are in place to mitigate each classified risk and on the respective parties to be involved. This study however did not focus on the management and treatment of each risk class, as the focus was specifically on the identification and management of fraud risk.

Table 4.2: Risk classification

1	Clinical risks	9	Competition
2	Availability and quality of skills	10	Regulatory risk
3	Disease/infection outbreaks	11	Reputational risk
4	Fire and allied perils	12	Information technology
5	Compliance risk	13	International investments
6	Maintenance of healthcare facilities	14	Liquidity risk
7	Operational risk	15	Credit risk
8	Interest rate risk		

Source: Life Healthcare Group, 2013; Mediclinic International, 2013 Netcare Limited, 2013

Prior literature however confirms that the management of all risks is important in order for private hospitals to remain sustainable organisations (Elahi, 2010; Gavare & Johansson, 2010; ISO, 2009)

Literature further indicates that fraud risk in the healthcare sector causes significant losses in South Africa annually (Jones & Jing, 2011; Musau & Vian, 2008; Samociuk & Iyer, 2010), yet the private hospital sector fails to identify and classify fraud risk as a separate risk class Life Healthcare Group, 2013; Mediclinic International, 2013 Netcare Limited, 2013).

Young (2014), D'Arcy (2001) as well as Schwartz and Smith (1997) however indicate that fraud risk could conversely be embedded in either operational risk or legal risk. Yet, the integrated annual reports of private hospital groups in South Africa fail to provide any additional information on the risk of fraud and the manner in which organisations need to address this risk class.

Further investigation is therefore imperative in order to determine the manner in which the private hospital sector of South Africa identifies and manages fraud risk. This substantiated the primary objective of this study, which was to explore the management of fraud risk within the South African private hospital sector.

4.4 SUMMARY

The chapter commenced by providing an overview of the healthcare sector, acknowledging the fact that this sector is complex, consisting of important economic sectors, involving a diverse range of players and consuming substantial proportions of most developed nations' GDP.

Attention was then focused on the private hospital sector of South Africa. The information presented on the structure, ownership and distribution of private hospitals indicated that the majority of private hospitals in South Africa are members of HASA and are situated in the major metropolitan areas of Gauteng, KwaZulu-Natal and the Western Cape.

The chapter continued by investigating the manner in which risk management occurs in private hospitals. This included an international as well as a South African perspective. This investigation was conducted by focusing attention on the responsibility for risk management, the risk management process and the risk classification that exists in the private hospital sector.

The research found that fraud risk is not identified and treated as a separate risk category both internationally as well as in South Africa. Yet, the literature confirms that fraud risk causes significant losses annually in both the international and South African private hospital sector (Jones & Jing, 2011; Musau & Vian, 2008).

This consequently corresponds to and verifies the purpose of this study, which was to investigate how the private hospital sector of South Africa manages fraud risk, and to identify problem areas in the management of this precarious risk category.

Chapters 2, 3 and 4 provided the literature review of the study, which served as the foundation for the empirical part of the study. The research methodology is explained in Chapter 5.

CHAPTER 5
RESEARCH DESIGN AND METHODOLOGY

5.1 INTRODUCTION

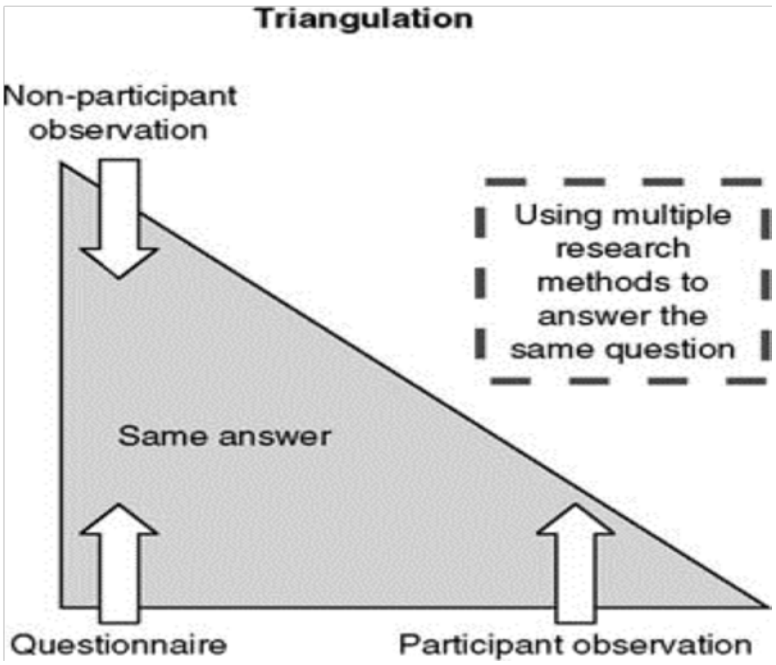
The research design and methodology are described and discussed in this chapter.

The research design is defined as the plan for the data collection (Myers, Well & Lorch, 2010). The term methodology is defined as the study of the methods, techniques and procedures implemented in order to gain warranted knowledge on a specific field of study (Gill & Johnson, 2010).

The various approaches to research can be classified under different taxonomies. However, according to Remenyi *et al.* (1998), the research of this study was of an empirical nature, within the philosophical paradigm of positivism. Empirical positivism is research that is conducted by collecting evidence to add to the field of study with the means of observation that can be analysed statistically (Remenyi *et al*., 1998).

Quinton and Smallbone (2006) suggest that by incorporating multiple research tools to answer the same research question, the research provides a strong body of evidence for the audience of the research project. This method of employing multiple research tools is known as ‘triangulation’ (Quinton and Smallbone, 2006). Hence, findings are validated based on various sources, which include a literature review, a survey and statistical analysis. This graphically presented in Figure 5.1.

Figure 5.1: Triangulation



Source: Quinton and Smallbone, 2006

The objective of this chapter is to provide the research methodology implemented for the gathering and analysis of the data for this study. To achieve this objective, the chapter covers the following:

- the theory of research design;
- research methods;
- data types;
- levels and characteristics of measurement, population and sample of the study;
- data gathering methods;
- statistical techniques used for the analysis of the data;
- reporting of findings; and finally
- ethical considerations.

5.2 RESEARCH DESIGN

From the work of Saunders *et al.* (2007) it is evident that a research design is imperative for any study in order to accomplish the research objectives and to add to the body of knowledge.

A research design considers the strategy for a study and the plan by which the strategy is executed. It specifies the methods and procedures for the collection, measurement and analysis of data. In other words, the research design is the blueprint for fulfilling objectives and answering the questions of the study. It includes an outline of what the researcher will do: from writing hypotheses and their operational implications to the final analysis of data (Cooper & Schindler, 2008).

Two widely used research approaches are the qualitative and quantitative approaches (Cooper & Schindler, 2008). Crowther and Lancaster (2009) acknowledge the fact that there exists an over-lap between qualitative and quantitative data and research techniques. At the very least, each type of data can make valuable contributions towards the development of knowledge or in solving specific problems. The different paradigms are discussed in the section below.

5.2.1 Qualitative research design

Qualitative research, also referred to as interpretive research, seeks to develop an understanding of phenomena through detailed description (Berg, 2004; Cooper & Schindler, 2008).

Cooper and Schindler (2008) further describe qualitative research as an array of interpretive techniques which seek to describe, decode, translate and otherwise come to terms with the meaning, not the frequency, of certain more or less naturally occurring phenomena in the social world. Qualitative research is all about text and aims to accomplish an in-depth understanding of a situation (Berg, 2004).

Langer (2001) indicates that qualitative research is ideal for extracting feelings, emotions, motivations, perceptions or self-described behaviour. Crowther and Lancaster (2009) state that qualitative data are data in the form of descriptive

accounts of observations and relates to data that cannot be subjected to numerical analysis. It is in other words associated with situations that cannot be quantified or which are difficult to quantify.

Blaxter, Hughes and Tight (2001) identify the following interesting features regarding qualitative data:

- Qualitative research can be used for testing hypotheses and theories, even though it is mostly used for theory generation.
- Qualitative data often include quantification, for example statements including more than, less than, most or specific numbers.

As it was not the objective of this study to extract feelings, emotions and motivations, or to develop a hypothesis and theory regarding the management of fraud risk in the private hospital sector of South Africa, a qualitative research design was inappropriate, and therefore a quantitative research design was used.

5.2.2 Quantitative research design

Quantitative research attempts precise measurement of a phenomenon. Quantitative methodologies measure knowledge, opinions or attitudes and the data of these methodologies often consist of participant responses that are coded, categorised and reduced to numbers in order to allow for statistical analysis (Cooper & Schindler, 2008).

Crowther and Lancaster (2009) comment that quantitative data are often considered to be more objective and scientific than its qualitative counterpart, and is therefore associated with the more traditional scientific approaches to research as used in the physical sciences. Quantitative data are in the form of numbers and therefore allows for analysis by means of standard statistical techniques (Cooper & Schindler, 2008).

Blaxter *et al.* (2001) however identify the following features regarding quantitative research:

- although quantitative research is in most cases used to test theory, it can be utilised for exploring an area and generating hypotheses and theory; and

- quantitative approaches (e.g. large-scale surveys) can collect qualitative data by means of open-ended questions.

Based on the strength of the research design's experimental control, Adèr, Mellenbergh and Hand (2008) state that quantitative research designs can be classified to belong to one of two broad research design categories:

- experimental research designs; and
- non-experimental research designs.

During an experimental design, the researcher actively attempts to change the situation, circumstances or experience of participants (manipulation), which may lead to a change in the behaviour of the participants of the study. The participants are assigned to different conditions, and variables of interest are measured. All other variables of controlled experiments are normally fixed before the data collection starts (Adèr *et al.*, 2008).

Non-experimental research is similar to experimental research. The only difference in terms of non-experimental research is the fact that it does not involve the manipulation of the situation, circumstances or experience of participants (Babbie, 2008). Non-experimental or descriptive research designs aim to answer research questions about the current state of affairs, identify the factors and relationships among them, and create a detailed description of the phenomena (Adèr *et al.*, 2008).

To conduct non-experimental research designs, surveys are the most widely used method. Survey research is a systematic research method for collecting data from a representative sample of individuals sampled from a targeted population using a variety of delivery methods. These methods include face-to-face interviews, telephone interviews as well as mail and electronic communication, which may include closed-ended and/or open-questions (Kalaian, 2008).

As the objective of this study was to investigate the state of affairs with regard to the management of fraud risk in the private hospital sector of South Africa, a quantitative non-experimental research design was chosen as the preferred approach.

When considering which tool to utilise for a survey, the current research followed Remenyi *et al.* (1998), who identified the questionnaire as the main instrument for

collecting data for survey research. A questionnaire is an instrument delivered to the participant via personal or non-personal means, and which comprises a set of standardised questions, which follow a fixed scheme in order to collect individual data about one or more specific topics (Cooper & Schindler, 2008). A questionnaire was consequently the preferred tool to conduct the quantitative non-experimental research for this study.

5.3 DATA TYPE

The starting point for acquiring information however must always be with the collection of data. In order to accomplish the specific objectives of a study it is important to understand and be able to distinguish data from information (Adèr *et al.*, 2008).

Cooper and Schindler (2008) define data as facts presented to the researcher from the environment of the study. Data are the raw material of problem solving and decision-making behaviour. However, information stems from raw data and as such data are essential to the problem solving process. Information, on the other hand, is defined as knowledge gained through study, communication and conducting research (Crowther & Lancaster, 2009).

Crowther and Lancaster (2009) indicate that information needs to be meaningful, have relevance, and be timely and accurate and it should be presented in the correct format in order to enhance value.

The following sections will distinguish between primary and secondary data.

5.3.1 Primary data

Cooper and Schindler (2008) identify primary sources as original work of research or raw data without interpretation or pronouncements that represent an official opinion or position. Remenyi *et al.* (1998) explain that evidence is collected from primary sources when the researcher directly interacts with the originator of the evidence. Primary data do not exist until and unless it is generated through the research

process as part of the dissertation or project. Primary data are closely related to, and has implications for, the methods and techniques of data collection. The techniques of collecting primary data include experimentation, interviewing, observation and surveys (Cooper and Schindler, 2008; Crowther & Lancaster, 2009).

Primary sources are always the most authoritative, because the information has not been filtered or interpreted by a second party (Cooper & Schindler, 2008). McDaniel *et al.* (2008) state that the key advantage of primary data is the fact that it will answer a specific research question, which secondary data are unable to answer.

5.3.2 Secondary data

Crowther and Lancaster (2009) explain secondary data as information which already exists in some form or another, but which was not primarily collected for the purpose of the study. In other words, the data were initially collected for other purposes or objectives than that with which the researcher who is now addressing this data is concerned. Secondary data are often the starting point for data collection and it is the first type of data to be collected (Quinton & Smallbone, 2006).

Cooper and Schindler (2008) agree with this explanation. To them, secondary sources are interpretations of primary data, and as a result this type of data has at least one level of interpretation inserted between the event and its recording.

Quinton and Smallbone (2006) are of the opinion that, if the secondary data are so superior that one can use it to validate the primary data of the study, it can be reasoned that the current research project is unnecessary and has no value.

Crowther and Lancaster (2009) in addition identify the following possibilities in which secondary data could be applied in the management research process:

- identifying the problem or setting objectives;
- developing an approach to the research problem;
- formulating the appropriate research design;
- answering certain research questions; and
- assisting to interpret primary data.

To conclude, arguments surrounding secondary data, the expertise, credibility, reputation and overall trustworthiness of the source should always be considered when evaluating secondary data (Soriano, 2013).

5.4 LEVEL OF MEASUREMENT

Within the context of survey research, measurement refers to the process of assigning values to characteristics of individuals to indicate their position on an underlying construct (Dykema, Blixt & Stevenson, 2008). Gill and Johnson (2010) state that it is important to use the correct type of scale for measuring any variable that is appropriate to the statistical techniques that are used during the data analysis process.

Gill and Johnson (2010) differentiate between five types of measurement scales, namely nominal, binary, ordinal, interval and ratio scales. The five levels of measurement form a range, because as one moves from the nominal level to the ratio level, the numeric values of the variable take on an increasing number of useful mathematical properties (Gershkoff, 2008).

5.4.1 Nominal

Nominal scales are the least sophisticated level of measurement and are used to place individuals or objects into categories with regard to some specific characteristics. With nominal scales, the researcher collects information on a variable that naturally or by design can be grouped into two or more categories that are mutually exclusive and collectively exhaustive, for example, classifying individuals according to gender (Remenyi *et al.*, 1998).

For nominal variables, the researcher cannot compute statistics like the mean, variance or median, because they will not have intuitive meaning. Nominal variables also cannot be used in associational analyses like covariance or correlation and cannot be used in regressions (Cooper & Schindler, 2008; Gershkoff, 2008).

Although nominal data are statistically weak, they remain useful. If no other scale can be used, it is almost always possible to classify a set of properties into a set of equivalent classes. Nominal scales are especially valuable in exploratory work, where the objective is to uncover relationships rather than to secure precise measurement (Cooper & Schindler, 2008).

5.4.2 Binary

Binary variables are a special type of nominal variable that can take on two mutually exclusive values. For example, one might have a variable that indicates whether an individual is male. If the individual were male, a value of 1 would be awarded, whereas if the individual were not male, in other words female, a value of 0 would be awarded. In cases like this, the values are mutually exclusive, because no individual can be both male and female and no other possibilities are available. Binary variables can furthermore be used in associational analyses, which differentiate them even further from nominal variables (Gershkoff, 2008).

5.4.3 Ordinal

An ordinal scale is a further increase in complexity, which includes all the characteristics of the nominal scale but in addition has an indication of order. An ordinal scale is typically employed when the respondent is required to respond in the form of a rank ordering. The evidence gathered from the respondents is then put into categories, where a number is assigned to each category indicating the order of the categories (Cooper & Schindler, 2008; Remenyi *et al.,* 1998).

Gill and Johnson (2010) indicate that the different points on the scale indicate greater or smaller amounts of the phenomenon being measured relative to the other point on the scale. However, it does not imply anything other than establishing an order. With an ordinal scale, it is not possible to measure the distance between the points on the scale. For example, it is impossible make the assumption that a respondent who provides a response of 2 is halve the value of someone who provides a response of 4 and twice the value of someone who provides a response of 1. A researcher can, however, compare values using ‘greater than’ or ‘less than’ terminology and logic.

Yes ‘excellent’ is greater in value than ‘very good’ but the exact distance between those values remains unknown (Cooper & Schindler, 2008, Gershkoff, 2008).

Ordinal scales are generally best suited for nonparametric statistics such as modes, medians and chi-square, but are also used for correlations, analyses of variance and in mathematical models. As indicated above, ordinal measures convey information about the relationship between values: the one value is greater than the other but they do not indicate how much greater a value is (Dykema *et al.,* 2008; Gershkoff, 2008).

5.4.4 Interval

Interval scales have all the characteristics of nominal and ordinal data, but include an additional strength: they incorporate the concept of equality of interval, in other words, the scale’s distance between 1 and 2 equals the distance between 2 and 3. Interval scales, nonetheless, do not have a true zero; rather, zero is arbitrary, which makes the multiplication and division of points on an interval scale meaningless (Cooper & Schindler, 2008; Gill & Johnson, 2010).

As with ordinal variables, interval variables can be used in associational analyses. Interval variables further allows for parametric tests to be conducted, which include calculating correlations and doing broad spectra of statistical procedures such as calculating the mean, standard deviation, Pearson’s correlation coefficient, t-test and f-test (Cooper & Schindler, 2008; Remenyi *et al*., 1998).

5.4.5 Ratio

Ratio scales provide the highest level of measurement and possess all the properties of the nominal, ordinal and interval scales (Cooper & Schindler, 2008). One additional power of ratio scales is the provision for absolute zero or origin. Ratio data therefore represent the actual amounts of a variable (Gill & Johnson, 2010). The values assigned to ratio variables can consequently be added, subtracted, multiplied or divided. It is possible for example to indicate that a score of four represents twice as much of the construct as a score of two (Cooper & Schindler, 2008; Gershkoff, 2008).

With ratio variables, distances between values of the variable are mathematically meaningful and, as a result, the researcher is able to calculate the mean, median, mode and variance. It is further possible to analyse ratio variables with the full range of statistical techniques and to conduct parametric associational analyses with meaningful results (Gershkoff, 2008; Remenyi *et al.*, 1998).

To be confident about results generated through the study, it is important to ascertain that the measures are valid and reliable. Section 5.5 discusses the characteristics of respectable measurement.

5.5 THE CHARACTERISTICS OF RESPECTABLE MEASUREMENT

Cooper and Schindler (2008) suggest that there exist three major criteria for evaluating a measurement tool, namely validity, reliability and practicality. In the section that follows, the nature of these qualities will be discussed.

5.5.1 Validity

Crowther and Lancaster (2009) define validity as the extent to which the data collection method or research method describes or measures what it intended to describe or measure. Gill and Johnson (2010) have a similar approach towards defining validity. To them, validity relates to the extent to which a scale encoded into a set of questions actually measures the variable it is expected to measure. Validity therefore refers to the accuracy of the measurement process.

Two major forms of validity exist, namely external and internal validity.

5.5.1.1 External validity

External validity refers to the extent to which any research findings can be generalised or extrapolated, beyond the immediate sample of people from which the data had been collected. External validity is often subdivided into the following two criteria: population validity and ecological validity. *Population validity* relates to the extent to which it is possible to generalise from the sample involved to a wider population*. Ecological validity*, on the other hand, is concerned with the extent to which it is possible to generalise from the actual social context in which the research has taken place and the data thereby gathered, to other social contexts and settings (Gill & Johnson, 2010).

5.5.1.2 Internal validity

Internal validity refers to whether or not what is identified as the 'cause(s)' or 'stimuli' truly produce what have been interpreted as the 'effects' or 'responses'. It further refers to whether the independent variable actually is responsible for any identified variation in what has been defined as the 'dependent variable' (Gill & Johnson, 2010), in other words, whether or not the research instrument measured what it intended to measure (Cooper & Schindler, 2008). Quinton and Smallbone (2006) comment that in a study that is quantitative of nature, the test for internal validity should focus on causality.

In order to address internal validity appropriately, three additional categories exist, namely content/face validity, criterion-related validity and construct validity.

5.5.1.2.1 Content/Face validity

Content validity is the extent to which the measuring instrument provides sufficient coverage of the investigative questions guiding the study. Content validity is related to the manner in which the research instrument contains a representative sample of the population of the study. If a representative sample is attained, then content validity has been achieved. Or if the research instrument adequately covers the

topics that have been defined as relevant dimensions, then content validity is attained (Cooper & Schindler, 2008; Quinton & Smallbone, 2006).

5.5.1.2.2 Criterion-related validity

Criterion-related validity is defined as the success of measures used for prediction or estimation. This form of internal validity is achieved if/when it satisfies the four criteria of relevance, freedom from bias, reliability and availability. A criterion is *relevant* if it is defined and scored in terms as one judge to be the proper measure of success. The researcher's judgement is however important in making a decision on which criteria are appropriate indicators of success. Freedom from bias is attained when the criterion gives each participant an equal opportunity to score well. A criterion is *reliable* if it is stable or reproducible, while availability is achieved when the information specified by the criterion is accessible and obtainable (Cooper & Schindler, 2008).

5.5.1.2.3 Construct validity

Construct validity considers the inherent validity of the theory the researcher is testing (Quinton & Smallbone, 2006). Based on the perspective of Cooper and Schindler (2008), construct validity is considered to be the ability of the research instrument to provide evidence based on theory. It is important that when attempting to evaluate construct validity, one considers both theory and the measuring instrument being used (Cooper & Schindler, 2008).

5.5.1.3 Reliability

Reliability relates to the extent to which a particular data collection approach will yield the same results in different occasions or the degree to which a measurement is free of random/unstable error (Crowther & Lancaster, 2009). Gill and Johnson (2010) have a similar opinion, stating that the reliability of measurement is closely related to consistency, that is, the extent to which a measuring device will produce the same results when applied more than once to the same phenomenon under similar conditions. However, to satisfy this criterion, it should be possible for another

researcher to duplicate the original research using similar or equivalent conditions in order to observe whether or not the same results are found (Gill & Johnson, 2010).

Cooper and Schindler (2008) point out that reliability is a necessary contributor towards validity, but is not a sufficient condition for validity. Reliability does not necessary imply validity, whereas if a measure is valid, it will be reliable. It is therefore apparent that a measuring instrument should first be valid in order for it to be reliable (Gill & Johnson, 2010).

Three kinds of reliability estimates exist that can be performed in order to assess the reliability of the study's findings. This is illustrated in Table 5.1 below:

Table 5.1: Summary of reliability estimates

Type	Coefficient	What is measured	Methods
Test-retest	Stability	The same test is administered twice to the same subjects over an interval of less than six months.	Correlation
Parallel forms	Equivalence	The degree to which alternative forms of the same measure produce similar results.	Correlation
Split-half correlations, measured with Cronbach's Alpha	Internal Consistency	The degree to which instrument items are homogeneous and reflect the same underlying construct(s).	Specialised correlational formulas

Source: Cooper and Schindler, 2008

5.5.1.4 Practicality

The scientific requirements of a research project call for the measurement process to be both reliable and valid, whereas practicality relates to the operational requirements of a project. This translates to economy, convenience and interpretability. Economy is the amount of time and money available to the research project. A measuring instrument, such as a questionnaire, passes the convenience test if it is easy to administer. This is achieved by paying close attention to design and layout. Interpretability is relevant when individuals other than the test designers are required to interpret the results (Cooper & Schindler, 2008).

5.6 POPULATION OF THE STUDY

The private hospital sector of South Africa is dominated by three major hospital groups, namely Life Healthcare Group, Mediclinic International and Netcare Limited (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013). As a result, the population of this study encompassed private hospitals belonging to the abovementioned hospital groups. These three private hospital groups collectively own 170 private hospitals in South Africa (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

5.7 SAMPLE OF THE STUDY

A sample is defined as a group of elements consisting of a portion of the target population, carefully selected to represent the population (Remenyi *et al.*, 1998). Cooper and Schindler (2008) state that a good sample is characterised by the manner in which it represents all the characteristics of the population it purports to represent. The sample should therefore be valid. Validity of the sample depends on two considerations, namely accuracy and precision (Crowther & Lancaster, 2009).

5.7.1 Accuracy

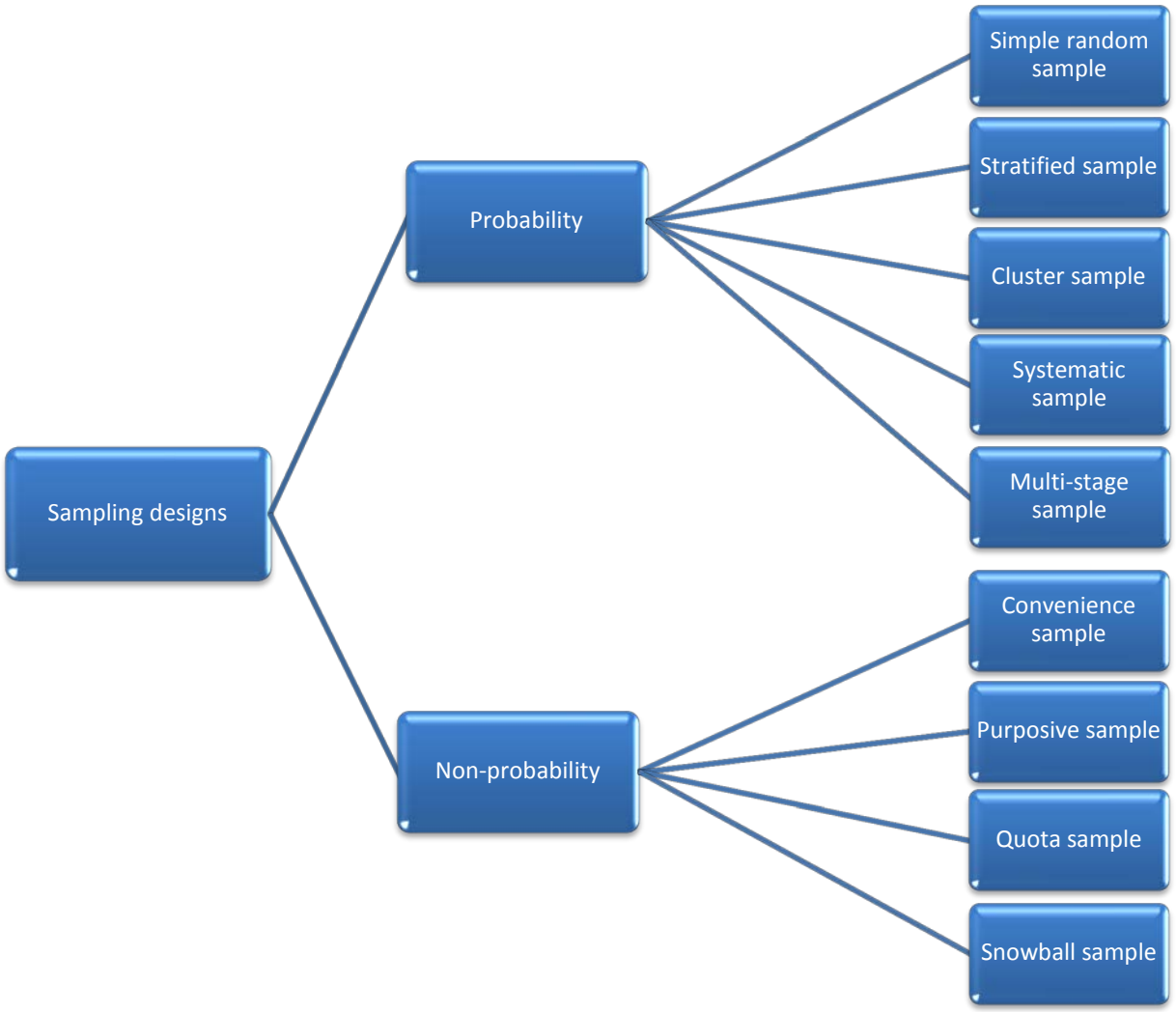
Accuracy is the degree to which bias is absent from the sample. A sample is free from bias when enough elements in the sample occur and these elements are drawn in a manner that favours neither overestimation nor underestimation (Cooper & Schindler, 2008).

5.7.2 Precision

Precision is measured by the standard error of estimate, a type of standard deviation measurement. A sample with adequate precision is one that has a standard error that is within acceptable limits for the purpose of the study. The smaller the standard error is, the higher the precision of the sample (Cooper & Schindler, 2008).

Two main sampling designs are available in research, namely probability sampling, which is used by the positivistic researcher, and non-probability sampling, which is the domain of the phenomenologist (Remenyi *et al.*, 1998). Probability sampling methods are based on the concept of random selection; a controlled procedure that assures that each population element is granted an equal chance of selection. In contrast, non-probability sampling is not random (Quinton & Smallbone, 2006). In this sampling design, samples are gathered in a process that does not award all the elements in the population an equal chance of selection (Cooper & Schindler, 2008). A variety of sampling techniques exist within probability and non-probability sampling, which are illustrated in Figure 5.2.

Figure 5.2: Sampling designs



Source: McDaniel *et al.*, 2008

After careful consideration of the above sampling methods, it was decided that a non-probability method, in the form of purposive sampling, would be employed for the purpose of this study. With purposive sampling, the researcher decides upon the individual elements to be included in the study, based upon a variety of criteria. This criterion comprises specialist knowledge of the research issue, accessibility, capacity and willingness to participate in the research (Krathwohl, 1998; McDaniel *et al*., 2008).

The abovementioned factors highlighted by McDaniel *et al.* (2008) and Krathwohl (1998) were all considered and it was clear that purposive sampling would be the most relevant sampling technique in order to collect the required data.

However, Saunders *et al*. (2007) also acknowledge that with purposive sampling, the researcher uses judgement to choose cases that would be particularly informative and relevant to answer the research questions. It is therefore important to indicate the advantages as well as the disadvantages of purposive sampling as presented in Table 5.2 below:

Table 5.2: The advantages versus the disadvantages of purposive sampling

Advantages	**Disadvantages**
Economical: purposive sampling is less costly and less time-consuming.	No equal chance for all the items of the universe to be included in the study.
Proper representation: purposive sampling ensures proper representation of the universe when the investigation has full knowledge of the composition of the universe and is free from bias.	No possibility of determining the degree of accuracy achieved in the study conducted by this method.
Intensive study: purposive sampling intensifies the study.	No possibility of calculating the sample error.

Source: Black (1999)

Table 5.3 below presents the private hospital landscape of South Africa. This table further indicates the number of hospitals and the respective number of hospital beds owned by each private hospital group.

Table 5.3: The South African private hospital landscape

Hospital group	Number of hospitals	Number of hospital beds
Life Healthcare Group	63	8 227
Mediclinic International	52	7 436
Netcare Limited	55	9 262
Total	**170**	**24 925**

Source: Life Healthcare Group, 2013; Mediclinic International, 2013 & Netcare Limited, 2013

Based on the data presented in Table 5.3, it was decided that hospitals would be selected from each of the three private hospital groups. The private hospitals included in the study were based on the number of hospital beds per hospital. The study focused on the large private hospitals, which had at least 100 hospital beds per hospital. Private hospitals which had fewer than 100 beds were therefore excluded from the sample. This exclusion criterion was used as it became clear after communication with hospital managers of the respective private hospitals, that the small private hospitals (with fewer than 100 hospital beds) often lack well-developed risk management practices and procedures and therefore would not have been able to provide meaningful results with regard to the management of fraud risk.

The list of hospitals included in the sample of each private hospital group, as well as their respective sizes (beds per hospital) is presented in Table 5.4:

Table 5.4: List of hospitals included in the study

Netcare Limited	Number of beds	Mediclinic International	Number of beds	Life Healthcare Group	Number of beds
Akasia Hospital	162	Mediclinic Kloof	270	Life Eugene Marais Hospital	364
Garden City Hospital	363	Mediclinic Medforum	420	Life Fourways Hospital	194
Jakaranda Hospital	130	Mediclinic Morningside	320	Life Little Company of Mary Hospital	214
Montana Private Hospital	170	Mediclinic Meulmed	398	Life Fourways	194
Pretoria East Hospital	358	Mediclinic Sandton	408	Life The Glynnwood	323
Rosebank Hospital	128	Mediclinic Newcastle	254	Life Wilgers Hospital	172
Sunninghill Hospital	256	Mediclinic Victoria	272	Life Chatsmed Garden Hospital	179
Unitas Hospital	469	Mediclinic Howick	184	Life Empangeni Garden Clinic	174
Parklands Hospital	216	Mediclinic Cape Gate	312	Life Westville Hospital	270
St Anne's Hospital	205	Mediclinic Paarl	290	Life Bay View Private Hospital	108
St Augustine's Hospital	418	Mediclinic Stellenbosch	362	Life Claremont Hospital	100
Umhlanga	297	Mediclinic	237		

Hospital		Durbanville			
Blaauwberg Hospital	116	Mediclinic George	184		
Kuils River Hospital	189				
N1 City Hospital	225				
UCT Private Academic Hospital	112				
	3 814		3 911		2 292

Source: Source: Life Healthcare Group, 2013; Mediclinic International, 2013 & Netcare Limited, 2013

From Table 5.4 it is apparent that 40 private hospitals were included in the sample. The selected private hospitals collectively own 10 017 hospital beds, which represent a sample of 40.19% of the target population, based on the number of hospital beds.

The purpose of the study furthermore emphasised the fact that participants included in the study could not involve any employee of the respective private hospitals, as general employees might have been uneducated and not knowledgeable with regard to the risk management practices and processes of private hospitals concerning fraud risk.

The participants included in the study consequently involved management staff at two levels of the hospitals, namely management staff at head office level and management staff at hospital level.

The participants in group 1 comprised risk managers and risk analysts, whereas the participants in group 2 comprised hospital managers, general managers, line managers, nurse managers as well as general physicians involved in management tasks of the respective private hospitals.

5.8 DATA GATHERING METHOD USED FOR THIS STUDY

Knapp (2008) states that the ultimate goal of non-experimental survey research is to collect data and describe the behaviours, opinions and attitudes of the representative sample of individuals at a specific point in time.

All forms of survey research however require the use of a questionnaire to collect the primary data (Cooper & Schindler, 2008). Crowther and Lancaster (2009) further argue that questionnaires are amongst the most widely used instruments as questionnaires are often the main instrument of data collection in survey research. Lavrakas (2008) states that questionnaires should not be confused with interviews. In fact, questionnaires involve a particular kind of interview, a formal contact, in which the conversation is governed by the wording and order in the instrument. However, it is important for the researcher to be aware of and to acknowledge both the advantages and disadvantages of questionnaires in order to ensure the questionnaire is designed in the best possible manner. These advantages and disadvantages are portrayed in Table 5.5 below:

Table 5.5: The advantages and disadvantages of questionnaires

Advantages of questionnaires	**Disadvantages of questionnaires**
Depth and complexity of data	Respondent bias or reaction
Flexibility	Data collection and analysis
Simplicity	Fear and/or antagonism
Feedback/validity	Lack of control and unreliability
Personal and motivating	Some questioning devices are limited
Large numbers and wide coverage	
Speed	

Source: Crowther and Lancaster (2009)

After careful consideration of both the advantages and disadvantages, a questionnaire was selected as the research instrument of choice for the current research. The following section provides more information on the survey design.

5.8.1 Survey design

Remenyi *et al.* (1998) make a valuable contribution by explaining that the point of departure in the design of a questionnaire is a clearly defined problem with obvious objectives. No form of ambiguity should hence be present in the questionnaire design.

Cooper and Schindler (2008) noted that by employing a questionnaire, the study will ensure that all respondents would be asked the same series of questions, thus contributing towards the reliability and validity of the study. Cooper and Schindler (2008) further argue that a questionnaire of superior quality ought to accomplish the following objectives:

- each participant should be encouraged to provide accurate responses;
- each participant should be encouraged to provide an adequate amount of information;
- each participant should be discouraged from refusing to answer specific questions;
- each participant should be discouraged from early discontinuation of participation; and
- the questionnaire should leave the participant with a positive attitude about his/her survey participation.

These objectives were consequently taken into consideration when designing the questionnaire for the current research. The questionnaire consisted of three main sections: the cover letter, the instructions, and the main body.

5.8.1.1 The cover letter

The purpose of the cover letter is to introduce the research to the respondent and to motivate him/her to cooperate with the survey task. In addition, the cover letter explains the purpose of the research and guarantees the anonymity and confidentiality of the respondents. The cover letter is one of the key elements in improving the response rate (Lavrakas, 2008).

5.8.1.2 The instructions

Due to the fact that when questionnaires are self-administered, the instructions are very important (Cooper & Schindler, 2008). The instructions include all the rules the respondent should follow and provide clear guidelines on how respondents should complete the questions (Lavrakas, 2008).

5.8.1.3 The main body

The main body includes the actual questions. The body should be constructed in such a manner that the attention, memory, sensibility, motivations and background characteristics of the respondents are taken into account in an attempt to ensure full cooperation (Lavrakas, 2008). The ordering of questions/items within the questionnaire should follow a specific pattern. The questionnaire should start off with general and neutral questions in order to obtain and build the respondent's confidence. Next, core and complex questions are introduced, followed by more sensitive and opinion-based questions. Lavrakas (2008) argues that this pattern has been found to increase the data quality for the majority of surveys and as a result was also employed in the current study.

5.8.2 Question types

It is important to distinguish three types of questions to be included in a questionnaire:

5.8.2.1 Open-ended questions

With open-ended questions, the respondent is encouraged to answer questions in his or her own words (Cooper & Schindler, 2008). Remenyi *et al.* (1998) conclude that open-ended questions are typically used in exploratory studies, where the researcher is not in a position or not willing to pre-specify the response categories.

5.8.2.2 Closed-ended questions

With closed-ended questions, the respondent is required to make a selection from a limited list of responses (Cooper & Schindler, 2010). Closed-ended questions are used in quantitative studies as the assumption is that detailed knowledge is available on the attributes of interest and this makes it possible to pre-specify the categories of responses (Remenyi *et al.*, 1998). A major advantage of closed-ended questions is that it allows for immediate statistical treatment, which suggests both savings in cost and time (Lavrakas, 2008).

5.8.2.3 Scale response questions

Scale response questions are an additional variation of closed-ended questions. These questions do not only limit the respondent to a predetermined set of answers, but also measure the intensity of the respondent's answers (Cooper & Schindler, 2008).

For the purpose of this study, the questions included in the questionnaire consisted of closed-ended, open-ended as well as scale response questions.

5.8.3 Method of collection

The following section provides a discussion on the protocol that was followed in order to gather the required data.

5.8.3.1 Holding meetings with the stakeholders of the participating hospitals

In order to initiate communication with the various hospitals and to create awareness of the study, the hospital managers of each private hospital were contacted telephonically. A background and overview of the research topic, objectives and the methodology were provided, and subsequently a meeting was set up with key stakeholders of each private hospital group.

The meetings were held between November 2013 and February 2014, based on the availability of the hospital staff at the participating private hospitals. Meetings were conducted by first and foremost presenting the cover letter stating the objective of the research and explaining the confidentiality agreement. A more detailed background was then provided in terms of the approach to the study, the methodology followed, and the information that would be required from each participatory private hospital when completing the questionnaires.

5.8.3.2 Distribution of questionnaires

E-mail addresses of the stakeholders were obtained at the meetings in order for the questionnaires to be distributed. Subsequent to the meetings, the questionnaires were distributed by e-mail within 24 hours after the meetings had taken place. Finally, each participant were given a month to complete and submit the completed questionnaire. The completed questionnaires were received via e-mail or by physically collecting them at the respective private hospitals.

5.8.3.3 Receipt of questionnaires and capturing the results

On receipt of the questionnaires from the various private hospitals, the information in each questionnaire was captured on Excel spread sheets and utilised in order to derive meaningful results.

5.8.4 Choice of measuring scale

With this study, focusing on non-experimental quantitative research, it was possible to measure the variables across a scale. Dykema *et al.* (2008) note that ordinal scales are typically used to obtain data with closed-ended response categories. These categories are typically labelled using words, numbers or a combination of both. A Likert scale is one such example of an ordinal scale and was also used in the current study.

The Likert scale was developed by Renis Likert and is the most frequently used rating scale due to its reliability and ability to provide a greater volume of data than many other scales (Cooper & Schindler, 2008).

Likert scales are bipolar, and include categories with both positive and negative values (Dykema *et al.*, 2008). A typical example would be a questionnaire where respondents are asked their level of agreement with a particular statement, with response options ranging from “strongly disagree”, “somewhat disagree”, “neutral” and “somewhat agree”, to “strongly agree”. With regard to labelling, every scale point is represented by verbal description as Bezzina, Grima and Mamo (2014) point out that by following this procedure, data quality is optimised.

A five-point Likert response set was selected for this study, with the points as defined in Table 5.6 below:

Table 5.6: The five-point Likert response set

Scale value	Scale description
1	**Strongly disagree.** Indicates that the respondent strongly disagrees with the statement.
2	**Somewhat disagree.** Indicates that the respondent somewhat disagrees with the statement.
3	**Neutral.** Indicates that the respondent neither agrees nor disagrees with the statement.
4	**Somewhat agree.** Indicates that the respondent somewhat agrees with the statement.
5	**Strongly agree.** Indicates that the respondent strongly agrees with the statement.

Source: Author (2014)

For this study, the questions for the questionnaire were formulated based on the information gathered and identified through the literature review presented in

Chapters 2, 3, and 4. The topics covered in the questionnaire and the rationale of the questions are presented in Table 5.7:

Table 5.7: Questions to private hospital participants

Topic	Rationale
Risk management and sustainability	✓ To ascertain whether risk management is essential in contributing towards sustainable business operations. ✓ To ascertain whether the management of all risks is important in order for organisations to be sustainable.
The management of fraud risk as a source of competitive advantage	✓ To ascertain whether the effective management of fraud risk is regarded as a source of competitive advantage.
The responsibility of staff members in risk governance and the management of fraud risk within private hospitals	✓ To determine the board's responsibility in the governance of risk. ✓ To ascertain whether the board is solely responsible for the management of fraud risk. ✓ To ascertain whether the risk committee is solely responsible for the management of fraud risk. ✓ To ascertain whether the board and the risk committee are jointly responsible for the management of fraud risk. ✓ To ascertain whether management staff is solely responsible for the management of fraud risk. ✓ To determine whether all staff has a responsibility in the management of fraud risk.
The reporting of fraud risk within private hospitals	✓ To ascertain whether the reporting of fraud risk occurs. ✓ To ascertain the frequency of risk reporting. ✓ To obtain supplementary information on the manner in which fraud risk reporting occurs.
The organisational culture and management procedures regarding fraud risk within private hospitals	✓ To establish the organisational culture with regard to the management of fraud risk.

	✓ To ascertain which approach is followed with regard to the management of fraud risk. ✓ To ascertain whether the monitoring and review of fraud risk occur throughout the organisation. ✓ To ascertain whether continuous improvement of fraud risk occurs.
Organisational and personnel information	✓ To obtain personnel information of the respondents. ✓ To identify the private hospital's business model. ✓ To ascertain in which areas the management of fraud risk in private hospitals occurs.
Chief risk officer	✓ To determine the existence of a chief risk officer within private hospitals
The risk management process in private hospitals	✓ To obtain information relating to which extent a formal risk management process is in place. ✓ To ascertain whether fraud risk forms part of the risks that are managed.
The classification of risk in private hospitals	✓ To establish whether fraud risk is classified as a separate risk class. ✓ To obtain additional information on the classification of fraud.
The reporting of risk in private hospitals	✓ To ascertain whether the reporting of risks includes the reporting of fraud risk. ✓ To ascertain the frequency of risk reporting. ✓ To obtain additional information on the manner in which fraud risk reporting occurs.
Outsource agreements	✓ To establish the extent of outsource agreements within private hospitals.
Risk management responsibilities in private hospitals	✓ To establish the extent of risk management responsibilities with regard to the management of fraud risk.
Supplementary information	✓ To obtain other relevant supplementary information.

Source: Author (2014)

Appendix A contains a copy of the questionnaire that was distributed to the target population as part of this study.

Prior to distributing the questionnaire among the target population, a pre-test or pilot study was conducted. Further details of the pilot study are discussed in section 5.8.5 below.

5.8.5 Pre-testing the questionnaire

In the case of this particular research, the pilot study involved the evaluation of the questionnaire. A pilot study is a replication of the main study, but on a small scale (Blumberg *et al.,* 2011). Remenyi *et al.* (1998) emphasise the importance of pilot studies before conducting any survey research. A pilot study provides the opportunity to assess factors such as the clarity of the instructions and questions, the cover letter, the comprehensiveness of the categories chosen for the pre-coded questions, the quality of the information and the ability to perform a meaningful analysis of the information obtained (Remenyi *et al.,* 1998).

Lavrakas (2008) in addition suggests that pilot testing is important as it tends to:

- detect weaknesses in design and instrumentation;
- aggregate, specify or better articulate the response alternatives;
- examine the reliability, validity, accuracy, integrity and possible ambiguity of the questionnaire;
- integrate missing topics;
- create a new order for the questions;
- examine the need to remove certain factors from the questionnaire; and
- verify the timing of the questionnaire.

The draft questionnaire was therefore pre-tested in order to take the abovementioned factors into consideration. The pre-testing of the questionnaire was performed with a representative group of 10% of the sample group. In addition, it was distributed amongst colleagues within the department of Finance, Risk Management and Banking at UNISA in order to get supplementary feedback on the accuracy and quality of the questionnaire.

5.9 STATISTICAL ANALYSIS

Salkind (2012) notes the existence of two major branches of statistics, each with its own specific objectives and specific formulas, namely descriptive and inferential statistics. Additional information on these two forms of statistical analysis is provided in 5.9.1 and 5.9.2.

5.9.1 Descriptive statistics

Descriptive analyses are the simplest and most commonly used statistical methods for reporting needs assessment. With descriptive statistics, one makes use of numbers to describe a known data set (Boslaugh, 2013). Heiman (2011) further states that descriptive statistics are procedures for organising and summarising sample data so that it enables the researcher to communicate and describe the important characteristics.

Frequency is a fundamental concept used to analyse characteristics of a sample, which include one-way frequencies and cross-tabulations. By making use of frequencies, the researcher is enabled to observe the number of participant responses which were similar (Kolb, 2008). Frequency tables are tools to report the percentage of respondents who selected a particular option (Cooper & Schindler, 2008).

Zikmund, Babin, Carr and Griffin (2013) indicate that, by making use of tables, graphs and charts, data are made simpler and more comprehensible. For this study, bar charts and pie charts were utilised, as these two charts have been found to be effective in communicating frequency tabulations and simple cross-tabulations (Zikmund *et al.*, 2013).

5.9.2 Inferential statistics

Inferential statistics, also referred to as sampling statistics, use characteristics of a sample to infer those of a population. Inferential statistics are thus procedures for determining whether sample data accurately represent a particular relationship in the population (Heiman, 2011). Soriano (2013) however points out that the

representativeness of the sample and its size consequently affect the statistical confidence level when using inferential statistics.

Descriptive research designs often end with hypothesis testing. Zikmund *et al.* (2013) define hypotheses as formal statements of explanations stated in an examinable form. Pietersen and Maree (2007) state that hypotheses are specific ideas or beliefs the researcher has about the properties of some of the variables in the population of the study. For every belief the researcher intends to test, two hypotheses are formulated: a null hypothesis and an alternative hypothesis. The null hypothesis is represented by H_0 and is used to indicate that there exists “no difference” or “no correlation”. The alternative hypothesis, represented by H_1, indicates what needs to be tested (Pietersen & Maree, 2007).

In the first step of the hypothesis-testing procedure, the hypothesis is derived from the research objectives and stated as specifically as possible. Following that, the sample is obtained and the relevant variables are measured. In the third step, the measured value obtained in the sample is compared to the value either stated explicitly or implied in the hypothesis. If the value is consistent with the hypothesis, the hypothesis is accepted. If the value is not consistent with the hypothesis, the hypothesis is rejected. The final step is then coming to a conclusion that reflects on the likelihood of the researcher’s beliefs of what is true in the population (Pietersen & Maree, 2007, Zikmund *et al.,* 2013).

The significance level of a statistical test or the p-value is the main indicator of whether or not a hypothesis can be supported. The significance level is an essential probability associated with a statistical hypothesis test that indicates how likely it is that an inference supporting a difference between an observed value and some statistical expectation is true (Pietersen & Maree, 2007). The term p-value indicates probability value and is in effect another name for an observed or computed significance level. In the majority of applications, the chosen significance level is 0.05, but 0.10 has also been found to be an acceptable level of significance (Zikmund *et al.,* 2013).

Zikmund *et al.* (2013) rightfully point out that the researcher cannot make any statement regarding the sample with absolute certainty. There is always the likelihood that an error will occur. A Type I error is an error caused by rejecting the

null hypothesis when it is true and associated with the significance level. A Type II error is an error caused by failing to reject the null hypothesis when the alternative hypothesis is true (Pietersen & Maree, 2007).

Nonparametric statistics are suitable when the variable being analysed does not conform to any known or continuous distribution (Zikmund *et al.,* 2013). In this regard, the Mann–Whitney test can be utilised when two independent groups are to be compared, based on a single variable. This test is useful when the sample size is small or if the data is ordinal. The Mann–Whitney test makes use of the ranks of the variable of the study rather than actual values, having the effect that the extreme values have far less influence on the outcomes (Pietersen & Maree, 2007).

The nonparametric test by means of the Mann–Whitney test was used for the purpose of this study because of the small sample size.

5.10 REPORTING THE DATA FINDINGS

The final step in the research process necessitates the preparation of a research report and transmitting the findings and recommendations of the study to all the private hospitals who participated in the study. The intended purpose of this report is to improve decision-making and the management of fraud risk in the private hospitals (Blumberg *et al.*, 2011). Reporting enables the researcher to select the most important results and to communicate them effectively (Blumberg *et al.,* 2011*;* (Cooper & Schindler, 2008). The display of data in visual form furthermore allows the researcher to convey complex information in an understandable and meaningful manner. In this study, quantitative reporting is used and the data are visually displayed by means of bar and pie charts (cf. Crowther & Lancaster; 2009; Zikmund *et al.,* 2013). The results of the study were interpreted and appropriate recommendations are made in section 7.5.

5.11 ETHICAL CONSIDERATIONS

Ethics in research is the term used to denote the system of morals applied during the research process. It entails the norms and standards of behaviour that guide moral choices and steer one's relationship with others (Cooper & Schindler, 2008). The goal of ethics in research is to ensure that no participant is harmed or suffers adverse consequences from the research activities (Remenyi *et al*., 1998*)*. The following ethical principles recognised by Salkind (2012) were adhered to in order to ensure that the current research was conducted in an ethical manner:

5.11.1 Protection from harm

Special attention was devoted during the data gathering process to ensure that no participant suffered any physical or psychological harm.

5.11.2 Maintenance of privacy

The privacy guarantee is important not only to retain validity of the research but also to protect all participants (Cooper & Schindler, 2008). This addressed several concerns, but most directly to anonymity. Anonymity was achieved by ensuring that no one other than the principal investigator would be able to match the results of the survey with the personal information of the participants. The anonymity of hospitals involved in this study will also be maintained. A second concern regarding privacy is that the researcher should not invade any participant's private space in an attempt to observe behaviour and in the collection of data (Blumberg *et al.,* 2011). This was also adhered to during the data collection phase of the current study.

5.11.3 Coercion

No individual was coerced into participation in this study. All participation commenced on a voluntary basis.

5.11.4 Informed consent

Securing informed consent from participants is a matter of fully disclosing the procedures of the proposed survey before requesting permission to proceed with the study (Cooper & Schindler, 2008). An informed consent form that was read and signed by each participant or person agreeing to participate was collected before the data gathering process commenced.

5.11.5 Confidentiality

Confidentiality is maintained when anything that is learned about the participant is held in the strictest of confidence. This entails that all information is disguised when necessary but, more importantly, that all data are kept in a safe, secure and controlled environment (Cooper & Schindler, 2008). All the data collected from participants were consequently safely stored in a locked cabinet. In addition, all the soft copies of questionnaires were stored on an external hard drive and password protected. Only the principal researcher has access to this data.

5.11.6 Sharing the benefits

On completion of the research, the study findings will be made available to all the participating hospitals. The findings will be presented in a formal report and e-mailed to every participating hospital. The findings may benefit these hospitals, as it may contribute towards the improvement of their risk management practices regarding fraud risk. An opportunity was also granted to each participant to clarify any discrepancies that he/she might be aware of.

In addition to the above principles, the study also adhered to the three ethical principles of the Belmont Report. The Belmont Report summarises principles and guidelines for research involving human subjects (The National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1978). Three core principles are indicated, namely –

- **respect for persons**, which involves the protection of the autonomy of all people and treating participants with courtesy and respect and allowing for informed consent;

- **Beneficence**, which follows the philosophy of “do no harm”, which maximises the benefits for the research project and minimises risks to the research subjects; and
- **Justice**, which ensures reasonable, non-exploitative and well-considered research procedures (The National Commission for the Protection of Human Subjects of Biomedical and Behavioural Research, 1978).

The study finally adhered to the relevant ethical clearance procedures of the University of South Africa (UNISA). Please refer to Appendix E for a copy of the ethical clearance certificate that was obtained prior to commencing the study.

5.12 SUMMARY

This chapter comprised a review of the research design for the primary research aspect of this study. The design was examined from both the qualitative and quantitative perspectives. Through academic research, a survey methodology was identified as one of the most widely used non-experimental research designs. Because there are several survey methodologies, a careful analysis of the different methods was required in order to determine the appropriate method for accomplishing the objectives of this study. A quantitative non-experimental research design was consequently chosen as the preferred approach.

The chapter continued by distinguishing between primary and secondary data and indicated that data is worthless unless it is transformed into valuable information from which meaningful conclusions can be drawn. The different data measurement scales were discussed, and an ordinal scale was identified as the scale of choice for the current research as participants were asked to complete a questionnaire which was measured by means of a 5-point Likert scale.

The three characteristics of good measurement were discussed, namely validity, reliability and practicality. Validity encompasses the accuracy of the measurement tool and process, whereas reliability is concerned with the consistency of the data collection approach. Practicality refers the operational requirements of a research

project, namely economy, convenience and interpretability (Cooper & Schindler, 2008).

The population of the study was identified to be the private hospital sector of South Africa. It was recognised that this sector is dominated by three major private hospital groups. As a result, all three of the groups were included in the study. The sampling method employed for this study was purposive sampling, as it was made clear by McDaniel *et al.* (2008) and Krathwohl (1998) that this sampling method was the most suitable to collect the required data. The participants involved in the study were classified to belong to one of two groups: management staff at head office level or management staff at hospital level.

The survey tool of choice was selected to be a questionnaire. The questionnaire included closed-ended questions, scale response questions as well as open-ended questions. The questionnaire was pre-tested by means of a pilot study, which confirmed the questionnaire to valid from a content perspective.

Two alternatives exist when conducting statistical analysis, namely descriptive and inferential statistics. In order to assess the primary and secondary objectives of this study, both descriptive and inferential analyses were utilised. The necessary ethical considerations and procedures were adhered to in order to ensure that the study was performed in an ethical manner.

Chapter 6 focuses the attention on the analysis and interpretation of the research results in accordance with the methodology outlined in this chapter.

CHAPTER 6
ANALYSIS AND RESULTS

6.1 INTRODUCTION

The methodology implemented within this study enabled the collection of empirical evidence by exploring both primary and secondary data sources. The collected data addressed the primary and secondary research objectives:

In Chapter 1, the primary objective of the study was stated:

- The primary objective of this study was to explore the management of fraud risk within the South African private hospital sector.

Likewise, the secondary objectives were identified as:

- to identify problem areas in the management of fraud risk within the South African private hospital sector; and
- to provide appropriate improvements in an attempt to address the identified problem areas.

In Chapter 6, it is reported how the analysis and results were guided by these research objectives, which served as the pillars to create the primary research instrument, a questionnaire. The questionnaire was divided into sub-sections which formed the specific concepts to discuss each of the various aspects that could have influenced each pillar in order to reach valid conclusions.

This chapter consequently considers every question of the questionnaire. The empirical evidence of each one of the questions is discussed according the following structure:

- firstly, an introduction to and justification for each section are provided;
- secondly, the questions are introduced, in order to gather the required information; and
- thirdly, the statistical results of the findings are presented accompanied by a conclusion drawn from the statistical results.

The following section presents Section A of the questionnaire, which comprised the Likert scale questions.

6.2 SECTION A: LIKERT SCALE QUESTIONS

Section A of the questionnaire consisted of sixteen questions. Respondents were required to answer each of the questions by indicating the degree to which they agreed or disagreed with each of the respective statements. A five-point Likert scale was used in this regard, where a numerical value of 1 represented a strong disagreement with a statement, whereas a numerical value of 5 indicated a strong agreement with the respective statement.

The procedure followed in Section A is firstly to introduce each question, followed by a brief reasoning of why the question was asked. The statistical analysis is then presented, closing with a short conclusion. Please refer to Appendix A for a copy of the questionnaire.

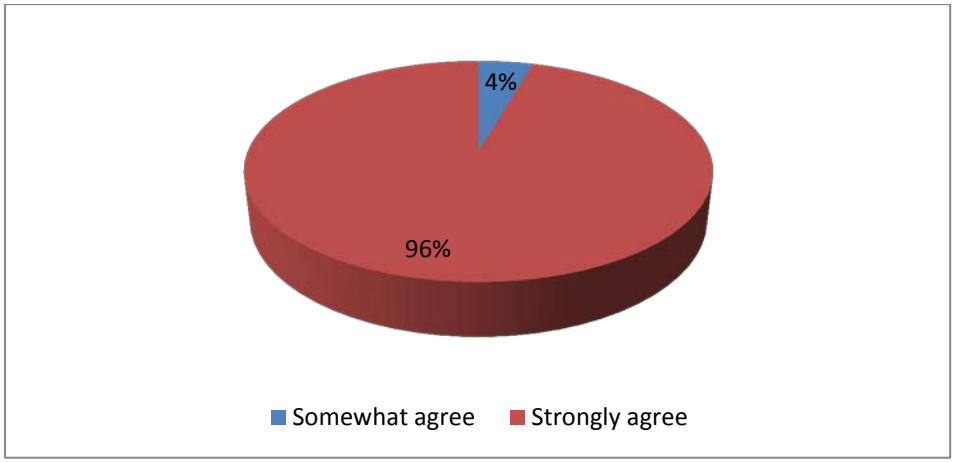
6.2.1 Section 1: The relationship between risk management and sustainability

The first section of the questionnaire dealt with the role risk management plays in ensuring the sustainability of an organisation's business operations.

6.2.1.1 Question 1: Risk management is essential for contributing towards sustainable business operations

Previous research by Gavare and Johansson (2010) found that risk management is essential for an organisation in order to achieve sustainable business operations. The following pie chart represents the opinions of the respondents in the current research.

Figure 6.1: Contribution of risk management towards achieving sustainable business operations



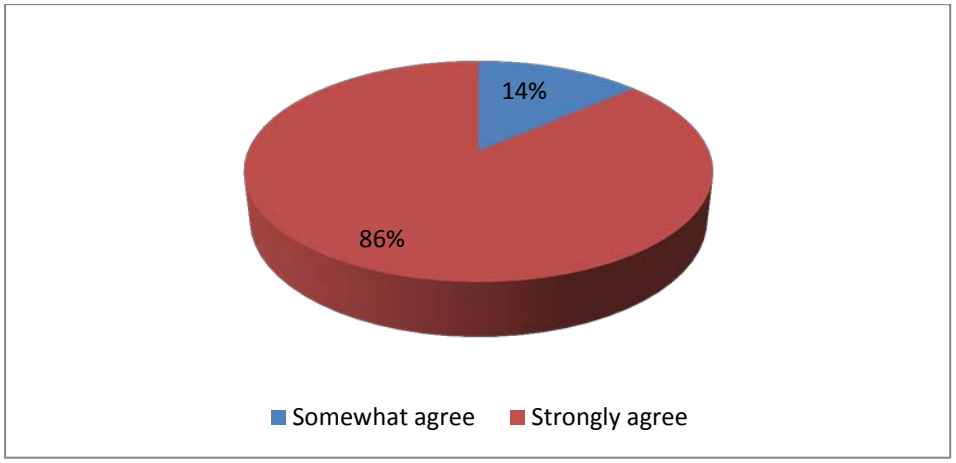
Source: Author (2014)

From Figure 6.1 it is evident that risk management was considered to be essential in achieving sustainability of an organisation's business operations. This can be observed by 96% of the respondents strongly agreeing with the statement, while a further 4% somewhat agreed with the statement. No respondents were neutral or disagreed on the matter.

6.2.1.2 Question 2: For organisations to be sustainable, the management of all risks (including fraud risk) are important

Gavare and Johansson (2010) argue that, for organisations to survive in the long term in a dynamic uncertain environment, the management of all risks is important. The respondents' opinions are represented in the following pie chart.

Figure 6.2: The importance of comprehensive risk management towards the achievement of sustainability



Source: Author (2014)

From Figure 6.2 it is evident that the management of all risks is important if the organisations strive to be sustainable. A total of 14% of the respondents somewhat agreed with this statement, whereas a further 86% of the respondents strongly agreed with the abovementioned statement.

The fact that the respondents only strongly agreed or somewhat agreed with these two statement suggests that private hospitals grasp the importance of the role effective risk management plays in achieving sustainability within an organisation. In addition, the management of all risks are important in achieving this objective.

6.2.2 Section 2: The management of fraud risk as a source of competitive advantage

The second section addressed the management of fraud risk as a source of competitive advantage.

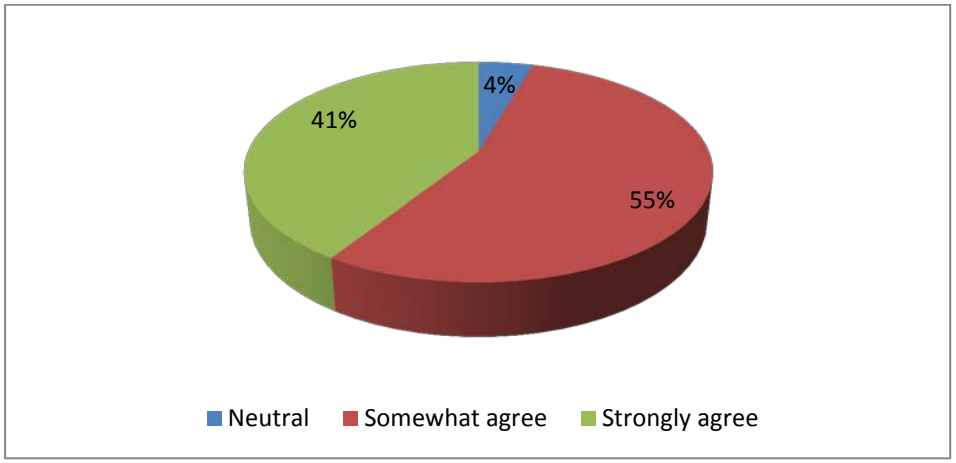
6.2.2.1 Question 1: The effective management of fraud risk could be regarded as a source of competitive advantage

Elahi (2010) and Buehler *et al.* (2008) argue that risk management could be regarded as a competitive tool which, if properly employed, could create a

competitive advantage and ensure sustainable business operations. In addition, research by Samociuk and Iyer (2010) found that fraud risk is a key risk to organisations and consequently it is unwise for risk management programmes to ignore this risk class.

Literature suggests that fraud risk could consequently be regarded as a contributing factor in achieving a competitive advantage. The respondents' opinions are represented in the following pie chart.

Figure 6.3: The management of fraud risk as a competitive advantage



Source: Author (2014)

From Figure 6.3 it is evident that 55% of the respondents somewhat agreed that the management of fraud risk could be regarded as a competitive advantage. A further 41% of the respondents strongly agreed with the statement, while 4% of respondents were indifferent.

It can therefore be concluded that the management of fraud risk is of importance for private hospitals in order to create and maintain a competitive advantage.

6.2.3 Section 3: The responsibility amongst staff members within an organisation

Research conducted by Chapman (2011) found that good board practices and corporate governance are crucial for effective risk management. Chapman (2011) also found a correlation between poor business performance and poor risk governance and risk management. Literature further points out that the management of risks ought to involve all staff members of an organisation, but that the ultimate responsibility lies with the board of directors (IoDSA, 2009).

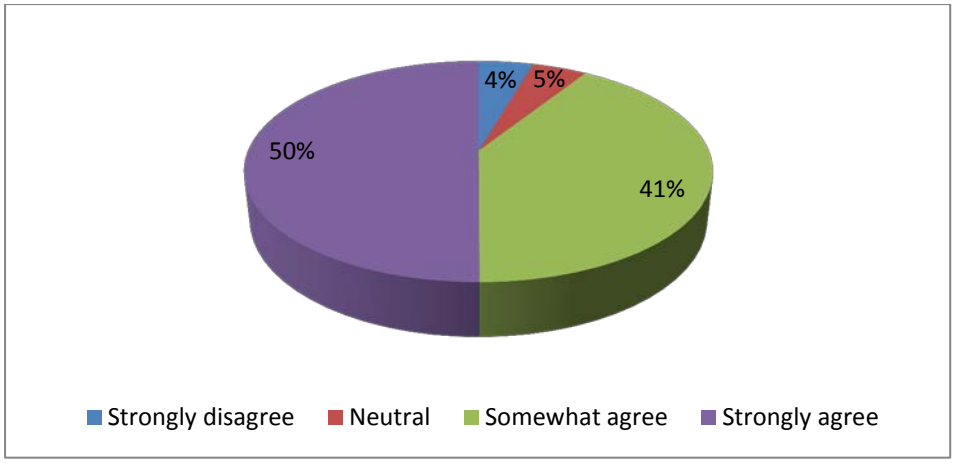
With this in mind, the following statements were formulated.

6.2.3.1 Question 1: The board is responsible for the governance of risk

The integrated annual reports of the three private hospital groups included in the study state that, within the South African private hospital setting, the Board is ultimately responsible for the governance of risk (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

This statement tested to which extent the respondents were aware of the fact or to which degree they agreed with the statement.

Figure 6.4: The Board's responsibility in the governance of risk



Source: Author (2014)

From Figure 6.4 it is evident that 50% of the respondents strongly agreed, 41% somewhat agreed, 5% were neutral and 4% strongly disagreed regarding the board's responsibility in the governance of risk.

The information gathered therefore suggested that the majority of the respondents were informed and in agreement with the board's responsibility in the governance of risk. The reason for some disagreement amongst the respondents could have been that respondents were uninformed about the board's responsibility regarding the governance of risk. This is discussed later in the chapter.

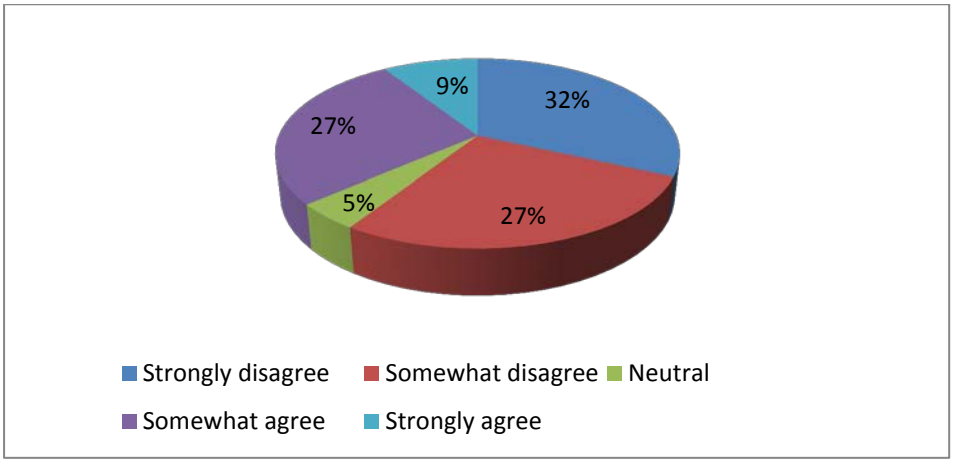
6.2.3.2 Question 2: The board is solely responsible for the management of fraud risk

The integrated annual reports of the three private hospital groups, which had been compiled in accordance with King III, stated that the board had the overall responsibility for the implementation of an effective risk management strategy and policy. The management of risk also includes the management of fraud risk (IoDSA, 2009; Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

The board was further responsible for overseeing the effectiveness of processes that were in place for the identification, assessment and management of risk and the board delegated the responsibility for receiving, assessing and acting on identified risks to other key board committees (IoDSA, 2009).

The literature consequently suggests that the management of risk, more specifically fraud risk, ought to be a shared responsibility amongst committees and staff members. The respondents' opinions are represented in the following pie chart.

Figure 6.5: The board's responsibility in the management of fraud risk



Source: Author (2014)

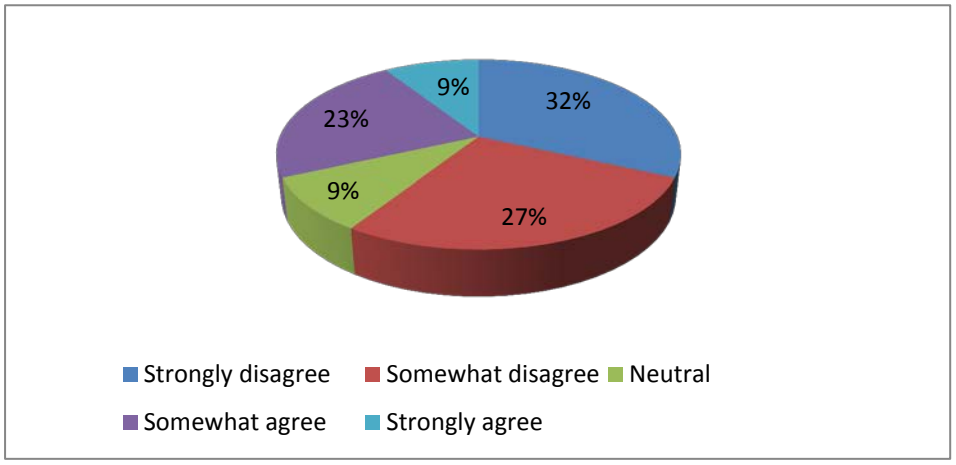
From Figure 6.5 it is evident that there existed mixed responses amongst the respondents. Of the respondents, 9% strongly agreed, 27% somewhat agreed, 5% remained indifferent, 27% somewhat disagreed and a further 32% strongly disagreed with the statement.

6.2.3.3 Question 3: The risk committee is solely responsible for the management of fraud risk

The King III Report on Corporate Governance suggests that the risk committee should assist the board in carrying out its risk responsibilities (IoDSA, 2009). The primary responsibilities of the risk committee are to ensure that adequate risk management processes are in place to identify and to monitor the management of key risks (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

The management of fraud risk consequently ought to be a shared responsibility between the board and the risk committee. The respondents' opinions are represented in the following pie chart.

Figure 6.6: The risk committee's responsibility in the management of fraud risk



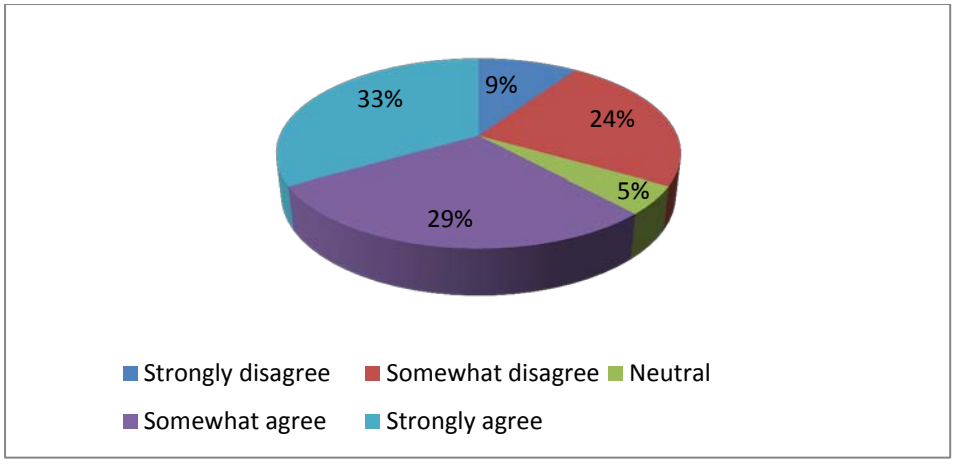
Source: Author (2014)

From Figure 6.6 it is evident that the respondents had different opinions regarding the risk committee's responsibility in the management of fraud risk. Only 9% of the respondents strongly agreed, while 23% somewhat agreed, 9% were neutral, 27% somewhat disagreed and 32% strongly disagreed on the matter.

6.2.3.4 Question 4: The board and the risk committee are jointly responsible for the management of fraud risk

The following pie chart reflects the opinions of the respondents.

Figure 6.7: The board and risk committee's joint responsibility in the management of fraud risk



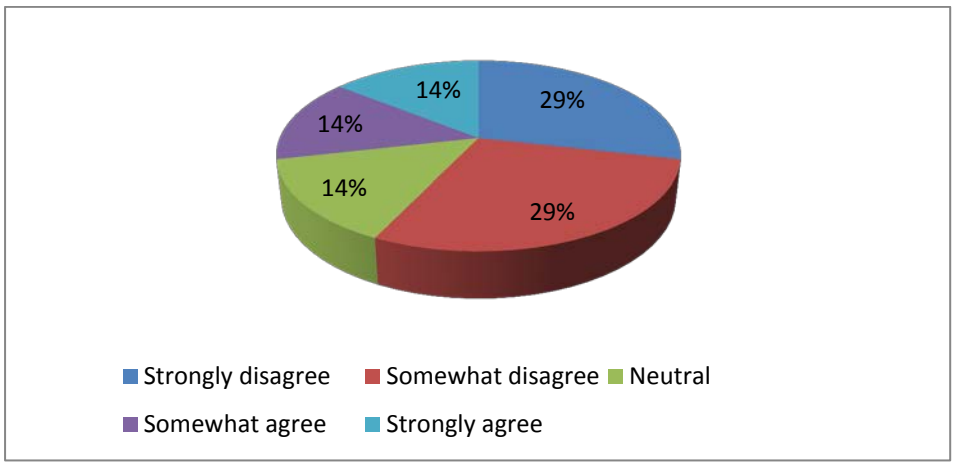
Source: Author (2014)

From Figure 6.7 it is apparent that 33% of the respondents strongly agreed, 29% somewhat agreed, 5% were neutral, 24% somewhat disagreed and a further 9% strongly disagreed that there existed a shared responsibility amongst the board and the risk committee in the management of fraud risk.

6.2.3.5 Question 5: Management staff is solely responsible for the management of fraud risk

As previously indicated by literature, the management of risk, including fraud risk, should be the responsibility of all staff members (IoDSA, 2009). Management is responsible for executing the group's strategy in accordance with the board's risk management plan and policy, and applying it in the hospital's day-to-day activities. Management staff plays an important and critical role in this process, but the ultimate responsibility does not rest with management alone. The ultimate responsibility for the management of risk lies with the Board (IoDSA, 2009; Life HealthcareGroup, 2013; Mediclinic International, 2013; Netcare Limited, 2013). The respondents' opinions are reflected in the following pie chart.

Figure 6.8: Management staff's responsibility in the management of fraud risk



Source: Author (2014)

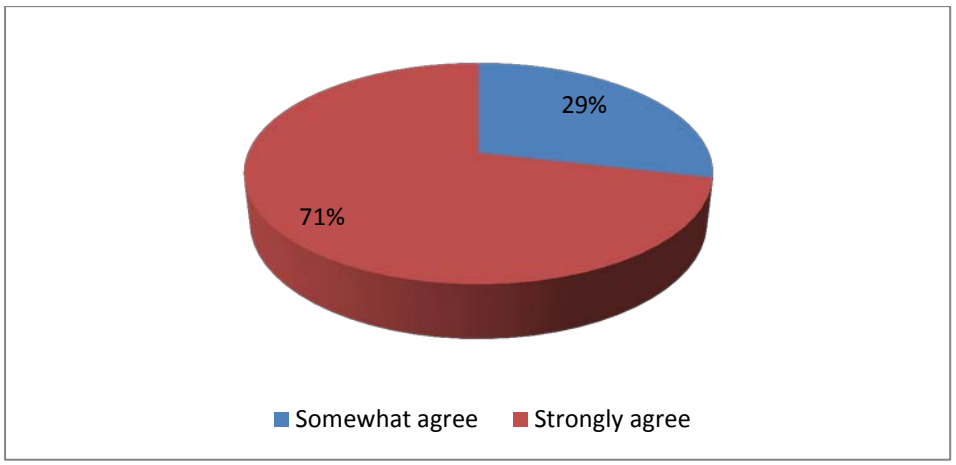
From Figure 6.8 it is evident that 14% of the respondents strongly agreed, 14% somewhat agreed, 14% were neutral, 29% somewhat disagreed and a further 29% strongly disagreed with the statement.

6.2.3.6 Question 6: All staff has a responsibility towards the effective management of fraud risk

All employees are accountable, through the terms and conditions of their employment. In addition, it is their responsibility to report incidents, to be aware of the risk management strategy within the hospital and to manage risk within their sphere of responsibility (Life Healthcare Group, 2013; Mediclinic International, 2013; Mercy Hospital, 2013; Netcare Limited, 2013; Papworth Hospital NHS Foundation Trust, 2012; Royal National Orthopaedic Hospital Trust, 2008; Tameside Hospital NHS Foundation Trust, 2013; The Royal Children's Hospital, 2013; Yukon Hospital Corporation, 2013).

The following pie chart reflects the opinions of the respondents.

Figure 6.9: Shared responsibility amongst staff members in the management of fraud risk



Source: Author (2014)

In light of Figure 6.9 it is clear that all the respondents had an awareness, an acceptance and a certain level of agreement that all staff members have a responsibility towards the effective management of fraud risk. Of the respondents, 71% strongly agreed, whereas a further 29% somewhat agreed with the statement.

To conclude, section 3 of the questionnaire investigated the perspective on the responsibility that exists amongst participating staff members within an organisation regarding risk governance and the management of fraud risk. With regard to the

board's responsibility for the governance of risk, 55% of the respondents strongly agreed and a further 41% somewhat agreed that the ultimate responsibility lay with the board. Whether the board was solely responsible, or rather had a shared responsibility in the management of fraud risk, there existed different opinions amongst the respondents. The majority of respondents either strongly disagreed or somewhat disagreed with the statement. These results may suggest that the majority of respondents were aware of the fact that the board of directors was not solely responsible for the management of fraud risk.

When the question was raised whether the risk committee was solely responsible for the management of fraud risk, 59% of the respondents were of the opinion that the risk committee was not solely responsible for the management of fraud risk. This was indicated by 32% of the respondents strongly disagreeing and a further 27% of the respondents somewhat disagreeing with this statement.

It was found that there existed mixed opinions amongst the respondents regarding the shared responsibility of risk management between the board and the risk committee, but the majority of the respondents had a positive response regarding this shared responsibility. This was observed by the 33% of respondents strongly agreeing and a further 29% somewhat agreeing with this statement.

With regard to the solitary responsibility that existed amongst management staff on the management of fraud risk, respondents held different opinions on the matter. The results indicated that 14% of the respondents strongly agreed, 14% somewhat agreed, 14% were neutral, 29% somewhat disagreed and a further 29% strongly disagreed with the statement.

To conclude this section, all of the respondents approved of the fact that every employee has a responsibility towards the effective management of fraud risk. This was reflected by 71% of the respondents strongly agreeing and further 29% somewhat agreeing with the statement.

6.2.4 Section 4: The reporting of fraud risk

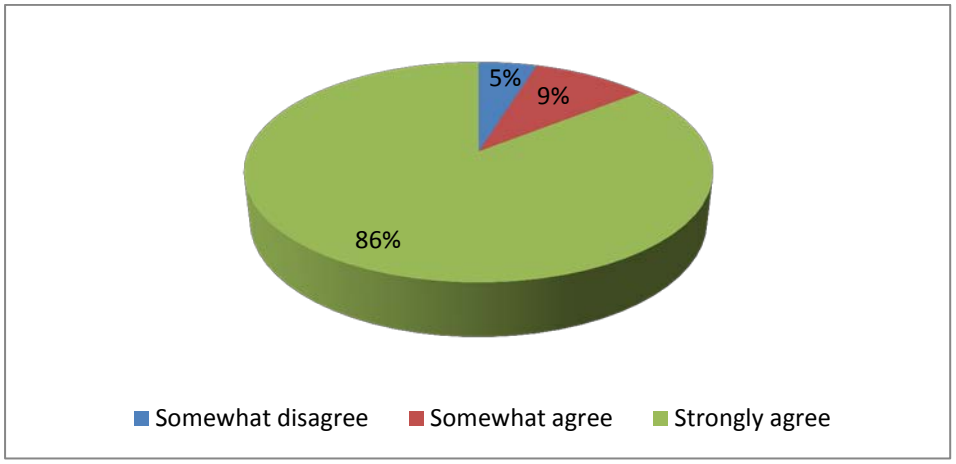
The fourth section of the questionnaire addressed the reporting procedures regarding fraud risk.

6.2.4.1 Question 1: A whistle-blowing system is needed where fraud risk can be reported

A zero tolerance approach to fraudulent and corrupt behaviour has been adopted by the three major private hospital groups of South Africa. To this end, private hospitals have established a whistle-blowing mechanism in order to facilitate the anonymous reporting of alleged fraudulent, corrupt or unethical behaviour (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

Literature indicates that a whistle-blowing mechanism is implemented within the three major private hospital groups of South Africa. This question was therefore included in the questionnaire to examine in which way the respondents agreed or disagreed on the matter, and if this was indeed the case. The following pie chart reflects the opinions of the respondents.

Figure 6.10: The necessity of a whistle-blowing system



Source: Author (2014)

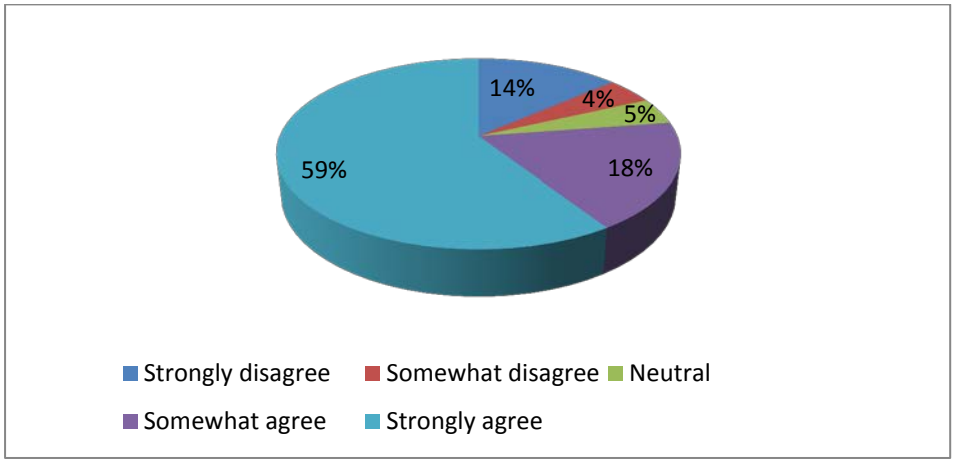
From Figure 6.10 it is evident that the majority of the respondents agreed that a whistle-blowing system where fraud risk can be reported is needed. This is reflected in the 86% of the respondents strongly agreeing, 9% somewhat agreeing and a further 5% somewhat disagreeing with this statement.

6.2.4.2 Question 2: A fraud and ethics hotline is available to all staff to report alleged fraudulent behaviour

The whistle-blowing mechanism is facilitated through a fraud and ethics hotline which is available to all employees to report fraudulent behaviour of any nature (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

In light of the above literature, the three private hospital groups made it clear that a fraud and ethics hotline is available to all staff to report alleged fraudulent activities. This question consequently investigated whether this was indeed the case. The following pie chart reflects the opinions amongst the respondents.

Figure 6.11: The availability of a fraud and ethics hotline



Source: Author (2014)

From Figure 6.11 it is evident that 59% of the respondents strongly agreed that a fraud and ethics hotline was available to all staff to report fraudulent behaviour. A further 18% somewhat agreed, 5% remained neutral, 4% somewhat disagreed whereas 14% of the respondents strongly disagreed about the matter.

Section 4 of the questionnaire addressed the reporting procedures that existed within private hospitals. The majority of respondents believed and agreed that a whistle-blowing system was indeed required where fraudulent behaviour could be reported. This was illustrated by the 86% of the respondents strongly agreeing and a further 9% somewhat agreeing on the matter. An effective whistle-blowing mechanism, however, should be supported by a fraud and ethics hotline in order to function

optimally (Life Healthcare Group, 2013; Mediclinic International, 2013; Netcare Limited, 2013).

The responses amongst the participants indicated that the availability of a fraud and ethics hotline for private hospitals could definitely be improved. However, such hotlines were available at the time of the research, but amongst employees, proper awareness of the availability of these hotlines was not satisfactory. Further research is thus required to determine where the problem lies.

6.2.5 Section 5: The organisational culture and management procedures regarding fraud risk

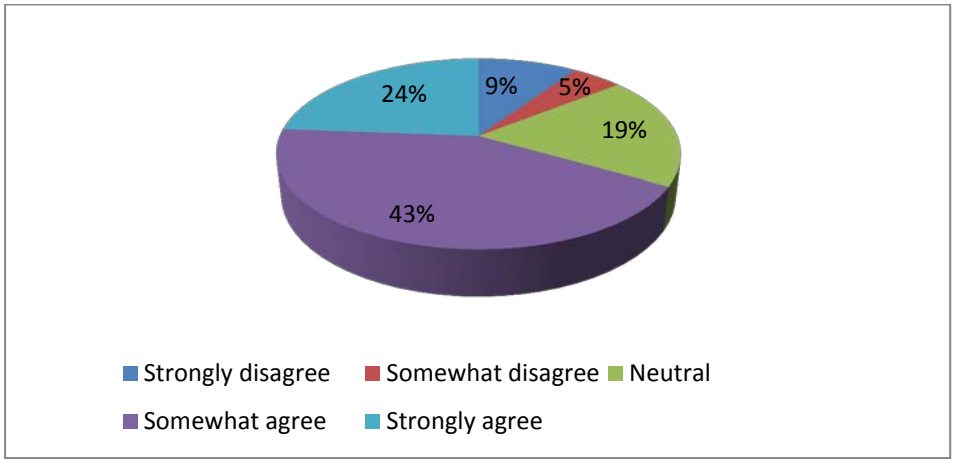
The IRM (2002) identifies that risk management is a fundamental part of any organisation's strategic management plan. Risk management should be a continuous and ever-developing process which forms an integral part of the organisation's strategy. Purdy (2010) comments that risk management is considered an inseparable aspect of managing change and other forms of decision-making. Accordingly, risk management should be integrated into the culture of the organisation, providing support to accountability, performance measurement and reward, hence promoting operational efficiency at all levels within an organisation (IRM, 2002). Valsamakis *et al*. (2010) state further that risk management requires the engagement of all levels within the organisation, ensuring the interaction of strategic management and operational activities. In their view, a risk management system signifies the anticipation of risk in advance, supported by the relevant risk control and financing arrangements.

In light of the above literature, the following research questions were formulated.

6.2.5.1 Question 1: In this organisation there exists a culture in which the management of fraud risk is the responsibility of every employee

Figure 6.12 represents the feedback received from the respondents.

Figure 6.12: The organisational culture towards the responsibility amongst staff members in the management of fraud risk



Source: Author (2014)

From Figure 6.12 it is evident that 24% of the respondents strongly agreed, 43% somewhat agreed, 19% were neutral, 5% somewhat disagreed and 9% strongly disagreed that a culture within private hospitals existed where the management of fraud risk was a shared responsibility amongst all employees.

It should however be pointed out that this question was similar to question 6 of section 3 (see 6.2.3.6), but tested a very specific difference. From the data obtained in question 6, it was evident that respondents believed that all staff should have a responsibility towards the effective management of fraud risk. When the data of this question were however analysed it was found that the culture that existed within private hospitals at the time of the research did not agree with the state of affairs within the participating private hospitals at that time. Currently there does not yet exist such a culture in private hospitals. It is therefore recommended that private hospitals should improve their organisational culture with regard to the management of fraud risk so that all staff can be involved in the management of fraud risk.

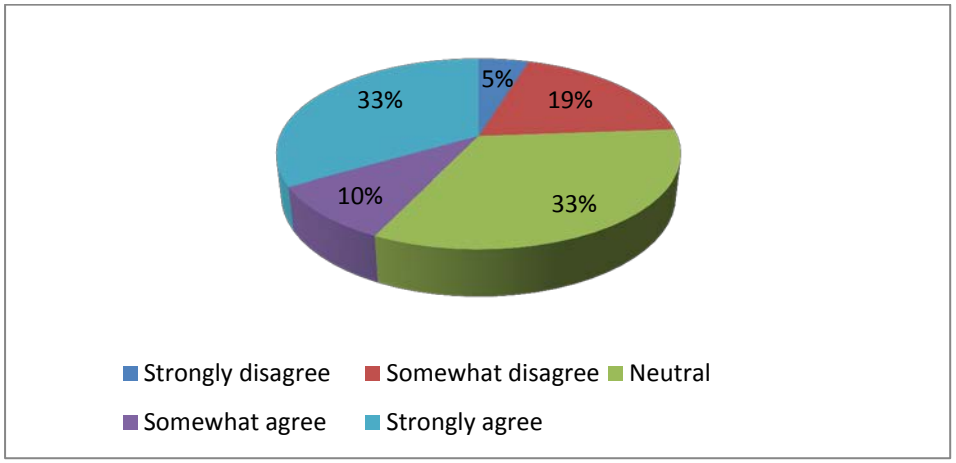
6.2.5.2 Question 2: This organisation follows a reactive approach towards the management fraud risk

Modern organisations are exposed to a volatile environment which requires the adoption of an enterprise-wide approach towards the management of risk, which

should to be comprehensive, inclusive and proactive by nature (Chapman, 2011; Valsamakis *et al*., 2010; Young, 2014).

The abovementioned literature advocates that a proactive approach be adopted by organisations if it is their goal to manage fraud risk effectively and successfully. The respondents' opinions on the matter is reflected in the pie chart below.

Figure 6.13: A reactive approach towards the management of fraud risk



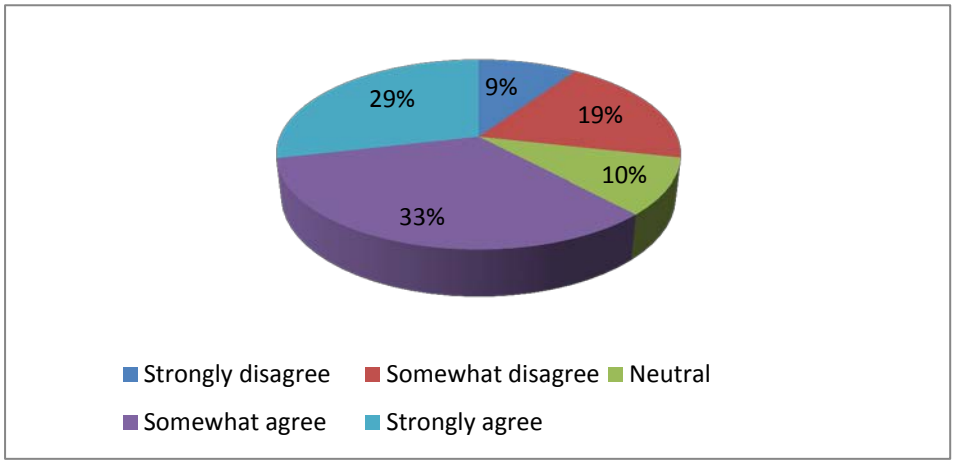
Source: Author (2014)

From Figure 6.13 it is evident that there existed different opinions amongst the respondents. Of the respondents, 33% strongly agreed, 10% somewhat agreed, 33% were neutral, 19% somewhat disagreed and 5% strongly disagreed that a reactive approach towards the management of fraud risk was followed.

6.2.5.3 Question 3: This organisation follows a proactive approach towards the management of fraud risk

Control is all about being proactive (Rejda, 2011). In the views of Chapman (2011) and Valsamakis *et al.* (2010), organisations should adopt and implement a proactive approach towards the management of risk if they are to survive in the volatile circumstances and challenges that characterise the modern business environment. The views of the respondents are illustrated in the following pie chart.

Figure 6.14: A proactive approach towards the management of fraud risk



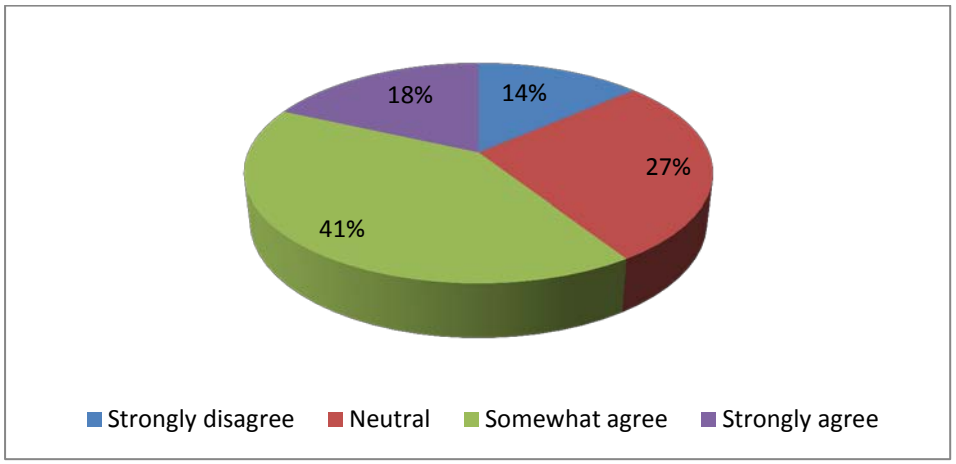
Source: Author (2014)

From Figure 6.14 it is apparent that there existed a fair amount of discrepancy amongst the respondents. Of the respondents, 29% strongly agreed, 33% somewhat agreed, 10% were neutral, 19% somewhat disagreed and a further 9% strongly disagreed that a proactive approach towards the management of fraud risk was followed.

6.2.5.4 Question 4: The monitoring and review of fraud risk occur throughout the organisation

Fraser and Simkins (2010) as well as Chapman (2011) state that monitoring and review activities are essential to the continuous improvement of risk management. In addition, it is argued that these activities are critical to the successful implementation of the entire risk management process (Chapman, 2011; Fraser & Simkins, 2010).

Figure 6.15: The monitoring and review procedures regarding fraud risk



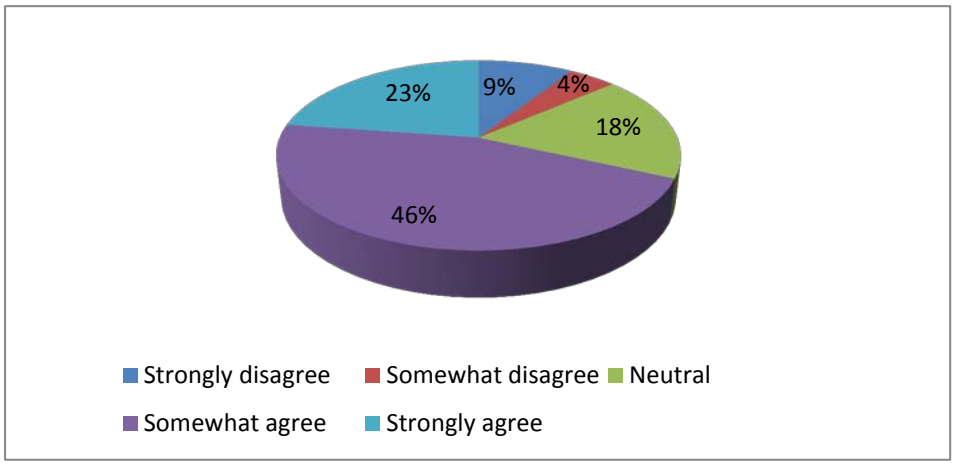
Source: Author (2014)

From Figure 6.15 it is evident that 18% of the respondents strongly agreed, 41% somewhat agreed, 27% were neutral and 14% strongly disagreed that the monitoring and review of fraud risk occurred throughout their organisations.

6.2.5.5 Question 5: The continuous improvement of fraud risk occurs throughout the organisation

The results of this question are indicated in Figure 6.16.

Figure 6.16: The continuous improvement of fraud risk



Source: Author (2014)

From Figure 6.16 it is evident that 23% of the respondents strongly agreed, 46% somewhat agreed, 18% were neutral, 4% somewhat disagreed and 9% strongly disagreed that the continuous improvement of fraud risk occurred throughout their organisations.

Section 5 of the questionnaire addressed the organisational culture and management procedures that existed in private hospitals regarding fraud risk at the time of the research. The majority of respondents agreed that such a culture did exist within their private hospitals and that the management of fraud risk was the responsibility of every employee. This was reflected by 24% of the respondents who strongly agreed and a further 43% who somewhat agreed. When the question was raised whether the private hospitals followed either a reactive or a proactive approach towards the management of fraud risk, there existed mixed opinions on the matter. From the data collected, no exact conclusion could be drawn to state with certainty what the preferred approach amongst the private hospitals was.

However, it is important to take certain measures into consideration when incidents of fraud risk occur. In some instances, private hospital will implement a proactive approach towards the management fraud risk, whereas in other instances, a reactive approach will be implemented. A proactive approach will typically be followed in circumstances where the risk of fraud can be anticipated and planned for in advance. A reactive approach, on the other hand, will be implemented in cases where fraudulent acts have occurred which were not initially planned for, or which arose out of unforeseen circumstances. Both approaches are thus appropriate and should exist within the private hospital risk management framework.

With regard to the monitoring and review of fraud risk that occur throughout the organisation, 59% of the respondents agreed to some extent, 27% were neutral and a further 14% strongly disagreed. These results indicated that monitoring and review of fraud risk do not occur uniformly within private hospitals. There seems to be an opportunity for improvement in the manner in which the monitoring and review of fraud risk take place.

Finally, when addressing the continuous improvement of fraud risk, 69% of the respondents agreed to some extent, while 13% disagreed to some extent that, at the time of the research, continuous improvement of fraud risk occurred throughout the

entire organisation. It can therefore be perceived that the majority of participating private hospitals grasped the importance of continuous improvement of risk management regarding fraud risk, although continuous improvement of risk management was not adequately addressed in all of the private hospitals included in the study.

6.3 SECTION B: OPEN-ENDED AND CLOSED-ENDED QUESTIONS

Section B of the questionnaire consisted of open-ended as well as closed-ended questions. Eight sections were addressed, and these are discussed below. With regard to the closed-ended questions, the respondents were required to answer each of the questions by selecting the relevant option. In the case of the open-ended questions, the respondents were required to provide additional information to the preceding questions or to state their personal opinions on the particular matters of interest.

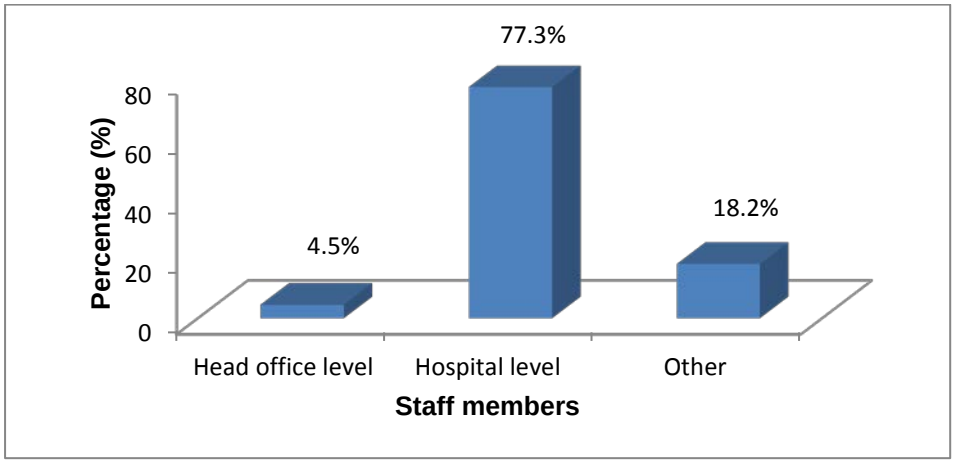
The procedure that was followed in Section B was identical to the procedure which was followed in Section A. Please refer to Appendix A for a copy of the questionnaire.

6.3.1 Section 1: Organisational and personnel information

The purpose of this section was to retrieve information on the organisational structure as well as personnel information. The rationale for including this section was to gather information on the positions the respondents held within the hospitals as well as to retrieve information about the areas where management of fraud risk occurred.

6.3.1.1 Question 1: Please indicate which type of management staff you form part of

Figure 6.17: The distribution of staff members



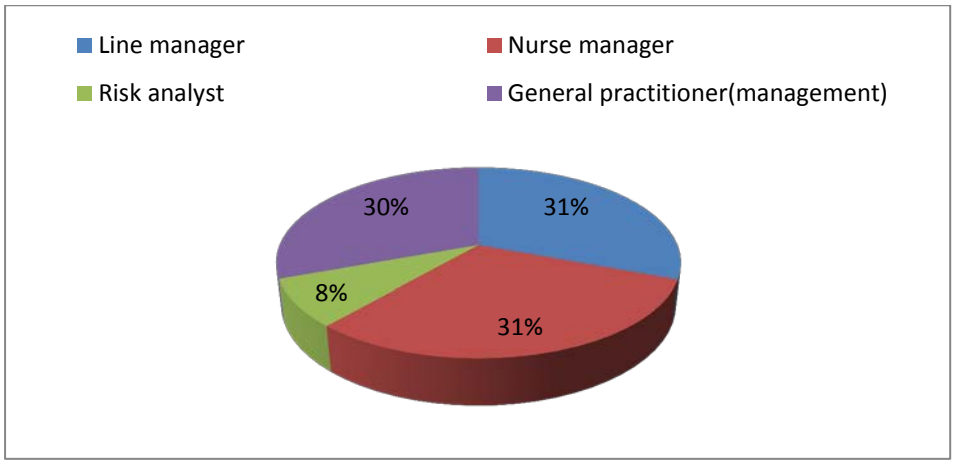
Source: Author (2014)

From In Figure 6.17 it evident that the majority of respondents were employed in management positions at hospital level, whereas only a small proportion worked in management positions at head office level. In addition, 18.2% of the respondents indicated that they were employed within other areas of the private hospitals.

6.3.1.2 Question 2: If your answer to the previous question was ‘other’, please elaborate on the role you play within the organisation/hospital

From Figure 6.17 it is evident that 18.2% of the respondents were not employed in management positions either at head office level or hospital level. The distribution that existed amongst the remaining 18.2% of respondents is illustrated in Figure 6.18.

Figure 6.18: The distribution amongst non-management staff



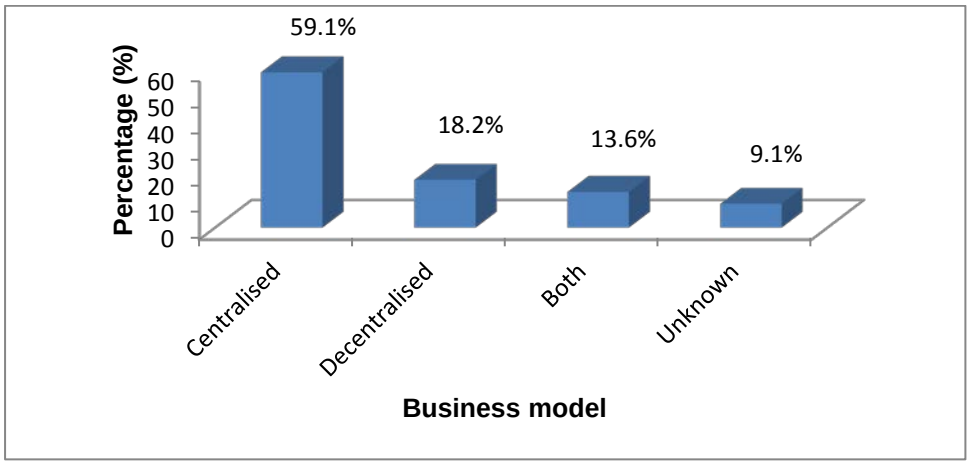
Source: Author (2014)

From Figure 6.18 it is evident that of the residual part of the respondents, 31% were nurse managers, 31% were line managers, 30% were general practitioners involved in management tasks and a further 8% were risk analysts.

6.3.1.3 Questions 3 and 4: Please indicate the business model followed within this organisation/hospital

The information gathered from question 3 and 4 was combined in Figure 6.19 below. It was possible to combine the information, because it all related to the similar area of focus.

Figure 6.19: The business model implemented by private hospitals



Source: Author (2014)

From Figure 6.19 it is evident the 59% of private hospitals followed a centralised approach, whereas 18% followed a decentralised approach. In addition, 13.6% of the participating private hospitals followed a combination of the two approaches, while 9.1% of the respondents were uncertain of the business model followed by their respective hospitals.

It is important to mention that the hesitation of the 9.1% respondents who indicated that they were uncertain of the business model implemented within their respective hospitals could have been the result of the positions they held within the hospital. As can be noted from Figures 6.17 and 6.18, a rather large percentage (18%) of the respondents were not employed in management positions. For this reason, these respondents may have lacked the required knowledge and expertise in order to answer this question accurately.

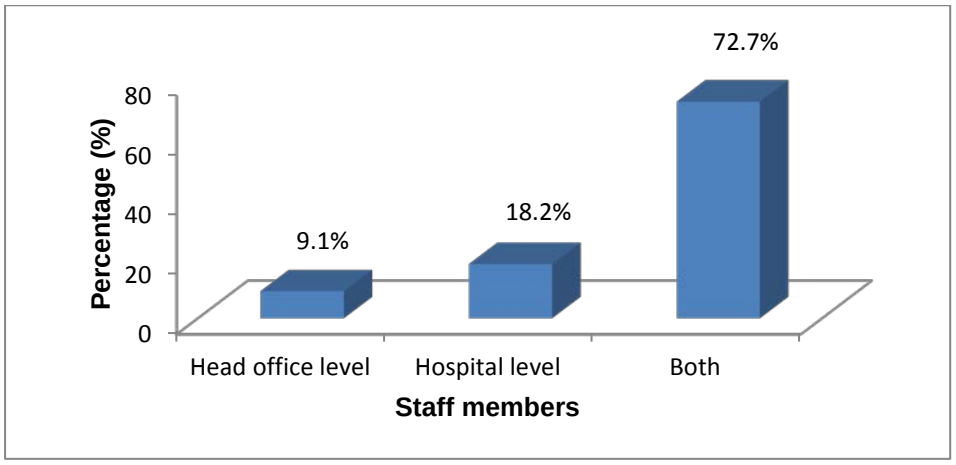
6.3.1.4 Question 5: Please indicate in which area(s) the management of fraud risk in private hospitals occurs

Kemp and Patel (2011) acknowledge the fact that risk management should involve an effective, integrated holistic management of all the risks within an organisation. D'Arcy (2001), in addition, emphasises the necessity of a team approach, whereas Folks (2001) states that a coordinated effort throughout the organisation is required for risk management to be successful.

From the research conducted by Jones and Jing (2011), it was found that between R4 billion and R8 billion is annually lost due to fraud in the South African healthcare sector.

The evidence from the literature consequently suggests that the management of fraud risk is indeed essential as significant amounts of money are lost due to fraud annually. The management of fraud risk should thus occur throughout the entire organisation. Figure 6.20 represents the state of affairs at the time of the research.

Figure 6.20: The management of fraud risk



Source: Author (2014)

Figure 6.20 illustrates that 72.7% of the management of fraud risk occurred both at head office level as well as at hospital level. Only 9.1% occurred only at head office level, whereas 18.2% occurred at hospital level only.

Section 1 of the questionnaire addressed the organisational and personnel information regarding the management of fraud risk. The majority of respondents included in the study comprised management staff at hospital level, whereas a small proportion of respondents comprised personnel employed at head office level. Other employees who took part in the survey included line managers, nurse managers, general practitioners involved in management tasks and risk analysts.

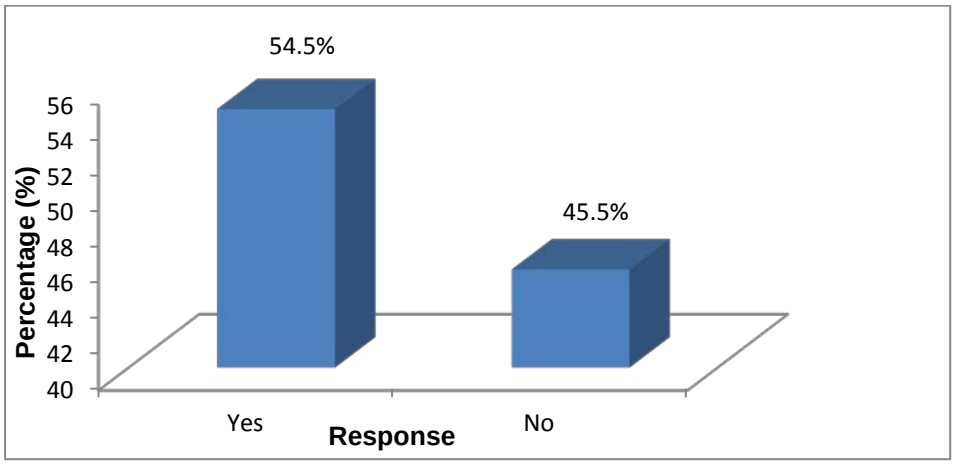
It was found that 59% of private hospitals who participated in the study followed a centralised business model while 18.2% of private hospitals followed a decentralised approach. In 13.6% of the cases, it was found that both a centralised and a decentralised business model were followed. It was further found that 9.1% of respondents indicated that they were uncertain which business model their respective hospitals followed. This could however have been due to their lack of knowledge and experience required to answer this question. With regard to the areas in which the management of fraud risk occurred, it was found that the majority of private hospitals managed fraud risk throughout the entire organisation. This information suggests that the private hospitals participating in the research were heading in the correct direction with regard to the management of fraud risk.

6.3.2 Section 2: The existence of a chief risk officer within the organisation

The rationale for including this section was to determine whether the respondents were aware of the fact that a chief risk officer had been appointed within their organisations.

6.3.2.1 Question 1: You are aware about the fact that a chief risk officer is appointed within this organisation

Figure 6.21: The existence of a chief risk officer

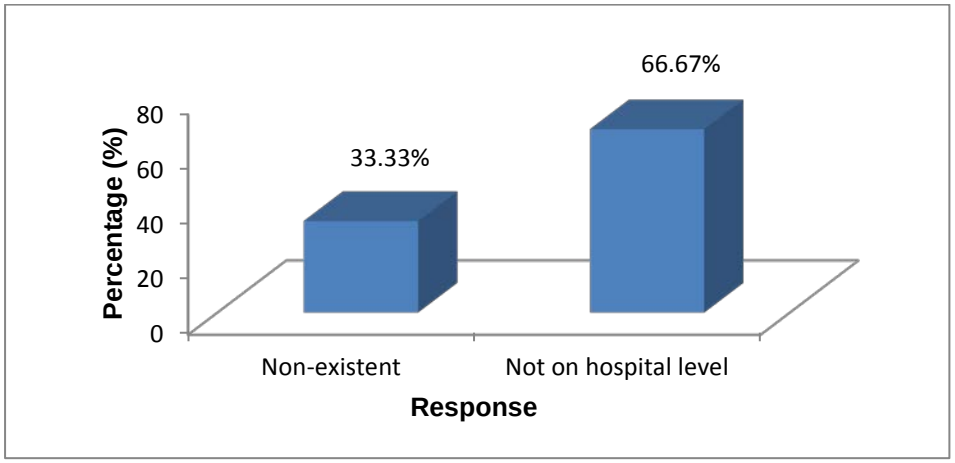


Source: Author (2014)

From Figure 6.21 it is evident that 54.5% of the respondents were aware that a chief risk officer had been appointed within their organisations, whereas 45.5% were unaware of the existence of a chief risk officer within their organisations. The indication that such a large percentage (45.5%) of respondents were unaware of the existence of a chief risk officer requires future attention.

6.3.2.2 Question 2: If your answer to the previous question was no, please provide additional information

Figure 6.22: Unawareness of the existence of a chief risk officer



Source: Author (2014)

The distribution of respondents who were unaware of the existence of a chief risk officer is presented in Figure 6.22. From Figure 6.22 it is evident that 33.3% of the respondents were of the opinion that a chief risk officer did not exist within their organisations, whereas 66.7% indicated that a chief risk officer did not exist at hospital level, but only at head office level.

Section 2 of the questionnaire thus found that the majority of respondents were aware that a chief risk officer had been appointed within their organisations. However, a large percentage (45.5%) of respondents were unaware that a chief risk officer had been appointed within their organisations. It is therefore recommended that risk communication and risk awareness within private hospitals be improved. Every employee within private hospitals should be made aware of the existence of a chief risk officer, which in return could contribute towards the improvement of the management of fraud risk.

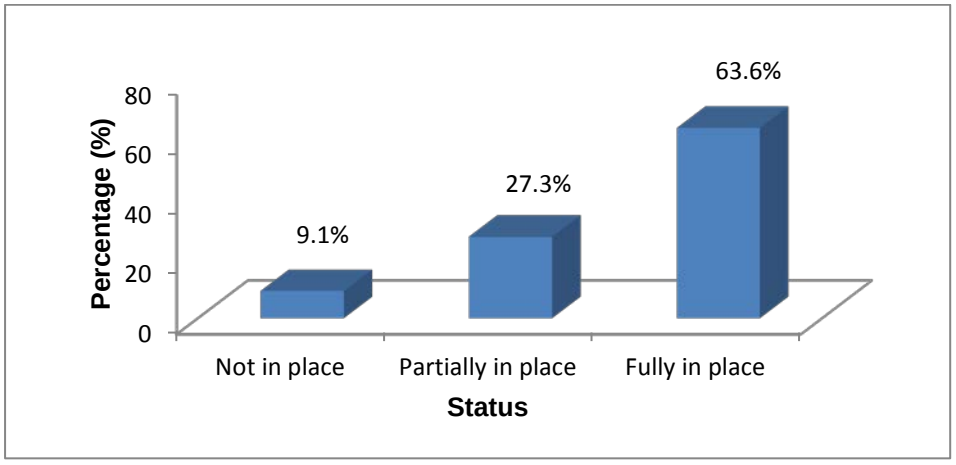
6.3.3 Section 3: The existence of a formal risk management process which includes the management of fraud risk

As indicated by the literature (Fraser & Simkins, 2010; Purdy, 2010) the ISO 31000 is a collection of standards relating to risk management which is codified by the International Organisation for Standardisation (ISO). The purpose of the ISO 31000:2009 is to provide principles and generic guidelines on risk management. As such, the ISO 31000:2009 standard provides a generic model of the risk management process, which is suggested to be implemented by organisations if they strive towards the successful management of all risks (ISO, 2009).

The following questions were consequently included to determine to which extent a risk management process existed within the participating private hospitals and whether fraud risk formed part of the risks that were being managed.

6.3.3.1 Question 1: Please indicate to what extent a formal risk management process is in place within this organisation/hospital

Figure 6.23: The status of the existence of a risk management process

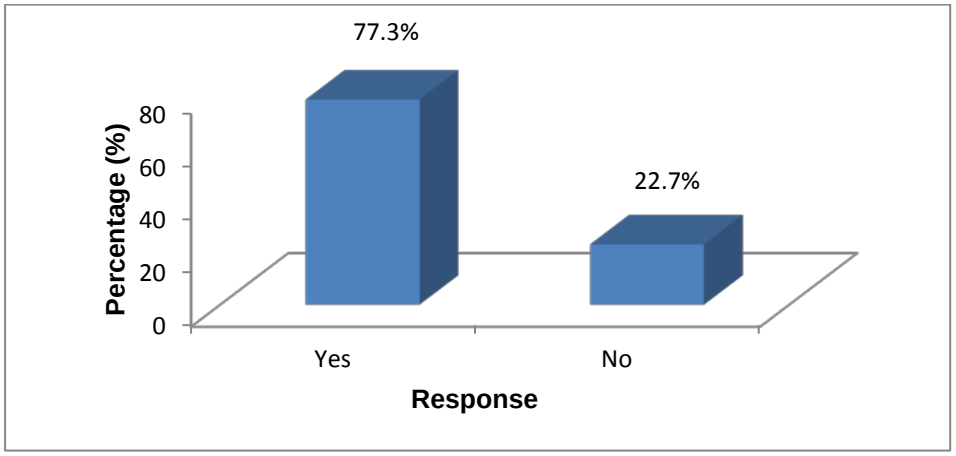


Source: Author (2014)

Figure 6.23 indicates that the majority of the respondents stated that the private hospitals which they represented had a formal risk management process that was fully in place. A further 27.3% of the respondents indicated that such a process was only partially in place, while 9.1% indicated that such a process was not in place whatsoever.

6.3.3.2 Question 2: Does fraud risk form part of the risks that are managed within the risk management process of this organisation/hospital?

Figure 6.24: The active management of fraud risk



Source: Author (2014)

From Figure 6.24 it is evident that 77.3% of the respondents agreed that fraud risk formed part of the risks that were managed within their private hospitals, whereas 22.7% of the respondents disagreed on the matter.

Based on the information gathered from Section 3, it was found that the majority of participating private hospitals had a formal risk management process in place where fraud risk formed part of the risks that were actively managed. This was illustrated by 63.6% of the respondents indicating that a formal risk management process existed within their organisations, and by a further 77.3% of the respondents agreeing that fraud risk formed part of all the risks that were being managed. The fact that 27.3% and 9.1% of the respondents respectively indicated that a risk management process was only partially in place within their organisations or entirely not in place, is an area of concern.

More importantly, it should be borne in mind that 22.7% of the respondents indicated that fraud risk was excluded from the risks that were managed within the private hospitals where they were employed. This exclusion should be addressed urgently by all private hospitals.

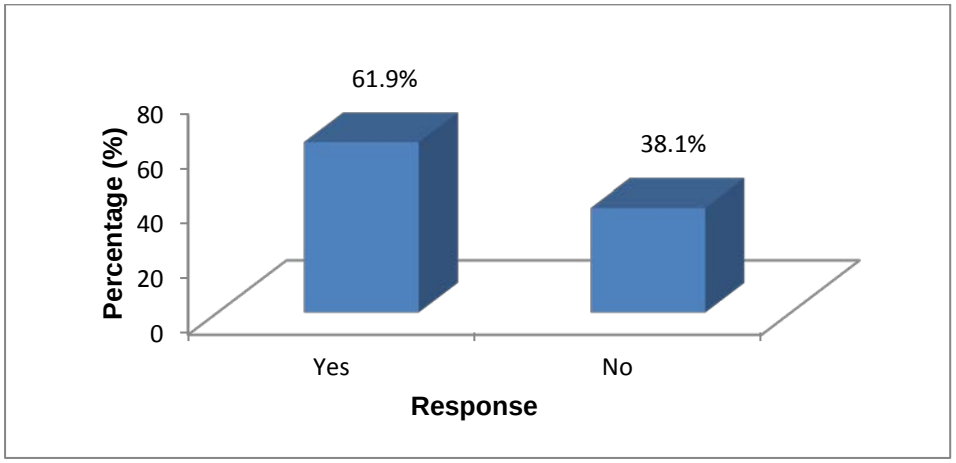
6.3.4 Section 4: The classification of risk

Rejda (2011) states that, within any organisation, a classification of risk is required. This enables the organisation to understand the extent and importance of each risk type. Only when a risk classification exists, a sound, efficient risk management process will transpire (Bainbridge, 2009). Fraud risk is a unquestionable reality within the private healthcare environment, as Jones and Jing (2011) rightfully point out that hefty amounts of money are lost annually due to fraud. For the effective management of fraud risk such risk should be classified as a separate risk class.

The following research questions were therefore formulated.

6.3.4.1 Question 1: Is fraud risk classified as a separate risk class within the risk management framework of this organisation/hospital?

Figure 6.25: The separate classification of fraud risk

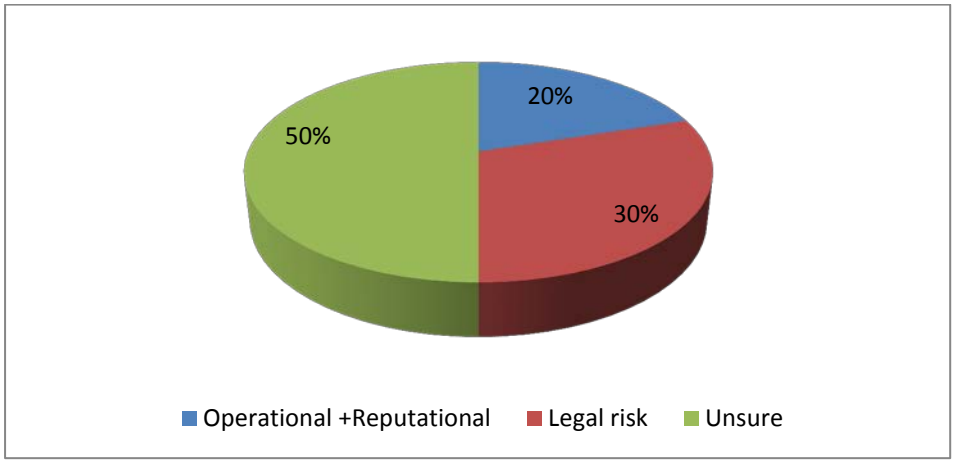


Source: Author (2014)

From Figure 6.25 it is evident that 61.9% of the respondents agreed that fraud risk was indeed classified as a separate risk class within their organisations, whereas 38.1% of the respondents indicated that fraud risk was not classified as separate risk class.

6.3.4.2 Question 2: If your answer to the previous question was no, which risk class is used for identifying and assessing fraud risk?

Figure 6.26: The classification of fraud risk as part of other risk classes



Source: Author (2014)

From Figure 6.26 it is evident that 50% of the respondents were uncertain how fraud risk was classified. In addition, 30% of respondents indicated that fraud risk formed part of legal risk, whereas a further 20% of the respondents believed that fraud risk rather formed part of operational and reputation risk.

Section 4 of the questionnaire specifically addressed the classification of fraud risk. Of the respondents, 61.9% indicated that fraud risk was indeed classified as a separate risk class, although there remained a large percentage (38.1%) of the respondents who indicated that this was not the case. Many of the respondents (50%) however were unsure of the manner in which fraud risk was classified, whereas fraud risk was also found to be grouped amongst legal risk, reputational risk as well as operational risk.

6.3.5 Section 5: The reporting of risk

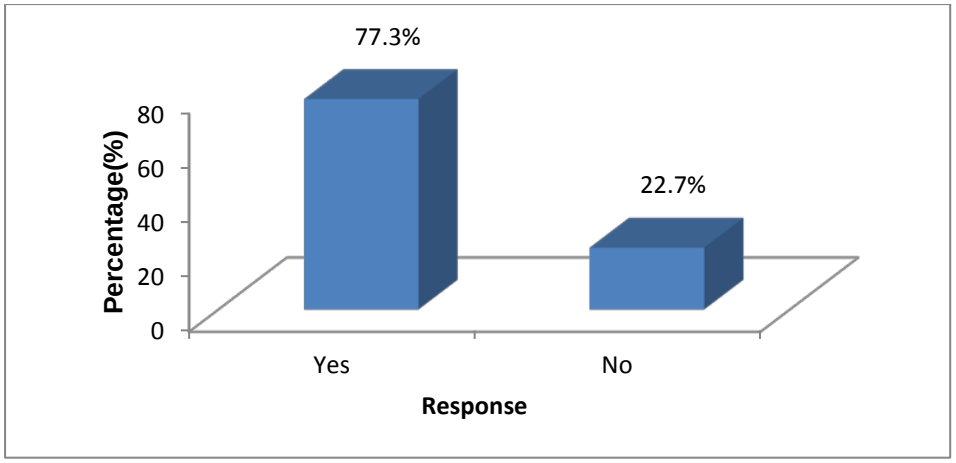
Chapman (2011) indicates that the reporting of risk is just as important as the other activities which form part of the monitoring and review phase within the risk management process. The reporting of risk includes the communication of successes achieved by the organisation to date, as well disclosing the need for

additional or improved response actions (Chapman, 2011). Literature further suggests that the reporting of risk ought to occur at least once a year and that the reporting of all risks ought to be included (Chapman, 2011; Fraser & Simkins, 2010).

The questions that follow address the reporting of fraud risk in private hospitals.

6.3.5.1 Question 1: Does the risk reporting within this organisation/hospital include the reporting on fraud risk?

Figure 6.27: The reporting of fraud risk

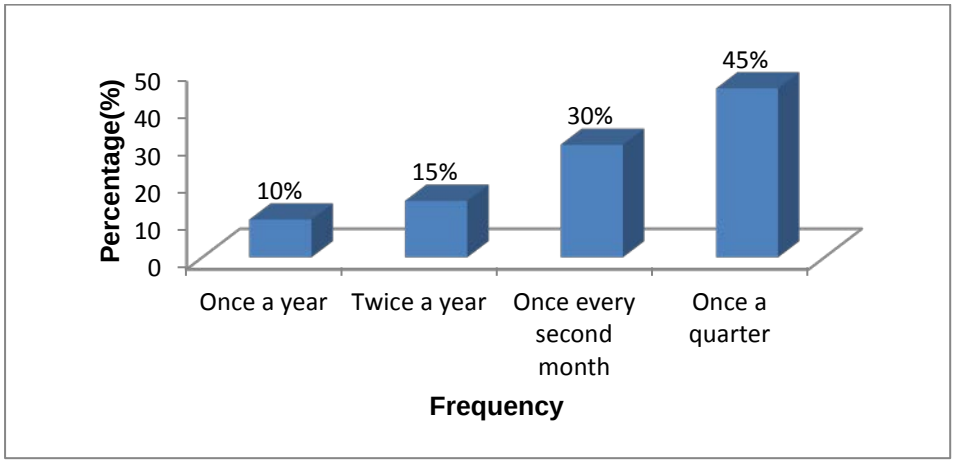


Source: Author (2014)

Figure 6.27 indicates that 77.3% of the respondents pointed out that risk reporting in their private hospitals included the reporting on fraud risk, whereas the remaining 22.7% of the respondents pointed out that fraud risk was not being reported in their hospitals.

6.3.5.2 Question 2: How often does risk reporting occur within this organisation/hospital?

Figure 6.28: The frequency of risk reporting



Source: Author (2014)

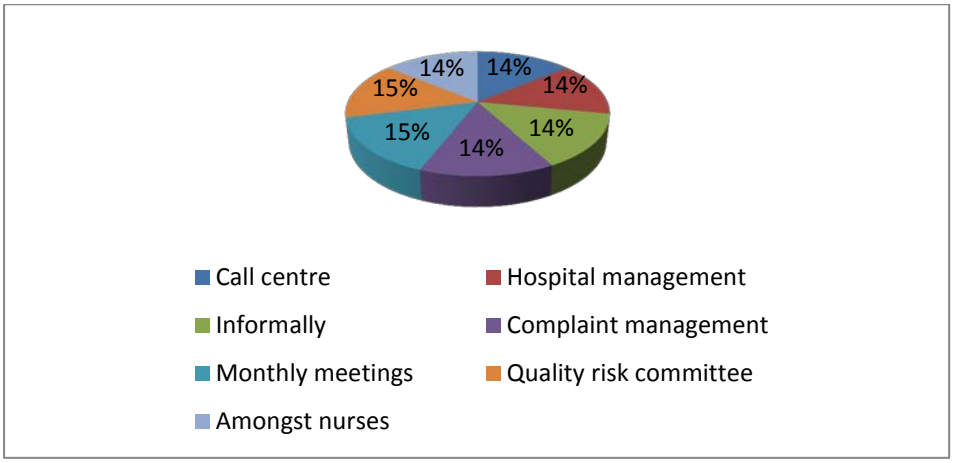
From Figure 6.28 it is evident that there existed a wide distribution of opinion amongst participating private hospitals in the frequency that risk reporting occurs. Of the respondents, 10% indicated that risk reporting occurred once a year, 15% indicated that it occurred twice a year, 30% indicated that it occurred once every second month and a further 45% indicated that risk reporting occurred once every quarter.

The majority of participating private hospitals were performing risk reporting more than twice a year, which may suggest that those private hospitals were aware of the potential benefits and the important role regular risk reporting plays in the risk management process.

6.3.5.3 Question 3: Please provide information on the manner in which fraud risk reporting occurs within this organisation/hospital

Only 32% of the respondents completed the question regarding the manner in which fraud risk reporting occurs. From the responses received, the following information was disclosed.

Figure 6.29: The manner of fraud risk reporting



Source: Author (2014)

From Figure 6.29 it is evident that there existed a variety of ways in which the reporting of fraud risk occurred. Of the respondents who answered this question, 14% indicated that in their hospitals, fraud risk reporting occurred by means of a call centre. A further 14% indicated that junior nurses reported instances of possible fraud risk to a senior nurse. The senior nurse would acknowledge the fraudulent act, but would not take further action as it was found that senior nurses were hesitant to get involved in the reporting of acts of fraud as they feared the possible risk of victimisation. In addition, 15% of the respondents indicated that fraud risk reporting was managed by the quality risk committee of the respective hospitals, whereas 15% indicated that in their hospitals, fraud risk reporting was discussed and examined at monthly meetings held by management staff. A further 14% of the respondents indicated that fraud risk was managed by the complaint management staff of the hospital, and another 14% stated that fraud risk reporting was done informally amongst colleagues. Finally, 14% of the respondents indicated that fraud risk was reported to their hospital management where the matter was then taken further.

6.3.5.4 Question 4: In your view, what would be the most effective manner of reporting fraud risk?

The feedback received from the respondents proved to be valuable. If these suggestions are to be taken into consideration by management, it could contribute

towards improving the current reporting process regarding fraud risk, which at the time of this study (2012–2014) proved to be rather inconsistent and volatile.

First and foremost the reporting on fraud risk should be documented (Chapman, 2011). A formal written report ought to be recorded for each fraud risk incident. It is important that the anonymity and confidentiality of these reports be highlighted. All the fraud risk incidents ought to be handled in a strictly confidential manner, where all parties involved in the reporting process remain anonymous.

The process by which fraud risk reporting in the participating private hospitals occurred proved to be inconsistent as there was no formal agreement on how this process had to be executed. As a result, it is recommended that a specific individual or a department within each private hospital be appointed or established where these reports can be received and recorded.

The importance of proper communication was emphasised. Employees suspecting fraud should be granted the opportunity to utilise hot lines where incidents of fraudulent behaviour can be reported anonymously. It was suggested that the risk committee regularly interact with staff members within the hospital, in an attempt to expose acts of fraud and to prevent future adverse events from occurring.

A final recommendation particularly received from the participatory hospital managers, was that the reporting process should occur on a continual basis or at least more than four times per annum.

Section 5 of the questionnaire addressed the reporting of fraud risk in private hospitals. From the information received, it became clear that the reporting of fraud risk was a reality for the majority of participating private hospitals. The frequency of reporting fluctuated between two and four times per year. Of concern, however, was the manner in which fraud risk reporting occurred. Only 32% of the respondents provided feedback on the reporting process. This may suggest that the remaining 68% of the respondents were either uninformed in terms of the manner in which fraud risk reporting occurred or simply failed to complete this question. The suggestions received from the respondents suggested that, at the time of the research, fraud risk reporting was still evolving and that there were opportunities for further improvement.

6.3.6 Section 6: Outsource agreements with regard to the management of fraud risk

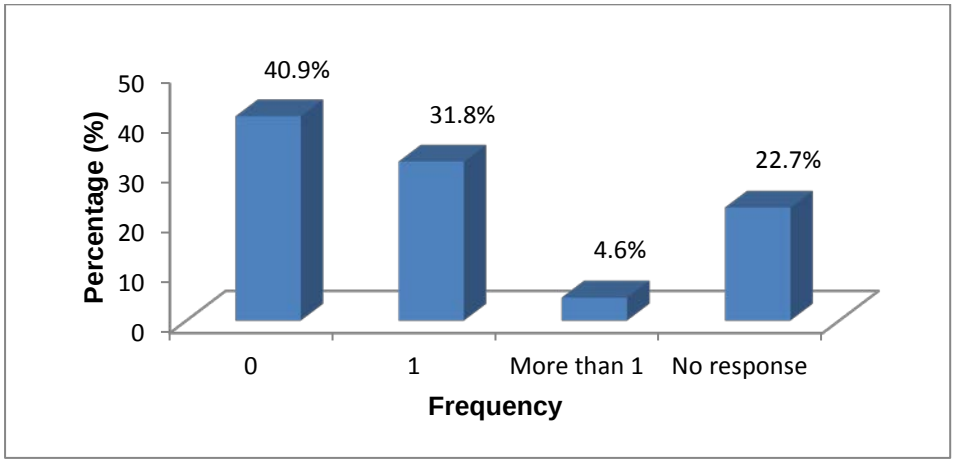
The King III Report on Corporate Governance does not provide any clear guidance on whether the risk management function of an organisation should be internally operated or rather outsourced to an external service provider. What is however of critical importance to the organisation is that the risk management function operate effectively and efficiently (IoDSA, 2009).

This section was therefore included for the purpose of determining what the current state of affairs was at the time of the research with regard to the manner in which fraud risk is managed within the participating private hospitals. Do private hospitals make use of external contractors to manage fraud risk or is it rather managed internally, relying on the organisation's own resources?

6.3.6.1 Question 1: Please indicate the number of outsource agreements that your organisation/hospital has entered into with regard to the management of fraud risk

Figures 6.30 and 6.31 represent the information that was gathered relating to internal and external agreements regarding fraud risk.

Figure 6.30: Internal agreements with regard to the management of fraud risk

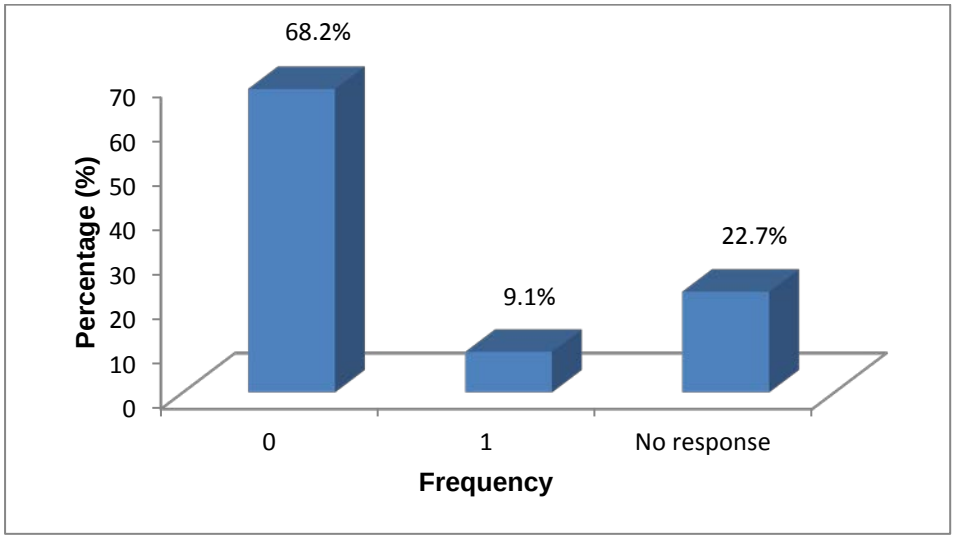


Source: Author (2014)

Figure 6.30 reflects the number of internal agreements participating private hospitals had entered into with regard to the management of fraud risk. Of the participants,

40.9% indicated that in their private hospitals, there existed no internal agreements with regard to the management of fraud risk. A further 31.8% of the respondents indicated that their private hospitals had entered into one internal agreement, 4.6% indicated that more than one internal agreement had been established, whereas 22.7% of the respondents failed to provide any information on the matter.

Figure 6.31: External agreements with regard to the management of fraud risk



Source: Author (2014)

Figure 6.31 shows the number of external agreements the participating private hospitals had entered into with regard to the management of fraud risk. From this figure it is evident that 68.2% of the respondents indicated that their private hospitals had entered into no external agreement, 9.1% of the respondents indicated that one external agreement had been established, whereas 22.7% of the respondents did not provide any information on the matter.

Section six of the questionnaire addressed the number of outsource agreements private hospitals had entered into regarding the management of fraud risk. This section was divided into two sub-sections. The first sub-section investigated the trend amongst private hospitals regarding internal agreements at the time of the research, whereas the second sub-section investigated the trend amongst private hospitals regarding external agreements at the time of the research. In both cases, the majority of respondents indicated that no formal agreement existed, whereas a further 22.7% of the respondents did not provide any response. To this end, the

collected data suggest that, at the time of the research, the majority of participating private hospitals did not make use of outsource agreements to manage fraud risk, but preferred to manage fraud risk internally.

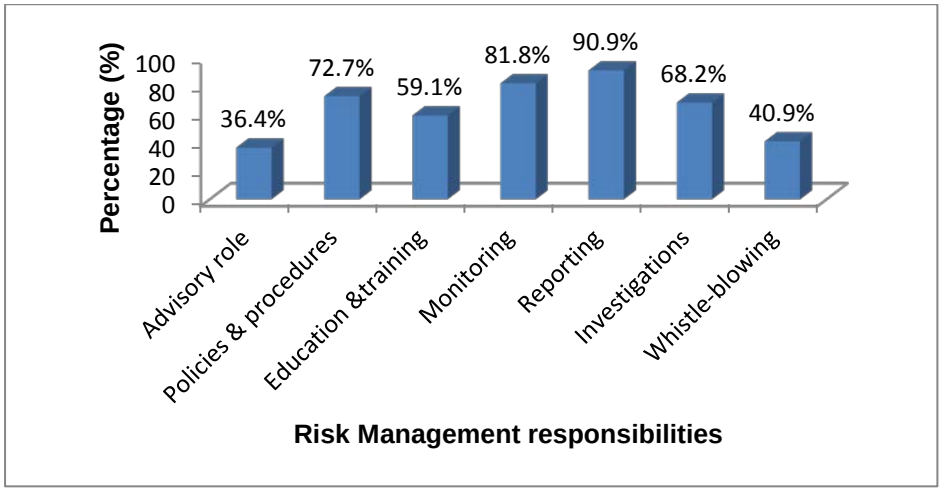
6.3.7 Section 7: Risk management responsibilities with regard to the management of fraud risk

From the work of various authors on the risk management process, it became apparent that risk management involves a broad range of phases as well as a diverse range of activities and responsibilities (Chapman, 2011; Fraser & Simkins, 2010; Valsamakis *et al*., 2010).

To this end, this section was included in the questionnaire to establish which risk management responsibilities within the private hospital sector were applicable to the fraud risk management function, as well to establish how successful these risk management responsibilities were in reducing the occurrence of fraud risk.

6.3.7.1 Question 1: Please indicate which of the following risk management responsibilities are applicable to your organisation/hospital's fraud risk management function

Figure 6.32: Risk management responsibilities applicable to managing fraud risk



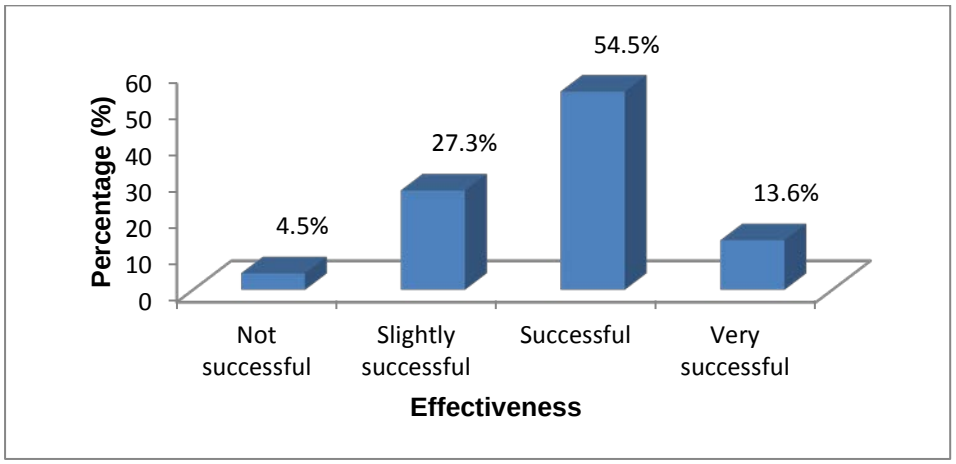
Source: Author (2014)

In Figure 6.32 it is evident that the respondents indicated that the management of fraud risk comprised a wide range of risk management responsibilities, although not all responsibilities received an equal amount of attention. Of the respondents, 36.6% indicated the advisory role, 72.7% indicated the development of policies and procedures, 59.1% indicated education and training, 81.8% indicated monitoring, 90.9% indicated reporting, 68.2% indicated investigations and 40.9% of the respondents indicated a whistle-blowing function.

6.3.7.2 Question 2: Of the risk management responsibilities you have indicated in the previous question, please indicate how successful they were in reducing the occurrence of fraud risk

Figure 6.33 reflects the information that was gathered from the respondents.

Figure 6.33: Effectiveness of risk management responsibilities



Source: Author (2014)

In Figure 6.33 it is evident that 4.5% of the respondents were of the opinion that the abovementioned risk management responsibilities were not successful, whereas 27.3% were of the opinion that they were slightly successful in reducing the occurrence of fraud risk. A further 54.5% of the respondents indicated that these responsibilities were successful, whereas 13.6% indicated that they were very successful in reducing the occurrence of fraud risk.

Section 7 of the questionnaire addressed the different risk management responsibilities applicable to the management of fraud risk. It was found that the management of fraud within private hospitals should include a broad spectrum of risk

management responsibilities, and a large percentage (54.5%) of respondents agreed that these responsibilities have been successful in reducing the occurrence of fraud risk.

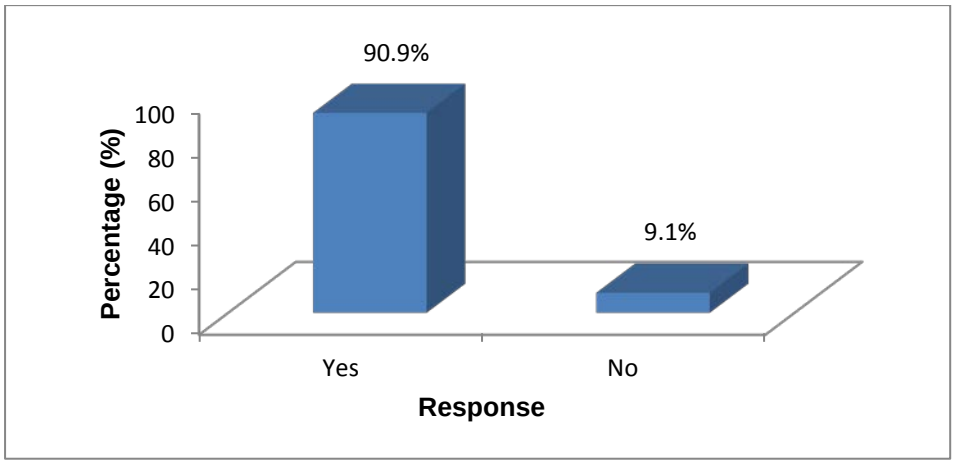
6.3.8 Section 8: Supplementary information

In this section, information was gathered from the respondents with the specific aim of determining in which way the management of fraud risk could be improved within private hospitals. The information included suggestions of corrective measures and improvements that could be implemented within the private hospitals.

6.3.8.1 Question 1: In your opinion, can the management of fraud risk within this organisation/hospital be improved?

Figure 6.34 represents the feedback received from the respondents.

Figure 6.34: The possible improvement of fraud risk



Source: Author (2014)

From Figure 6.34 it is evident that 90.9% of the respondents were of the opinion that fraud risk within private hospitals could be improved, whereas 9.1% of the respondents believed that the management of fraud risk was adequately addressed and required no further improvement.

6.3.8.2 Question 2: If you answered yes to the previous question, what corrective measures and recommendations could be implemented?

From Figure 6.34 it is evident that the majority (90.1%) of respondents were of the opinion that the management of fraud risk within private hospitals could be improved. A number of recommendations were made by the respondents.

First and foremost, tighter control measures could be adopted by private hospitals with regard to the management of fraud risk. Then, audit measures within private hospitals should be interactive as well as flexible. Interactivity could be accomplished by providing for a two-way communication stream between employees and the audit committee. Flexibility, on the other hand, is achieved by incorporating dynamic, innovative features within the management process, which would include multiple methods to manage fraud risk.

Communication remains important and requires additional attention and improvement with regard to the reporting of fraud risk eventualities. Furthermore, all employees should be adequately trained and educated in order to improve the awareness of fraud risk. It is also important that the correct procedures be followed in cases when and where these eventualities do occur.

Following this, the importance of regular investigations and meetings was highlighted. The reporting of fraud risk should be followed up on a regular and timely basis, where adequate feedback can be provided to all staff.

It was further suggested that a segregation of tasks should exist within private hospitals, where all staff form part of a specific risk management team. These teams could have different responsibilities with regard to the management of risk. By doing so, there would be a greater probability of detecting acts of fraud as well as of preventing possible eventualities from occurring. Finally, the recommendation was made to investigate fraud risk through a root cause analysis.

Section 8 of the questionnaire collected supplementary information specifically relating to the question whether respondents believed that the management of fraud risk within private hospitals could be improved. The majority of respondents agreed that the management of fraud risk within private hospitals could be improved. Of the many suggestions and/or recommendations, the following key points were identified:

- stricter control measures;
- proper communication;
- flexibility and interactivity of audit measures;
- a higher frequency of investigations and meetings;
- continuous improvement of the entire risk management process;
- involvement of all staff members;
- training and education of all staff members; and
- more regular, timely feedback.

6.4 SECTION C: INFERENTIAL ANALYSIS OF THE RESEARCH FINDINGS

Section C of the questionnaire collected information on the inferential statistical measures that were utilised for the purpose of this study. The Mann–Whitney test was chosen as the measurement instrument of choice to determine whether there existed a statistical significance in the manner respondents answered Section A of the questionnaire as opposed to specific questions in Section B. This analysis then lead to an enhanced understanding of private hospitals' perceptions and understanding of the management of fraud risk.

The specific questions in Section B that were tested are provided in 6.4 below. As discussed in 5.9.2, a statistically significant difference signifies the existence of statistical evidence that there is indeed a difference. If a statistically significant difference exists, the null hypothesis can be rejected. For the purpose of this study, a 10% level of significance was used. This level of significance was chosen, because of the small response rate (22 completed questionnaires). A 5% level of significance would not have provided meaningful results for this study (cf. Zikmund *et al*., 2013). Consequently, because the p-value were less than the significance level, in other words less than 10%, the null hypothesis was rejected.

Please refer to Appendix A for a copy of the questionnaire.

6.4.1 Significance in the business model followed by the organisation/hospital and the level of agreement on the organisational culture of the organisation

In terms of all the questions provided in Section A of the questionnaire, a significant difference was identified between questions three and four of section five.

6.4.1.1 This organisation follows a proactive approach towards the management of fraud risk

H_o: There is no significant difference between the business model followed by the organisation/hospital and whether the organisation/hospital follows a proactive approach towards the management of fraud risk

H_1: There is a significant difference between the business model followed by the organisation/hospital and whether the organisation/hospital follows a proactive approach towards the management of fraud risk

6.4.1.2 Monitoring and review of fraud risk occur throughout the organisation/hospital

H_o: There is no significant difference between the business model followed by the organisation/hospital and whether monitoring and review of fraud risk occur throughout the organisation/hospital

H_1: There is a significant difference between the business model followed by the organisation/hospital and whether monitoring and review of fraud risk occur throughout the organisation/hospital

6.4.1.3 Mann–Whitney test

The Mann–Whitney test was performed to test whether there was a statistically significant difference between respondents whose business model was centralised and those whose business model was decentralised with regard to the level of agreement on organisational culture of the organisation. The Mann–Whitney

nonparametric test was used due to the small sample size and ordinal scaled data (cf. Pietersen & Maree, 2007).

Table 6.1: Mann–Whitney test results for differences between the hospitals/organisations' business model with regard to the level of agreement on the organisational culture of the organisation

		A14	A15
Mann–Whitney U		4.000	5.500
Exact sig. [2*(1-tailed sig.)]		.010[b]	.015[b]

Source: Author (2014)

The results firstly indicate that a statistically significant difference exists between the respondents whose business model was centralised and those whose business model was decentralised with regard to the level of agreement on the implementation of a proactive approach towards the management of fraud risk. The results secondly indicate that a statistically significant difference also existed between respondents whose business model was centralised and those whose business model was decentralised with regard to the fact that the monitoring and review of fraud risk occurred throughout the organisation. The null hypotheses can therefore be rejected.

Table 6.2: Mean ranks

Ranks

	B 1.3	N	Mean rank	Sum of ranks
A14	1	13	7.69	100.00
	2	3	12.00	36.00
	Total	16		
A15	1	13	7.42	96.50
	2	4	14.13	56.50
	Total	17		

Source: Author (2014)

The mean ranks from Table 6.2 indicate that participating private hospitals with a decentralised business model tended to agree more (mean rank = 12.00; 14.13) than those that had a centralised business model (mean rank = 7.69; 7.42).

6.4.2 Significance of whether fraud risk formed part of the risks that were managed within the risk management process of this organisation/hospital and to the level of agreement on the organisational culture of the organisation

In terms of all the questions in Section A of the questionnaire, a significant difference was identified between questions one and four of section five.

6.4.2.1 In this organisation/hospital there exists a culture in which the management of fraud risk is the responsibility of every employee

H_o: There is no significant difference between whether fraud risk forms part of the risks that are managed and whether there exists a culture in which the management of fraud risk is the responsibility of every employee

H_1: There is a significant difference between whether fraud risk forms part of the risks that are managed and whether there exists a culture in which the management of fraud risk is the responsibility of every employee

6.4.2.2 Monitoring and review of fraud risk occur throughout the organisation/hospital

H_o: There is no significant difference between whether fraud risk forms part of the risks that are managed and whether the monitoring and review of fraud risk occur throughout the organisation/hospital

H_1: There is a significant difference between whether fraud risk forms part of the risks that are managed and whether the monitoring and review of fraud risk occur throughout the organisation/hospital

6.4.2.3 Mann–Whitney test

The Mann–Whitney test was performed to test whether there was a statistically significant difference between those respondents who indicated that fraud risk formed part of the risk that is managed and to those who indicated that this was not

the case with regard to the level of agreement on the organisational culture of the organisation. The Mann–Whitney nonparametric test was used due to the small sample size and ordinal scaled data.

Table 6.3: Mann–Whitney test results for the differences between whether fraud risk formed part of the risks that were managed with regard to the level of agreement on the organisational culture of the organisation

	A12	A15
Mann–Whitney U	15.000	8.500
Exact Sig. [2*(1-tailed Sig.)]	.040[b]	.005[b]

Source: Author (2014)

The results indicated that a statistically significant difference did exist between respondents who indicated that fraud risk formed part of all the risks that were managed and those who indicated that this was not the case with regard to the existence of a culture where the management of fraud risk was the responsibility of every employee. The results secondly indicated that a statistically significant difference also existed between respondents who indicated that fraud risk formed part of the risks that were managed and those who indicated that this was not the case with regard to monitoring and reviewing of fraud risk which occur throughout the organisation. The null hypotheses can therefore be rejected.

Table 6.4: Mean ranks

Ranks

	B 3.2	N	Mean rank	Sum of ranks
A12	1	16	12.56	201.00
	2	5	6.00	30.00
	Total	21		
A15	1	17	13.50	229.50
	2	5	4.70	23.50
	Total	22		

Source: Author (2014)

The mean ranks from Table 6.4 specify that respondents who indicated that fraud risk formed part of the risks that were managed within the risk management process

of the organisation tended to agree more (mean rank = 12.56; 13.50) than those that indicated that this was not the case (mean rank = 7.69; 7.42).

6.4.3 Significance of the extent to which a formal risk management process is in place and to the level of agreement on contributing towards sustainable business operations

In terms of all the questions in Section A of the questionnaire, a significant difference was identified between question two of section one and question six of section three.

6.4.3.1 For organisations to be sustainable the management of all risks are important

H_o: There is difference between the extent to which a formal risk management process is in place within the organisation/hospital and the level of agreement on the importance of risk management in contributing towards sustainable business operations

H_1: There is a significant difference between the extent to which a formal risk management process is in place within the organisation/hospital and the level of agreement on the importance of risk management in contributing towards sustainable business operations

6.4.3.2 All staff has a responsibility towards the effective management of fraud risk

H_o: There is no significant difference between the extent to which a formal risk management process is in place within the organisation/hospital and the level of agreement on whether all staff has a responsibility towards the effective management of fraud risk

H_1: There is a significant difference between the extent to which a formal risk management process is in place within the organisation/hospital and the level of agreement on whether all staff has a responsibility towards the effective management of fraud risk

6.4.3.3 Mann–Whitney test

The Mann–Whitney test was performed to test whether there was a statistically significant difference between those respondents who indicated that a formal risk management process was partially in place at their hospitals as opposed to those who indicated that it was fully in place with regard to the level of agreement on contributing towards sustainable business operations. The Mann–Whitney nonparametric test was used due to the small sample size and ordinal scaled data.

Table 6.5: Mann–Whitney test results for the difference between whether a formal risk management process was in place with regard to the level of agreement on contributing towards sustainable business operations

	A2	A9
Mann–Whitney U	21.000	16.000
Exact Sig. [2*(1-tailed Sig.)]	.091[b]	.0046[b]

Source: Author (2014)

The results indicate that a statistically significant difference existed between respondents who indicated that a formal risk management process was partially in place at their hospitals as opposed to those that indicated that such a process was fully in place with regard to the importance of the management of all risks in order for organisations to be sustainable. The results secondly indicate that a statistically significant difference existed between respondents who indicated that a formal risk management process was partially in place at their hospitals as opposed to those who indicated that such a process was fully in place with regard to the fact that all staff had a responsibility towards the effective management of fraud risk. The null hypotheses can therefore be rejected.

Table 6.6: Mean ranks

Ranks

	B 3.1	N	Mean rank	Sum of ranks
A2	2	16	7.00	42.00
	3	4	12.00	168.00
	Total	21		
A9	1	6	6.17	37.00
	2	13	11.77	153.00
	Total	22		

Source: Author (2014)

The mean ranks from Table 6.6 specify that respondents who pointed out that a formal risk management process was fully in place in their hospitals tended to agree more (12.00; 11.77) than those who pointed out that such a process was only partially in place in their hospitals (mean rank = 7.00; 6.17).

Now that both the descriptive and inferential statistical analyses had been carried out and discussed, the next section will discuss the required synthesis between die research objectives and research findings of the study.

6.5 SYNTHESIS

This chapter discussed the data analysis and results of the study. In order to assess the primary and secondary objectives of this study, descriptive and inferential analysis were executed.

The chapter commenced with a discussion of Section A of the questionnaire, which consisted of sixteen questions that were each measured by means of a five-point Likert scale, indicating the level of agreement/disagreement which existed amongst the respondents with regard to each of the statements. Section A was further subdivided into five sections.

The first section addressed the relationship between risk management and sustainability. The results indicated that the majority of private hospitals understood the importance of risk management in achieving sustainable business operations

and that the effective management of all risks are important in order to succeed in this objective.

In the section that followed, it was found that private hospitals viewed the effective management of fraud risk to be an important source of a competitive advantage.

Section three investigated the perspective on the responsibility amongst staff members regarding the governance of risk as well as the management of fraud risk. With regard to the governance of risk, the majority of private hospitals agreed that the ultimate responsibility lay with the board of directors. In addition, the results indicated that the board of directors were not solely responsible for the management of fraud risk, but that it rather had to be a shared responsibility between other committees and staff members. These findings were further sustained by the manner in which participating private hospitals viewed the responsibility of the risk committee in the management of fraud risk. Again it was found that the ultimate responsibility does not rest with the risk committee or management staff. Every employee has a responsibility and an important role to play in the management of fraud risk.

Section four focused on the reporting procedures that existed within the private hospital sector. A whistle-blowing system was found to be important to report alleged fraudulent behaviour within private hospital facilities, whereas it was agreed that the availability of a fraud and ethics hotline was important for this system of reporting to function optimally. The availability of such hotlines within hospitals seems to be a problem, which requires further research in order to determine where the problem lies.

The final section addressed the organisational culture and management procedures that existed in the participating private hospitals with regard to fraud risk. The results indicated that respondents agreed on the fact that the management of fraud risk ought to be embedded within the organisational culture of all private hospitals, although at this stage this could be improved. Participating private hospitals implemented a reactive as well as a proactive approach towards the management of fraud risk. This could be explained by the fact that the nature of risks is diverse and therefore each type of risk requires a different treatment. A proactive approach should be implemented in circumstances where the risk of fraud can be anticipated and planned for in advance, whereas a reactive approach should be utilised in cases

where fraudulent acts have occurred which were not initially planned for, or which arose out of unforeseen circumstances. Both approaches are appropriate and ought to exist within the private hospitals' risk management framework.

The monitoring and review of fraud risk do not occur consistently within all private hospitals and there seems to be opportunity for improvement in the manner in which monitoring and review of fraud risk occur.

Finally, to conclude Section A, the results indicated that the participating private hospitals comprehended the importance of continuous improvement of risk management, even though the continuous improvement of risk management specifically relating to fraud risk was not adequately addressed at the time of the study, and requires further attention.

The chapter continued with the introduction of Section B, which consisted of open-ended as well as closed-ended questions, which were subdivided into eight sections.

The first section addressed organisational as well as personnel information regarding the management of fraud risk. Respondents included in the study comprised management staff at head office level and management staff at hospital level. In addition, other employees in the private hospital sector were also involved, which comprised line managers, nurse managers, general physicians and risk analysts.

Respondents were further required to indicate which business model was employed within their respective hospitals at the time of the research. The results indicated that the majority of private hospitals followed a centralised business model, whereas the minority of private hospitals followed either a decentralised approach or a combination of the two mentioned approaches. When the question was raised regarding the areas where management of fraud risk occurred, it was encouraging to find that the majority of private hospitals managed fraud risk throughout the entire organisation.

Continuing with section two, it became evident that the respondents were aware of the fact that a chief risk officer existed within their organisations, although a rather significant percentage of respondents (45.5%) were unaware of this fact. The awareness of key employees within the organisation regarding risk management could thus be improved.

Section three investigated whether a formal risk management process existed within the participating private hospitals and whether fraud risk formed part of the risks that were actively managed. The results indicated that a formal risk management process existed among a large percentage of private hospitals (63.6%) and that fraud risk formed part of the risks that were actively managed. However, there was opportunity for improvement as it was found that a significant percentage (22.7%) of the respondents indicated that fraud risk was not included in the participating private hospitals' risk management framework.

Section four continued with the classification of risk. From the results it was identified that there existed a rather large divergence amongst private hospitals on whether fraud risk should be classified as a separate risk class or not. Many respondents (50%) indicated that they were unsure how fraud risk ought to be classified, and fraud risk was also found to be classified amongst operational risk, reputational risk as well as legal risk.

With the presentation of section five, it was revealed that the reporting of fraud risk was a reality for the majority of participating private hospitals (77.3 %). However, from the results it was clear that the manner in which fraud risk reporting in private hospitals occurs, is an area of concern as there seems to be a lack of uniformity.

Section six addressed the number of outsource agreements regarding the management of fraud risk the participating private hospitals had entered into. The study addressed both internal, as well as external agreements with regard to the management of fraud risk. In both instances it was found that the majority of participating private hospitals did not make use of such agreements to manage fraud risk.

It became clear from the results gathered from section seven that there existed numerous risk management responsibilities with regard to the management of fraud risk. Amongst these responsibilities were: advisory, the development of policies and procedures, education and training, monitoring, reporting, investigations as well as whistle-blowing. These responsibilities have all been found to reduce the existence of fraud risk.

The results of section eight indicated that, at the time of the research, the management of fraud risk was not satisfactory and could be improved within private hospitals. The suggestions that were identified by the respondents comprised:

- stricter control measures;
- better communication amongst employees;
- more regular meetings and investigations;
- an organisational culture where continuous improvement of risk management is a priority;
- the involvement of every employee in the management of fraud risk;
- providing training and education on risk management to employees; and
- more timely feedback and reporting procedures.

The chapter concluded with Section C. In this section, inferential statistics were applied to determine whether there existed a statistically significant difference in the degree to which respondents agreed to the questions in Section A and to the manner in which respondents answered Section B of the questionnaire. This was done by means of the Mann–Whitney test. From the results gathered from the Mann–Whitney test, the following findings were captured:

- The respondents who indicated that their organisations followed a decentralised approach as opposed to a centralised approach, tended to agree more with the statement that within their organisations a proactive approach was implemented towards the management of fraud risk. This was also true for the statement that the monitoring and review of fraud risk occurred throughout the organisation.
- The respondents who indicated that fraud risk formed part of the risks that were managed within the organisations' risk management process tended to agree more with the statement that a culture existed within their organisations where the management of fraud risk was the responsibility of every employee. This was also true for the statement that the monitoring and review of fraud risk occurred throughout the organisation.
- The respondents who indicated that a formal risk management process was fully in place as opposed to partially in place tended to agree more with the statement that for organisations to be sustainable, the management of all risks

is important. This was also true for the statement that all staff has a responsibility towards the effective management of fraud risk.

With all the results of this study discussed, it is now possible to get a holistic perspective on the management of fraud risk within South African private hospitals. The final conclusions are drawn and recommendations are made in the next and final chapter.

6.6 SUMMARY

This chapter presented the analysis and results of the study. In order to assess the primary and secondary objectives of this study, descriptive and inferential analyses were executed.

In the first section, the descriptive statistics explained the current state of affairs within South African private hospitals. This included five sub-sections, namely risk management and sustainability, the management of fraud risk as a source of competitive advantage, responsibility amongst staff members within an organisation, the reporting of fraud risk, and finally the organisational culture and management procedures regarding fraud risk. The second section included open-ended and closed-ended questions where additional information and relationships were presented and explained by means of descriptive statistics. The third section of this chapter consisted of the inferential analysis that was performed to test certain hypotheses. Hypotheses were developed to determine the most significant relationships and differences between various variables. A synthesis was provided to present a summary of the findings, which outlined all the principal findings of this study.

In the final chapter of this study, conclusions will be drawn and recommendations will be made for private hospitals with regard to the management of fraud risk as well as providing opportunities for future research.

CHAPTER 7
SUMMARY, RECOMMENDATIONS AND CONCLUSION

7.1 INTRODUCTION

The healthcare sector not only plays a significant role in combatting disease and maintaining and improving quality of life, but also contributes towards the GDP of the majority of developed economies. This is a multifaceted sector, involving many role players and providing a wide range of services. The healthcare sector creates employment and investment opportunities, provides for international linkages and encourages healthcare scalability through innovation and productivity gains. This is achieved by ensuring healthy and productive individuals as well as creating direct and indirect employment for millions of people across the globe.

The healthcare sector does not only draw on the services of medical professionals, but also makes use of the services of public policy workers, medical writers, clinical research laboratory workers, information technology professionals and marketing specialists. Although there exist various descriptions of the healthcare sector, because of the different cultural, political, organisational and disciplinary perspectives, there appears to be some consensus that the healthcare sector can be divided into primary care, secondary care and tertiary care. Alongside the various players and sectors of which the healthcare sector is comprised, this sector could be classified as consisting of a public and a private hospital sector. This study specifically focused on the private hospital sector of South Africa.

The chapter provides a summary of the study. In this regard, a review of the literature will be provided and the findings presented. Recommendations in order to address and possibly improve the management of fraud risk within private hospitals in South Africa are provided. Areas for further research are also provided.

The study identified fraud risk as a global phenomenon that threatens profitability, reputability and legitimacy of organisations whenever it occurs (3.6.5).

Globally it was found that 5% of revenue around the world, approximately US$3.5 trillion, is lost due to fraud every year (Nouss, 2013). Healthcare fraud in the USA

has been estimated to amount to US$60 million annually of which the majority belonged to the hospital sector (Musau & Vian, 2008). In addition, fraud in the South African healthcare sector had been estimated to amount to between 4 and 8 billion rand per year (Jones & Jing, 2011).

The proper management of fraud risk is consequently crucial for organisations in order to remain sustainable in their business operations.

The problem this study therefore addressed was to determine the manner in which the private hospital sector of South Africa manages fraud risk. To address the problem statement, the objective of this study was formulated, namely to explore the management of fraud risk within the South African private hospital sector. In doing so, two secondary objectives were established, namely the identification of problem areas in the management of fraud risk, as well as the suggestion of appropriate improvements. These objectives were set in an attempt to improve the management of fraud risk within the South African private hospital sector.

In order to achieve the stated objectives, a specific methodology was formulated, namely:

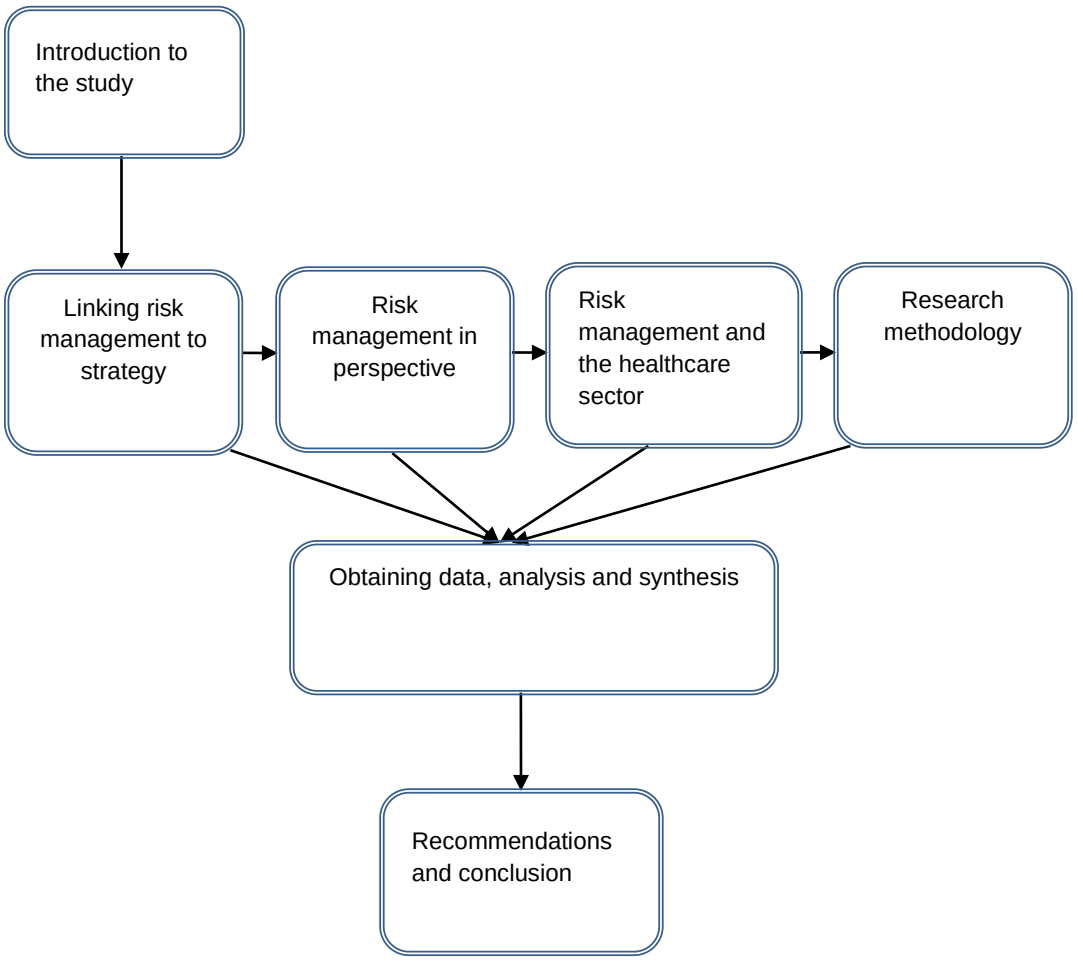
- The concepts of competitive advantage and sustainability were reviewed, followed by a description of what a strategic management approach involves. This included the explanation of the relationship that exists between risk management and strategy.
- A theoretical background, perspective and understanding on risk and risk management within organisations was reviewed. This was followed by a discussion on the development of enterprise risk management. Corporate governance and the role it played in the development of risk management were then reviewed where the various codes and reports that addressed corporate governance internationally as well as in South Africa were provided. A review of the risk management process was conducted, concluding with the classification of the numerous risks with which organisations are confronted.
- Next, an overview of the healthcare industry was provided, explicitly devoting attention to the private hospital sector of South Africa. This was done in order to support the objective of the study, which was to explore the manner in which

risk management, more specifically the management of fraud risk, occurred in the private hospital sector. An international perspective as well as a South African perspective was provided.

- The research methodology was designed and implemented to enable the collection and analysis of data. This involved management staff of private hospitals to complete a questionnaire. Questions aimed at obtaining specific information on the risk management procedures with regard to the management of fraud risk. Forty private hospitals agreed to participate in the study.
- The statistical results of the findings were presented next. This included descriptive as well as inferential statistics. From the statistical analysis, appropriate conclusions were drawn.
- The study concludes by providing recommendations to private hospitals with regard to the management of fraud risk, as well as presenting opportunities for future research.

The methodology was divided into steps where each step was dealt with in a separate chapter, as detailed in the Figure 7.1:

Figure 7.1: Structure of the study



Source: Author (2014)

This chapter will continue by providing information on the methodology that was implemented, as illustrated in Figure 7.1 above.

7.2 SECONDARY RESEARCH

The study reviewed literature in three separate chapters. The first chapter (Chapter 2) addressed the relationship between risk management and strategy setting. The next chapter provided a comprehensive overview of risk management, and the final literature chapter (Chapter 4) addressed the relevance of risk management in the

healthcare sector. The purpose of these literature chapters was to highlight important concepts and aspects applicable to this study.

7.2.1 Linking risk management to strategy

In Chapter 2, the concepts competitive advantage and sustainability were explained. These two concepts were described due to the important role they play in the successful operation of modern organisations, as well in contributing towards the achievement of the maximisation of shareholder wealth. The important role risk management plays in contributing towards an effective strategic management approach was identified, especially relating to the identification of critical risks threatening the organisation's operations.

Competitive advantage can be explained as a condition in which an organisation is capable of creating additional economic value, thereby allowing the organisation to create higher economic returns than the competition. It was further revealed that if risk management processes were correctly implemented and successfully and effectively executed it could be regarded as a competitive advantage, ensuring the sustainability of an organisation's business operations. Proper risk management is an essential component in organisations, not only providing a competitive edge, but in addition being part of the strategic management approach an organisation pursues.

The concept of sustainability can be described by means of the triple bottom line approach (see 2.2.2). Analysis of literature confirmed that, in order for organisations to be successful and if the objective is to survive and prosper in the long term, a balance ought to be maintained between financial performance, environmental impact and social responsibility. From a risk management perspective, sustainability relates to the management of all risks in such a manner that investor confidence is promoted, thus enhancing the longevity of the organisation's operations.

A strategic management approach is fundamental in providing the correct leadership in the ever-evolving yet challenging environment with which organisations are confronted. Strategic management entails the identification of the mission of the

organisation and the development of the necessary policies and plans required to achieve the organisation's objectives.

Improving an organisation's risk management practices is valuable and essential if the organisation is striving towards the sustainability and the longevity of its business operations. Analysis of literature further confirmed that if and when risk management is implemented and executed correctly, it could serve as a competitive advantage, labelling the organisation as superior as opposed to its competitive counterparts.

7.2.2 A risk management perspective for organisations

Chapter 3 offered a review of literature on the concept of risk, risk management, the development of risk management, enterprise risk management, corporate governance, the risk management process as well as the classification of risks.

From the study it became evident that risks do not entail events or consequences. Risks are rather events that might happen or transmit to unforeseen circumstances that could arise, relating to whether the organisation will be successful in achieving its objectives. A definite relationship exists between risk and uncertainty. To this end, the degree of uncertainty that exists determines the amount of risk.

Analysis of the history of the development of risk management indicated that risk management is an ever-growing, dynamic discipline, which, if not appropriately addressed, could have a devastating effect on organisations across the globe, and the private hospital sector is no exception.

Risk management can be described as the architecture for managing risks effectively with the ultimate purpose of facilitating the effective and efficient operation of an organisation, not only enhancing internal and external reporting but also assisting in the compliance of laws and regulations.

Enterprise risk management (ERM) (also known as 'integrated risk management') is a maturing approach where risks are managed in a coordinated and integrated manner across the entire business enterprise. ERM involves the continual growth and evolution of the profession of risk management and its application in a structured

and disciplined manner (Chapman, 2011). It involves an understanding of the existence of the interdependencies between risks and the way the realisation of risk in one business area may increase the likely impact of risks in another business area.

Although there exists no universally accepted definition of ERM to date, all the literature consulted included in its scope this goal: ERM ought to involve effective, integrated holistic management of all the risks and opportunities encountered by an organisation. It was found that ERM not only adds value to an organisation's share price, but it could be considered one of the core investment criteria on which an investor makes investment decisions (Dickenson, 2001). To this end, ERM entails protecting and enhancing shareholder value and has been confirmed to be imperative for any organisation seeking to maintain a competitive advantage, promoting sustainability and achieving the maximisation of shareholder value (Chapman, 2011).

Corporate governance forms an important component of ERM as it provides for the top-down monitoring, management and reporting of the risks faced by private hospitals (Chapman, 2011). Corporate governance can be defined as the system by which organisations are directed and controlled, and it involves a set of relationships between an organisation's management, its board of directors, its stakeholders and other stakeholders (Keasey *et al*., 2005; Smerdon, 1998). Analysis of the literature confirmed that the development and implementation of corporate governance have been the driving force behind promoting sound risk management practices within organisations (Chapman, 2011).

The study adopted the risk management process model published by the International Organisation for Standardisation (ISO), as this model is considered to be the best of its kind (International Organization for Standardization, 2009; Fraser & Simkins, 2010). From the literature, it became clear that the risk management process is indeed a complex process, consisting of various steps. Each of these steps is however imperative if the organisation aims to ensure its sustainability by managing all risks effectively and efficiently.

Organisations providing essential services, such as private hospitals, are exposed to a diverse range of risks, all of which belong to a specific risk class. To this end, the

classification of each risk is important. Organisations operate in different industries and therefore the importance of each risk class will vary from one industry to another. However, an understanding of each of the risk classes is imperative in order to have the required control measures in place to be able to manage risks appropriately.

The risk of fraud has been highlighted to be an area of concern for organisations across the world and the healthcare sector is no exception. Annually, the South African healthcare sector suffers losses of up to 8 billion rand per year (Jones & Jing, 2011). The proper management of fraud risk within organisations involved in the healthcare sector is therefore essential in order to remain sustainable organisations.

7.2.3 Risk management and the healthcare sector

In Chapter 4, an overview of the healthcare sector was provided. The purpose was to describe how the hospital sector, more specifically the private hospital sector, fits into this diverse and complex sector. The chapter presented an international perspective on risk management in private hospitals, followed by a South African perspective. The focus was on the responsibility for risk management, the existence of a risk management process as well as the classification of risk.

The research conducted in this study revealed that fraud risk was not identified and treated as a separate risk class or category in private hospitals both locally and abroad (see 4.3.). However, the study confirmed that fraud risk could cause significant losses annually in private hospitals. This supported the purpose of this study.

In the next section, a summary of the research methodology of this study is provided.

7.3 PRIMARY RESEARCH

For this study, a non-experimental, descriptive research design was followed, which is best suited to answer the research questions about the research problem, identify

the factors and relationships among them and create a detailed description of the phenomena (cf. Adèr *et al*., 2008; Kalaian, 2008).

The objective of this study was not to extract feelings, emotions and motivations, or to develop a hypothesis and theory around the management of fraud risk in the private hospital sector. The result was that a qualitative research design was considered to be inappropriate, and therefore a quantitative research design was utilised.

The non-experimental research design was conducted by means of survey research. When considering which tool to utilise for the survey, a questionnaire was identified as the preferred research instrument for collecting the data. The questionnaire primarily consisted of closed-ended questions and scale response questions, but also included a few open-ended questions. The purpose of the open-ended questions was to gather additional information on a number of questions as well as to collect information amongst participants on the manner in which the management of fraud risk could be improved.

The population the study comprised hospitals belonging to one of the three major hospital groups of South Africa. The sampling method of choice was a non-probability sampling method in the form of purposive sampling. Hospitals were selected, based on the number of beds per hospital. Hospitals with fewer than a hundred beds were excluded from the sample.

The purpose of the study made it clear that participants could not include any employee of the respective hospitals, as they might have been uneducated and uninformed regarding the risk management practices and processes of the hospital concerning fraud risk. To this end, participants included in the study specifically involved management staff at head office level as well as management staff at hospital level.

The method of collection involved two phases. In phase one, meetings with key stakeholders of the participating hospital groups were held. The purpose of this phase was to acquire key individuals to participate in the study, as well as to obtain the required contact information in order to distribute the questionnaire. Phase two involved the distribution of the questionnaires via e-mail.

The study was conducted in an ethical manner and all the required ethical principles and procedures were adhered to. Please refer to Appendix E for a copy of the ethical clearance certificate which was obtained prior to commencing with the study.

7.4 RESULTS

The analysis and results of the data were discussed in Chapter 6 of the study. The following is a summary of the results of the study.

7.4.1 Section A: Five-point Likert scale questions

- **The relationship between risk management and sustainability**

  The results indicated that the majority of private hospitals (96%) comprehended the importance of risk management in achieving sustainable business operations. In addition, it was found that the management of all risks were important in achieving this objective.

- **The management of fraud risk as a source of a competitive advantage**

  The results indicated that the majority of private hospitals (55%) agreed that the proper management of fraud risk could be regarded as an important source of a competitive advantage.

- **The responsibility amongst staff members within an organisation**

  The perspective on the responsibility amongst staff members, regarding the governance of risk as well as the management of fraud risk was investigated.

  With regard to the governance of risk, it was found that the ultimate responsibility lies with the board of directors. In addition, the results indicated that the board of directors was not solely responsible for the management of fraud risk, but fraud risk should rather be a shared responsibility between other committees and staff members. This finding was further complemented by the manner in which participating private hospitals viewed the responsibility of the risk committee in the management of fraud risk. It was found that the ultimate responsibility did not rest

with the risk committee or management staff alone. Every employee of a private hospital has a responsibility and an important role to play in the management of fraud risk.

- **The reporting of fraud risk**

  The study specifically addressed the reporting of fraud risk with regard to the existence of a whistle-blowing system and the availability of a hotline. It was found that a whistle-blowing system was regarded to be an important component in reporting alleged fraudulent behaviour. In addition, it was found that the availability of a fraud and ethics hotline was crucial for this system of reporting to function optimally. However, what proved to be an area of concern is the availability of such hotlines which should be addressed by private hospitals in the future.

- **The organisational culture and management procedures regarding fraud risk**

  The majority of private hospitals (67%) indicated that a culture did exist within the participating private hospitals where the management of fraud risk was a joint responsibility shared by all employees. It was found that private hospitals included in the study implemented a reactive as well as a proactive approach towards the management of fraud risk.

  The reason appeared to be that the nature of risks is diverse and therefore requires different treatments. In some instances, a private hospital would implement a proactive approach towards the management of fraud risk, while in other instances, a reactive approach would be implemented. A proactive approach would typically be followed in circumstances where the risk of fraud was anticipated and planned for in advance.

  A reactive approach should be implemented in cases where fraudulent acts have occurred, which were not initially anticipated or which arose out of unforeseen circumstances. Both approaches are thus appropriate and ought to exist within the private hospital risk management framework. It was further found that the monitoring and review of fraud risk did not occur consistently within the participating private hospitals.

In some private hospitals, monitoring and review processes were present, whereas in other private hospitals these processes were absent. The majority of private hospitals included in the study grasped the importance of continuous improvement of risk management regarding fraud risk, even though continuous improvement was not sufficiently addressed in all of the private hospitals included in the study.

7.4.2 Section B: Scale response- and open-ended questions

- **Organisational and personnel information**

  Participants included in the study comprised management staff at head office level as well as management staff at hospital level. In addition to these management staff, other employees in the private hospital sector were also involved, which comprised line managers, nurse managers, general physicians and risk analysts. It was found that the majority of private hospitals included in the study (59.1%) followed a centralised business model, whereas the minority of private hospitals (18.2%) either followed a decentralised approach or a combination of the two approaches. When the question was raised in which areas the management of fraud risk occurred, it was revealed that the majority of private hospitals included in the study (72.7%) managed fraud risk throughout the entire organisation.

- **The existence of a chief risk officer within the organisation**

  It was found that 54.5% of the participants of the study were aware that a chief risk officer existed within their respective private hospitals, whereas 45.5% of the participants were unaware of the existence of this position. The awareness of important employees, such as a chief risk officer, could thus be improved amongst staff members of private hospitals.

- **The existence of a formal risk management process which includes the management of fraud risk**

  It was found amongst a substantial percentage of participants (63.6%) that a formal risk management process was fully in place within their hospitals. It was

further found that fraud risk formed part of the risks that were actively managed. However, there existed an opportunity for improvement as nearly a quarter (22.7%) of the participants indicated that fraud risk did not form part of the risks that were actively managed within their respective hospitals.

- **The classification of risk**

  It was found that, among the participating private hospitals, there existed a large divergence on whether fraud risk was classified as a separate risk class or not. Many of the respondents indicated that they were uncertain of the manner in which fraud risk should be classified, while in other cases, fraud risk was grouped to belong to either operational risk, reputational risk or legal risk.

- **The reporting of risk**

  The results obtained in the study confirmed that the reporting of fraud risk was important for the majority of private hospitals (77.3%) included in the study. It was found that the manner in which fraud risk reporting in private hospitals occurred at the time of the research, remained an area of concern as there existed a lack of uniformity in the manner in which the reporting of fraud risk in private hospitals occur.

- **Outsource agreements with regard to the management of fraud risk**

  Both internal and external agreements with regard to the management of fraud risk were addressed. The study found that private hospitals included in the study did not make use of external outsource agreements regarding the management of fraud risk. Participating private hospitals preferred to manage fraud risk internally, within their organisations, relying on their own resources and expertise.

- **Risk management responsibilities with regard to the management of fraud risk**

  The results indicated the existence of numerous risk management responsibilities concerning the management of fraud risk. These responsibilities included advisory activities, the development of policies and procedures, education and training, monitoring, reporting, investigations as well as whistle-blowing. These risk management responsibilities have all been found to reduce the existence of fraud risk amongst private hospitals.

- **Supplementary information**

  The purpose of gathering supplementary information was to gain the participants' opinions on possible improvements that could be implemented with regard to the management of fraud risk. It was found that at the time of the research, the management of fraud risk within private hospitals was not satisfactory and that there was room for improvement.

  The participants suggested the implementation of stricter control measures, enhanced communication amongst employees and more frequent investigations and meetings. It was further identified that an organisational culture should be established, where the continuous improvement of fraud risk management should be promoted. Every employee should be involved in the risk management process of fraud risk. Employees should further receive regular training and development on the evolvement and progression of risk management. As a final point, the reporting procedures within private hospitals should be improved, namely more timely feedback to management staff and other staff involved in risk management procedures.

7.4.3 Section C: The application of inferential statistics

Inferential statistics were applied to determine whether there existed a statistically significant difference between the way participants responded to the Likert scale questions in Section A and the way they answered certain questions in Section B of the questionnaire. This was done by means of the Mann–Whitney test. The following findings were recorded:

- The participants who indicated that the organisation followed a decentralised approach as opposed to a centralised approach tended to agree more with the fact that within their particular organisation a proactive approach was implemented towards the management of fraud risk. The participants who indicated that their organisation followed a decentralised approach as opposed to a centralised approach moreover tended to agree more with the fact that monitoring and review of fraud risk occur throughout the entire organisation.

It was therefore found that a decentralised approach was regarded as superior to a centralised approach in the management, monitoring and review of fraud risk.

- Participants who indicated that fraud risk formed part of all the risks that were managed within their organisations' risk management processes tended to agree more that a culture existed within their organisations where the management of fraud risk was the responsibility of every employee. The participants who indicated fraud risk formed part of all the risks that were managed within their organisations' risk management processes tended to agree more that monitoring and review of fraud risk occurred throughout the entire organisation.

  It can therefore be concluded that private hospitals should include fraud risk as part of all the risks that are managed, as it was found that participating private hospitals which included fraud risk as part of their risk management framework, also had an organisational culture where the management of fraud risk was the responsibility of all staff members. Additionally, these private hospitals were found to have monitoring and review processes in place where fraud risk was monitored and reviewed throughout the entire organisation.

- Participants who indicated the existence of a formal risk management process, which was fully in place, as opposed to partially in place, tended to agree more that, for organisations to be sustainable, the management of all risks, including fraud risk, was important. Participants who indicated the existence of a formal risk management process which was fully in place as opposed to partially in place, tended to agree more that all staff has a responsibility towards the effective management of fraud risk.

  It was therefore concluded that a formal risk management process should be fully in place within private hospitals, as participants agreed that this contributed towards achieving sustainable organisations where a culture was promoted the effective management of fraud risk was the responsibility of every employee.

7.5 RECOMMENDATIONS FOR PRIVATE HOSPITALS

In order for private hospitals to improve the management of fraud risk, the following recommendations are made:

7.5.1 Organisational culture

Within private hospitals, an organisational culture should be established and promoted which should include the continuous improvement of risk management, emphasising the effective management of fraud risk.

7.5.2 The availability of resources

Private hospitals should ensure that their risk management function have sufficient human and financial resources available to enable the proper management of fraud risk. This should include the availability of a fraud and ethics hotline which should be available to all staff in order to report alleged fraudulent behaviour and activities.

7.5.3 Education and training

The risk management personnel of private hospitals should possess sufficient qualifications, expertise and experience. This will be accomplished by ensuring that staff members receive continual training opportunities and interventions to keep them informed of the latest developments in the dynamic field of risk management, specifically relating to fraud risk.

7.5.4 A centralised risk management function

Together with the cohesion of knowledgeable and educated staff members, a centralised function should be established within private hospitals. This risk management function should specifically be responsible for the classification of and decision-making in terms of fraud risk eventualities. This will prevent uninformed entities and uneducated personnel making decisions on the correct protocol to be followed in cases of fraud occurring.

7.5.5 Outsource agreements

The study findings indicated that at the time of the research, participating private hospitals did not make use of outsource agreements for the management of fraud risk. The utilisation of external expertise to assist private hospitals in the improvement of their current fraud risk management procedures could be beneficial to private hospitals and is therefore recommended.

7.5.6 Communication

The improved communication amongst staff members regarding the occurrence and management of fraud risk is of paramount importance. This should be accompanied and supported by more regular risk management meetings. The outcome of these meetings should be communicated to all staff members to keep them informed on important risk management issues and developments.

7.5.7 Reporting procedures

The reporting procedures with regard to fraud risk eventualities within private hospitals can be improved. This would include more timely feedback to management

staff as well as other personnel who are involved in and responsible for the risk management function.

7.5.8 Control measures

Stricter control measures should be implemented within private hospitals to improve the detection, mitigation and prevention of fraud risks.

7.5.9 The risk management process

Literature identified that a formal management process have proved to be successful in managing risks. As a result, a formal risk management process should be implemented by private hospitals attempting to achieve the sustainability of their business operations (Fraser & Simkins, 2010; ISO, 2009).

It is therefore recommended that fraud risk form part of all the risks that are actively managed by means of a risk management process. Management staff should ensure that the risk management process is firmly in place and utilised for the management of all risks, not excluding particular risks from this crucial management process.

Previous literature included fraud risk to form part of operational risk (FSA, 1999; Young, 2014). However, due to the significant losses that have occurred as a result of fraud, it is recommended that fraud risk ought to be dealt with separately within the risk management process (Musau & Vian, 2008; Jones & Jing, 2011).

7.6 CONTRIBUTION OF THE STUDY

The contribution of the current study will focus on the improvement of risk management procedures within private hospitals with regard to fraud risk. In doing so, specific attention was given to communication and reporting procedures that exist within private hospitals in South Africa. No research publication could be found on

the NRF Nexus database with regard to the communication and reporting procedures within private hospitals dealing with the management of fraud risk, which confirmed that this contribution is unique and may add value to the private hospital sector of South Africa.

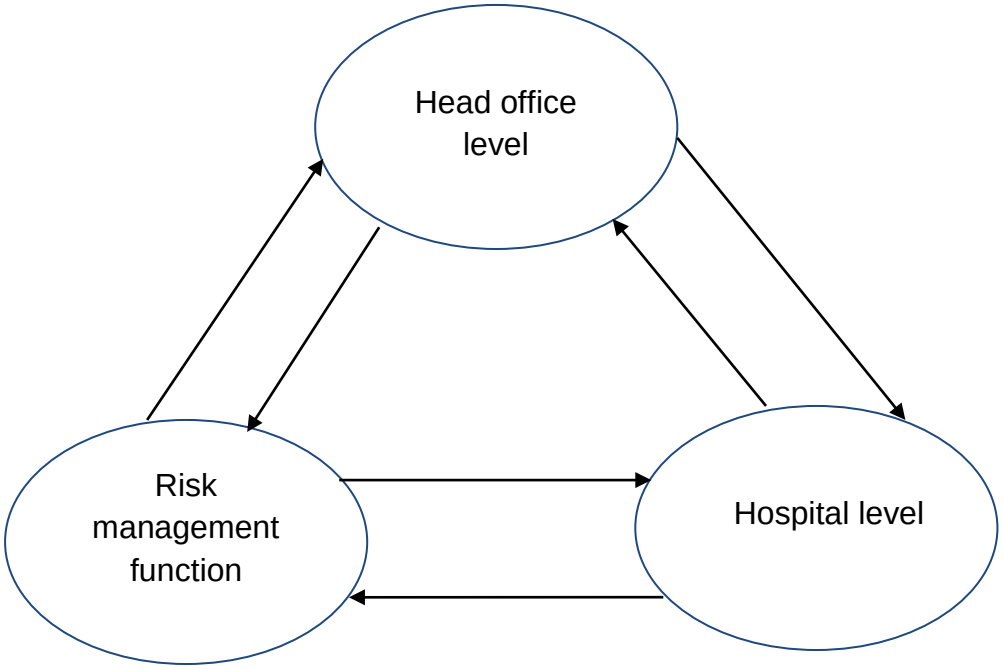
From the study findings, it became evident that the communication and reporting procedures that existed in private hospitals at the time of the research, specifically between management staff at head office level and management staff at hospital level lacked efficiency and could be improved. For this reason, a risk management function should be established within private hospitals to serve as the third party to complete the communication and reporting channel between management staff at head office and hospital level.

This risk management function should be an independent function and it is advised that this function be owned, operated and managed by the major hospital groups in South Africa. The risk management function will therefore serve as an intermediary between management staff at hospital level and management staff at head office level.

This will assist to ascertain that all fraud risk eventualities are correctly identified and treated in an unbiased, fair and ethical manner. This function will further guarantee that an effective communication network exists, which will ensure that all identified cases of fraud at hospital level are accurately reported to head office and appropriately dealt with. In addition, the conflict of interest that may arise in cases where management staff may be involved in fraud eventualities will be minimised as a third independent party will be appointed and be jointly responsible for the management of fraud risk.

The reporting process will therefore be a three-way approach as presented in Figure 7.2.

Figure 7.2: The communication and reporting of fraud risk



Source: Author (2014)

From Figure 7.2 it is evident that three parties or functions are primarily involved in this process, namely management staff at head office level, management staff at hospital level and personnel of the risk management function.

The communication and reporting of fraud risk will follow a top-down as well as a bottom-up approach. Fraud risk eventualities, which have been identified at hospital level, will be reported by the particular hospital to the risk management function. The risk management function will then continue the process by reporting the identified cases to management staff at head office level. Management staff at head office level will then make the appropriate recommendations on the manner in which each fraud risk eventuality should be treated. These recommendations will then be reported to management staff at hospital level as well as to the personnel of the risk management function. The risk management function will acknowledge the recommendations and capture it in a risk recommendation form. These forms should be kept by the risk management function and stored on an external hard drive for record-keeping purposes and for any future enquiries on a specific matter.

At hospital level, the required corrective measures will be implemented after which a formal fraud risk report will be issued. The fraud risk report will include a description

and explanation how each eventuality has been handled. The management staff at hospital level will then send a fraud risk report to the risk management function. The risk management function then has the responsibility to assure that the appropriate action had been taken, by comparing the recommendations captured in the risk recommendation form to contents captured in the fraud risk report.

By following this reporting and control process, all cases of fraud risk will be appropriately dealt with, preventing and eliminating situations in which some cases are ignored or remain untreated.

This process should further be continual by nature and contribute towards the effective management of fraud risk. This improved communication and reporting procedure will enable private hospitals to treat all cases of fraud risk with enhanced effectiveness.

7.7 RECOMMENDATIONS FOR FUTURE RESEARCH

This study investigated the manner in which fraud risk is managed within South African private hospitals. From this research, particular issues that warrant further research were however identified.

7.7.1 Public hospital sector

The first of these issues pertains to extrapolating the exact same research to the public hospital sector of South Africa. It could only be of benefit to the public hospital sector if their risk management procedures regarding the management of fraud risk are investigated and improved.

7.7.2 Sample size

The second of these issues pertains to conducting the same research within private hospitals, but extending the sample size. This will contribute to engaging more management staff at head office level to participate in the study. From an improved response rate amongst management staff at head office level additional information will be gathered which will contribute towards improving the study findings.

7.7.3 Data collection method

The third of these issues pertains to conducting the same research within private hospitals, but collecting the required data by means of structured interviews. By conducting interviews, additional information will be collected which was not possible with a questionnaire. This will, in turn, ensure that further conclusions could be drawn regarding the management of fraud risk within the private hospital sector.

7.7.4 Legislation

The last of these issues pertains to changing legislation worldwide to enforce stricter risk management requirements for managing fraud risk in private hospitals and other organisations. A King Report-type regime specifically applicable to private hospitals, with specific requirements, should be investigated for private hospitals to ensure that all risks are identified, assessed and mitigated in a systematic and compliant fashion.

7.8 LIMITATIONS OF THE STUDY

There were several limitations to this study. These are briefly described below.

- The results of the study are limited to the private hospital sector of South Africa and cannot be extrapolated to the public hospital sector.

- Private hospitals with fewer than a 100 hospital beds per hospital were excluded from the sample.
- The private hospital population of South Africa comprised a total of 170 private hospitals. Of the total population, 40 private hospitals were selected to participate in the study. A final response rate of 55% was achieved.
- Non-probability purposive sampling was utilised in order to select the private hospitals to participate in the study. It was therefore not possible to calculate the sampling error.
- Reliability testing could not be done due to the small sample size.
- Limited responses from the management staff at head office level of the respective private hospital groups were received. A better response rate could have made a further contribution towards enhancing the findings of the study.

7.9 CONCLUSION

The study found that fraud risk in the healthcare sector of South Africa and elsewhere in the world is a management challenge that needs to be addressed.

This study explored the management of fraud risk within the South African private hospital sector. In doing so, problem areas in the management of fraud risk were identified, and recommendations for improvement provided. The study therefore contributes towards the improvement of fraud risk management in the South African private hospital sector.

This chapter summarised the research. It explained the concepts competitive advantage, sustainability and strategic management. It provided the argument that risk management had become an integral part of the strategic management approach of all organisations and as a result is imperative to organisations seeking the sustainability of their business operations. Implementing risk management appropriately will contribute to achieving a competitive advantage, placing organisations in a favourable position relative to their competitors.

The chapter provided a review of the literature about risk, risk management and the development of enterprise risk management. South African and international

perspectives on corporate governance and the important part this plays in the implementation and promotion of risk management, were provided. This was achieved by means of a review of numerous codes and reports, which included the King Report, the Sarbanes–Oxley Act, the Cadbury Code, the Higgs Report as well as the Smith Report. Following that, the risk management process was discussed, followed by a classification of risks.

To apply this study to the private hospital sector, an overview of the healthcare sector was provided, specifically paying attention to the private hospital sector of South Africa. The research methodology was described and implemented, which allowed for the collection and analysis of data.

This last chapter presented a summary of the study findings. Based on the results obtained, recommendations were proposed for private hospitals, which if and when implemented, could result in more efficient risk management procedures for South African private hospitals, specifically with regard to the management of fraud risk. The contribution of the study was also provided. The chapter concluded by identifying opportunities for future research, which if conducted, could all serve as further contributions toward improving the management of fraud risk not only in the private hospital sector, but also in the public hospital sector.

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APPENDIX A:
Data collection instrument

Questionnaire

November 2013

Dear Sir/Madam

I (Gerhard Grebe), a Masters student of the University of South Africa, under the supervision of Prof RH Mynhardt and Prof J Marx am undertaking a research project in order to gather information on the management of fraud risk in private hospitals of South Africa. Fraud, by definition, entails intentional misconduct, designed to evade detection or to deceive others (Nouss, J.S, 2013; Rossouw, Mulder and Barkhuysen, 2000). Fraud includes acts such as deception, bribery, forgery, extortion, corruption, theft, conspiracy, embezzlement, misappropriation, false representation, concealment of material facts and collusion (Samaciuk and Iyer, 2010).Fraud risk consequently involves the risk of a perpetrator committing a fraudulent act which has a negative impact on the organisation (Samaciuk and Iyer, 2010). To this end I kindly request you to complete the following short questionnaire. It should take no longer than 10 minutes of your time. Your response is of utmost importance and will greatly be appreciated. Your responses will be treated as **strictly confidential** and **anonymity** of companies and respondents is assured.

The summary of the results of this research will be made available in a research report, which will be e-mailed to you.

Should you have any questions or comments regarding this survey please contact me on: 012 429 6723 or e-mail me at: grebegpm@unisa.ac.za. Alternatively you can also contact Prof. RH Mynhardt on: 012 420 4927

Sincerely Yours

Gerhard Grebe
Lecturer, Department of Finance, Risk Management and Banking
AJH vd Walt 5-87
Tel: +27 (0) 12 429 6723
Unisa

This questionnaire consists of two sections.

Please complete both sections.

Section A:

To what extent do you agree with each of the following statements? Please indicate your answer using the following 5-point scale: where

1. = Strongly disagree
2. = Disagree
3. = Neutral
4. = Agree
5. = Strongly agree

Mark the chosen option with an X.

	Strongly disagree	**Somewhat disagree**	**Neutral**	**Somewhat agree**	**Strongly agree**
1. THE RELATIONSHIP BETWEEN RISK MANAGEMENT AND SUSTAINABILITY					
1.1Risk Management is essential for contributing towards sustainable business operations.	1	2	3	4	5
1.2For organisations to be sustainable the management of all risks (including fraud risk) are important.	1	2	3	4	5
2. THE MANAGEMENT OF FRAUD RISK AS A SOURCE OF COMPETITIVE ADVANTAGE					
2.1The effective management of fraud risk could be regarded as a source of competitive advantage.	1	2	3	4	5

3. RESPONSIBILITY AMONGST STAFF MEMBERS WITHIN AN ORGANISATION					
3.1 The board is responsible for the governance of risk.	1	2	3	4	5
3.2 The board is solely responsible for the management of fraud risk.	1	2	3	4	5
3.3 The risk committee is solely responsible for the management of fraud risk	1	2	3	4	5
3.4 The board and the risk committee are jointly responsible for the management of fraud risk.	1	2	3	4	5
3.5 Management staff is solely responsible for the management of fraud risk.	1	2	3	4	5
3.6 All staff has a responsibility towards the effective management of fraud risk.	1	2	3	4	5
4. THE REPORTING OF FRAUD RISK					
4.1 A whistle blowing system is needed where fraud risk can be reported.	1	2	3	4	5
4.2 A fraud and ethics hotline is available to all staff to report alleged fraudulent behaviour.	1	2	3	4	5
5. THE ORGANISATIONAL CULTURE AND MANAGEMENT PROCEDURES REGARDING FRAUD RISK					
5.1 In this organisation/hospital there exists a culture in which the management of fraud risk is the responsibility of every employee.	1	2	3	4	5
5.2 This organisation/hospital follows a reactive approach towards the management of fraud risk.	1	2	3	4	5
5.3 This organisation/hospital follows a proactive approach towards the management of fraud risk.	1	2	3	4	5
5.4 Monitoring and review of fraud risk occurs throughout the organisation/hospital.	1	2	3	4	5
5.5 Continuous improvement of fraud risk occurs throughout the organisation/hospital.	1	2	3	4	5

Section B:

Please answer the following questions by crossing (x) the relevant block or writing down your answer in the space provided.

1 ORGANISATIONAL AND PERSONNEL INFORMATION

1.1 Please indicate which type of management staff you form part of.

Management staff at head office level	1
Management staff at hospital level	2
Other	3

1.2 If your answer to the previous question was other, please elaborate on the role you play within the organisation/hospital.

_____

_____

_____

1.3 Please indicate the business model followed within this organisation/hospital, where centralised means that head office is dictating activities and decentralised means that the business units manage its own activities.

Centralised	1
Decentralised	2
Other	3

1.4 If answer to the previous question was other, please elaborate on the business model followed within this organisation/hospital.

_____

_____

_____

1.5 Please indicate in which area(s) the management of fraud risk in private hospitals occurs.

Head office level	1
Hospital level	2
Both	3

2 CHIEF RISK OFFICER

2.1 You are aware about the fact that a chief risk officer are appointed within this organisation.

Yes	1
No	2

2.2 If your answer to the previous was no, please provide any additional comments.

_____

_____

_____

3 THE EXISTENCE OF A FORMAL RISK MANAGEMENT PROCESS

3.1 Please indicate to what extent a formal risk management process is in place within this organisation/hospital?

Not in place	1
Partially in place	2
Fully in place	3

3.2 Does fraud risk form part of the risks that are managed within the risk management process of this organisation/hospital?

Yes	1
No	2

4 THE CLASSIFICATION OF RISK

4.1 Is fraud risk classified as a separate risk class within the risk management framework of this organisation/hospital?

Yes	1
No	2

4.2 If your answer to the previous question was no; which risk class is used for identifying and assessing fraud risk?

Operational risk	1
Reputational risk	2
Legal risk	3
Other	4

4.3 If your answer to the previous question was other, please specify which risk class fraud risk form part of.

_____

_____

_____

5 THE REPORTING OF RISK

5.1 Does the risk reporting within this organisation/hospital include the reporting on fraud risk?

Yes	1
No	2

5.2 How often does risk reporting occur within this organisation/hospital?

Once a year	1
Twice a year	2
Once every three months	3
Once a month	4

5.3 Please provide information on the manner in which fraud risk reporting occur within this organisation/hospital.

_____

_____

_____

_____

5.4 In your view, what would be the most effective manner of reporting fraud risk?

_____

_____

_____

_____

6 OUTSOURCE AGREEMENTS WITH REGARDS TO THE MANAGEMENT OF FRAUD RISK

6.1 Please indicate the number of outsource agreements that your organisation/hospital has entered into with regards to the management of fraud risk.

Internal agreements	
External agreements	

7 RISK MANAGEMENT RESPONSIBILITIES WITH REGARDS TO THE MANAGEMENT OF FRAUD RISK

7.1 Please indicate which of the following risk management responsibilities are applicable to your organisation's/hospital's fraud risk management function (you may indicate more than one alternative).

Advisory role	1
Development of policies and procedures	2
Education and training	3
Monitoring	4
Reporting	5

Investigations	6
Whistle blowing	7

7.2 Of the risk management responsibilities you indicated in the previous question; please indicate how successful they were to reduce fraud risk.

Not successful	1
Slightly successful	2
Successful	3
Very successful	4

8 SUPPLEMENTARY INFORMATION

8.1 In your opinion, can the management of fraud risk within this organisation/hospital be improved?

Yes	1
No	2

8.2 If yes, what corrective measures and recommendations could be implemented?

_____

_____

_____

_____

_____

APPENDIX B:
Pilot test report of collection instrument

UNISA

FROM: MR GPM GREBE

SUBJECT: QUESTIONNAIRE – PILOT TEST REPORT

	Yes	No
Did each question measure what it should have measured?	✓	
Did you understand the wording in the questionnaire?	✓	
Were the proposed responses appropriate?	✓	
Was the level of measurement easily understood?	✓	
Did you understand the instructions?	✓	
Was the questionnaire constructed professionally?	✓	
Was there a natural flow of questions?	✓	
Do you agree that the questionnaire addressed the primary and secondary research questions?	✓	
What was the estimated time burden of the questionnaire?	16min	

Signature

APPENDIX C:
Frequency tables of descriptive statistics

```
FREQUENCIES VARIABLES=A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 B1.1 B1.2 B1.3
B1.4 B1.5 B2.1 B2.2 B3.1 B3.2 B4.1 B4.2 B4.3 B5.1 B5.2 B5.3 B5.4 B6.1I B6.1E B7.1A B7.1D B7.1E
B7.1M B7.1R B7.1I B7.1W B7.2 B8.1 B8.2
  /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	

Notes

Output Created		05-MAY-2014 22:53:55
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 B1.1 B1.2 B1.3 B1.4 B1.5 B2.1 B2.2 B3.1 B3.2 B4.1 B4.2 B4.3 B5.1 B5.2 B5.3 B5.4 B6.1I B6.1E B7.1A B7.1D B7.1E B7.1M B7.1R B7.1I B7.1W B7.2 B8.1 B8.2 /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00,03
	Elapsed Time	00:00:00,02

Statistics

		A1	A2	A3	A4	A5	A6	A7
N	Valid	22	22	22	22	22	22	21
	Missing	0	0	0	0	0	0	1

Statistics

		A8	A9	A10	A11	A12	A13	A14
N	Valid	21	21	21	22	21	21	21
	Missing	1	1	1	0	1	1	1

Statistics

		A15	A16	B 1.1	B 1.2	B 1.3	B1.4	B1.5
N	Valid	22	22	22	22	22	22	22
	Missing	0	0	0	0	0	0	0

Statistics

		B 2.1	B 2.2	B3.1	B3.2	B4.1	B4.2	B4.3
N	Valid	22	22	22	22	21	22	22
	Missing	0	0	0	0	1	0	0

Statistics

		B5.1	B5.2	B5.3	B5.4	B6.1 I	B6.1 E	B7.1 A
N	Valid	22	20	22	22	17	17	8
	Missing	0	2	0	0	5	5	14

Statistics

		B7.1 D	B7.1 E	B7.1 M	B7.1 R	B7.1 I	B7.1 W	B7.2
N	Valid	16	13	18	20	15	9	22
	Missing	6	9	4	2	7	13	0

Statistics

		B8.1	B8.2
N	Valid	22	22
	Missing	0	0

Frequency Table

A1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	1	4.5	4.5	4.5
	5	21	95.5	95.5	100.0
	Total	22	100.0	100.0	

A2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	3	13.6	13.6	13.6
	5	19	86.4	86.4	100.0
	Total	22	100.0	100.0	

A3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	1	4.5	4.5	4.5
	4	12	54.5	54.5	59.1
	5	9	40.9	40.9	100.0
	Total	22	100.0	100.0	

A4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.5	4.5
	3	1	4.5	4.5	9.1
	4	9	40.9	40.9	50.0
	5	11	50.0	50.0	100.0
	Total	22	100.0	100.0	

A5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	31.8	31.8	31.8
	2	6	27.3	27.3	59.1
	3	1	4.5	4.5	63.6
	4	6	27.3	27.3	90.9
	5	2	9.1	9.1	100.0
	Total	22	100.0	100.0	

A6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	7	31.8	31.8	31.8
	2	6	27.3	27.3	59.1
	3	2	9.1	9.1	68.2
	4	5	22.7	22.7	90.9
	5	2	9.1	9.1	100.0
	Total	22	100.0	100.0	

A7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	9.5	9.5
	2	5	22.7	23.8	33.3
	3	1	4.5	4.8	38.1
	4	6	27.3	28.6	66.7
	5	7	31.8	33.3	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6	27.3	28.6	28.6
	2	6	27.3	28.6	57.1
	3	3	13.6	14.3	71.4
	4	3	13.6	14.3	85.7
	5	3	13.6	14.3	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	4	6	27.3	28.6	28.6
	5	15	68.2	71.4	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1	4.5	4.8	4.8
	4	2	9.1	9.5	14.3
	5	18	81.8	85.7	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	13.6	13.6	13.6
	2	1	4.5	4.5	18.2
	3	1	4.5	4.5	22.7
	4	4	18.2	18.2	40.9
	5	13	59.1	59.1	100.0
	Total	22	100.0	100.0	

A12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	9.5	9.5
	2	1	4.5	4.8	14.3
	3	4	18.2	19.0	33.3
	4	9	40.9	42.9	76.2
	5	5	22.7	23.8	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.8	4.8
	2	4	18.2	19.0	23.8
	3	7	31.8	33.3	57.1
	4	2	9.1	9.5	66.7
	5	7	31.8	33.3	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	9.5	9.5
	2	4	18.2	19.0	28.6
	3	2	9.1	9.5	38.1
	4	7	31.8	33.3	71.4
	5	6	27.3	28.6	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

A15

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	3	13.6	13.6	13.6
	3	6	27.3	27.3	40.9
	4	9	40.9	40.9	81.8
	5	4	18.2	18.2	100.0
	Total	22	100.0	100.0	

A16

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	9.1	9.1
	2	1	4.5	4.5	13.6
	3	4	18.2	18.2	31.8
	4	10	45.5	45.5	77.3
	5	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

B 1.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.5	4.5
	2	17	77.3	77.3	81.8
	3	4	18.2	18.2	100.0
	Total	22	100.0	100.0	

B 1.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		9	40.9	40.9	40.9
	General employee	1	4.5	4.5	45.5
	General Manager	4	18.2	18.2	63.6
	General Practitioner, but also involved in management tasks.	1	4.5	4.5	68.2
	Hospital Manager	2	9.1	9.1	77.3
	Line Manager in hospital	1	4.5	4.5	81.8
	Nurse Manager	1	4.5	4.5	86.4
	Nurse- BCG immunization	1	4.5	4.5	90.9
	Riks Analyst	1	4.5	4.5	95.5
	Staff at hospital level	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B 1.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	59.1	59.1	59.1
	2	4	18.2	18.2	77.3
	3	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

B1.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		17	77.3	77.3	77.3
	Both Centralised and Decentralised	1	4.5	4.5	81.8
	Done with support from head office	1	4.5	4.5	86.4
	Follow both a centralised and decentralised apporach	1	4.5	4.5	90.9
	OPS centre compiles policies with operational interaction, but directs certain policies (enforces) it to risk.	1	4.5	4.5	95.5
	Unknown.The respondent is not aware of which business model the organisation follows.	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B1.5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	9.1	9.1
	2	4	18.2	18.2	27.3
	3	16	72.7	72.7	100.0
	Total	22	100.0	100.0	

B 2.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	12	54.5	54.5	54.5
	2	10	45.5	45.5	100.0
	Total	22	100.0	100.0	

B 2.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		19	86.4	86.4	86.4
	Does not exist.	1	4.5	4.5	90.9
	In casualty unit- yes. But in the hospital- no.	1	4.5	4.5	95.5
	Not on hospital level but at head office level.Hospital has a quality risk committee liasing with hospital manager, assuring responsibility of chair and communication to central(head office).	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B3.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.5	4.5
	2	6	27.3	27.3	31.8
	3	14	63.6	63.6	95.5
	3(Not correctly implemented)	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B3.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	17	77.3	77.3	77.3
	2	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

B4.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	59.1	61.9	61.9
	2	8	36.4	38.1	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

B4.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		12	54.5	54.5	54.5
	1,2,3	2	9.1	9.1	63.6
	3	3	13.6	13.6	77.3
	4	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

B4.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		15	68.2	68.2	68.2
	Not sure	5	22.7	22.7	90.9
	Operational risk + Legal risk	1	4.5	4.5	95.5
	Unsure which risk class fraud risk form part of.	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B5.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	17	77.3	77.3	77.3
	2	5	22.7	22.7	100.0
	Total	22	100.0	100.0	

B5.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	2	9.1	10.0	10.0
	2	3	13.6	15.0	25.0
	3	6	27.3	30.0	55.0
	4	9	40.9	45.0	100.0
	Total	20	90.9	100.0	
Missing	System	2	9.1		
Total		22	100.0		

B5.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		15	68.2	68.2	68.2
	A junior nurse will report it to a senior nurse of "matrone"- but then the reporting stop. It stops because the senior nurse does not want to get involved.	1	4.5	4.5	72.7
	A risk management programme	1	4.5	4.5	77.3
	Call centre	1	4.5	4.5	81.8
	Employees reports directly to the manager	1	4.5	4.5	86.4
	Fraud risk reporting does not occur.	1	4.5	4.5	90.9
	Most likely informally amongst colleagues.Formal complaint management. Monthly meetings	1	4.5	4.5	95.5
	Quality risk committee, Incident management system, Internal Risk Assessments	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B5.4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		14	63.6	63.6	63.6
	Confidential written report to a individual formally responsible to manage fraud risk.	1	4.5	4.5	68.2
	Direct communication. Risk committee with interactive participation with individuals exposing fraud risk.	1	4.5	4.5	72.7
	Documentation	1	4.5	4.5	77.3
	Formal written reports. Phone calls to a fraud unit.All reporting remains anonymous.	1	4.5	4.5	81.8
	Intranet- Media	1	4.5	4.5	86.4
	Making use of a hot line which is independent of the hospital and controlled by the medical major medical schemes.	1	4.5	4.5	90.9
	Reporting th head office via anonymous line	1	4.5	4.5	95.5
	The current system of reporting on events enables to identify risks as and when it occurs. All events are reported +investigated through a root cause analysis.Reporting should be done continuously.	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

B6.1 I

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	9	40.9	52.9	52.9
	1	7	31.8	41.2	94.1
	3	1	4.5	5.9	100.0
	Total	17	77.3	100.0	
Missing	System	5	22.7		
Total		22	100.0		

B6.1 E

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	15	68.2	88.2	88.2
	1	2	9.1	11.8	100.0
	Total	17	77.3	100.0	
Missing	System	5	22.7		
Total		22	100.0		

B7.1 A

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	8	36.4	100.0	100.0
Missing	System	14	63.6		
Total		22	100.0		

B7.1 D

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	16	72.7	100.0	100.0
Missing	System	6	27.3		
Total		22	100.0		

B7.1 E

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	13	59.1	100.0	100.0
Missing	System	9	40.9		
Total		22	100.0		

B7.1 M

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	18	81.8	100.0	100.0
Missing	System	4	18.2		
Total		22	100.0		

B7.1 R

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	90.9	100.0	100.0
Missing	System	2	9.1		
Total		22	100.0		

B7.1 I

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	15	68.2	100.0	100.0
Missing	System	7	31.8		
Total		22	100.0		

B7.1 W

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	9	40.9	100.0	100.0
Missing	System	13	59.1		
Total		22	100.0		

B7.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.5	4.5
	2	6	27.3	27.3	31.8
	3	12	54.5	54.5	86.4
	4	3	13.6	13.6	100.0
	Total	22	100.0	100.0	

B8.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	90.9	90.9	90.9
	2	2	9.1	9.1	100.0
	Total	22	100.0	100.0	

B8.2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		15	68.2	68.2	68.2
	1. Tighter controls/policies. 2. Segregation of tasks. 3. Improved communication fraud risk eventualities. 4. Interactive audit measures-flexibility	1	4.5	4.5	72.7
	Although "no" was indicated, risk management which includes the management of fraud risk is a never ending process which requires a constant review.	1	4.5	4.5	77.3
	Board of risk management. Doctors= Gate-keepers	1	4.5	4.5	81.8
	Education + training.	1	4.5	4.5	86.4
	Power teams. Incident Reporting. Risk Management action plans.Regular investigations and meetings	1	4.5	4.5	90.9
	Staff must be educated about fraud risk. Fraud reporting must be followed up and appropriate feedback must be provided to staff.	1	4.5	4.5	95.5
	Training employees to make them aware of fraud in hospitals as well the correct procedure for reporting fraudulent behaviour.	1	4.5	4.5	100.0
	Total	22	100.0	100.0	

APPENDIX D:
Mann–Whitney test statistics

```
GET
  FILE='E:\cbm 2014\gerhard grebe\data may 2014 gg.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
NPAR TESTS
  /M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B1.3(1 2)
```

NPar Tests

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Number of Cases Allowed[a]	

Notes

Output Created		29-MAY-2014 20:17:45
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B1.3(1 2) /MISSING ANALYSIS.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,05
	Number of Cases Allowed[a]	35746

a. Based on availability of workspace memory.

[DataSet1] E:\cbm 2014\gerhard grebe\data may 2014 gg.sav

Mann-Whitney Test

Ranks

B 1.3	N	Mean Rank	Sum of Ranks

A1	1	13	9.00	117.00
	2	4	9.00	36.00
	Total	17		
A2	1	13	8.54	111.00
	2	4	10.50	42.00
	Total	17		
A3	1	13	8.54	111.00
	2	4	10.50	42.00
	Total	17		
A4	1	13	9.23	120.00
	2	4	8.25	33.00
	Total	17		
A5	1	13	9.31	121.00
	2	4	8.00	32.00
	Total	17		
A6	1	13	8.92	116.00
	2	4	9.25	37.00
	Total	17		
A7	1	12	8.25	99.00
	2	4	9.25	37.00
	Total	16		
A8	1	12	8.54	102.50
	2	4	8.38	33.50
	Total	16		
A9	1	13	8.23	107.00

	2	4	11.50	46.00
	Total	17		
A10	1	12	9.00	108.00
	2	4	7.00	28.00
	Total	16		
A11	1	13	9.77	127.00
	2	4	6.50	26.00
	Total	17		
A12	1	13	7.69	100.00
	2	3	12.00	36.00
	Total	16		
A13	1	13	9.50	123.50
	2	4	7.38	29.50
	Total	17		
A14	1	13	7.31	95.00
	2	4	14.50	58.00
	Total	17		
A15	1	13	7.42	96.50
	2	4	14.13	56.50
	Total	17		
A16	1	13	8.08	105.00
	2	4	12.00	48.00
	Total	17		

Test Statistics[a]

	A1	A2	A3	A4	A5	A6
Mann-Whitney U	26.000	20.000	20.000	23.000	22.000	25.000
Wilcoxon W	36.000	111.000	111.000	33.000	32.000	116.000
Z	.000	-1.027	-.782	-.398	-.469	-.117
Asymp. Sig. (2-tailed)	1.000	.304	.434	.691	.639	.907
Exact Sig. [2*(1-tailed Sig.)]	1.000[b]	.549[b]	.549[b]	.785[b]	.703[b]	.956[b]

Test Statistics[a]

	A7	A8	A9	A10	A11	A12
Mann-Whitney U	21.000	23.500	16.000	18.000	16.000	9.000
Wilcoxon W	99.000	33.500	107.000	28.000	26.000	100.000
Z	-.386	-.062	-1.432	-1.732	-1.406	-1.511
Asymp. Sig. (2-tailed)	.699	.950	.152	.083	.160	.131
Exact Sig. [2*(1-tailed Sig.)]	.770[b]	.953[b]	.296[b]	.521[b]	.296[b]	.189[b]

Test Statistics[a]

	A13	A14	A15	A16
Mann-Whitney U	19.500	4.000	5.500	14.000
Wilcoxon W	29.500	95.000	96.500	105.000
Z	-.767	-2.581	-2.454	-1.437
Asymp. Sig. (2-tailed)	.443	.010	.014	.151
Exact Sig. [2*(1-tailed Sig.)]	.477[b]	.010[b]	.015[b]	.202[b]

a. Grouping Variable: B 1.3

b. Not corrected for ties.

NPAR TESTS

/M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B3.2(1 2)

NPar Tests

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Number of Cases Allowed[a]	

Notes

Output Created		29-MAY-2014 20:21:32
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>

	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B3.2(1 2) /MISSING ANALYSIS.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00
	Number of Cases Allowed[a]	35746

a. Based on availability of workspace memory.

Mann-Whitney Test

Ranks

	B3.2	N	Mean Rank	Sum of Ranks
A1	1	17	12.00	204.00
	2	5	9.80	49.00
	Total	22		
A2	1	17	11.06	188.00
	2	5	13.00	65.00
	Total	22		
A3	1	17	10.82	184.00

	2	5	13.80	69.00
	Total	22		
A4	1	17	12.00	204.00
	2	5	9.80	49.00
	Total	22		
A5	1	17	11.09	188.50
	2	5	12.90	64.50
	Total	22		
A6	1	17	11.03	187.50
	2	5	13.10	65.50
	Total	22		
A7	1	16	10.66	170.50
	2	5	12.10	60.50
	Total	21		
A8	1	16	10.63	170.00
	2	5	12.20	61.00
	Total	21		
A9	1	16	12.03	192.50
	2	5	7.70	38.50
	Total	21		
A10	1	16	11.16	178.50
	2	5	10.50	52.50
	Total	21		
A11	1	17	12.00	204.00
	2	5	9.80	49.00

	Total	22		
A12	1	16	12.56	201.00
	2	5	6.00	30.00
	Total	21		
A13	1	17	11.00	187.00
	2	4	11.00	44.00
	Total	21		
A14	1	17	11.91	202.50
	2	4	7.13	28.50
	Total	21		
A15	1	17	13.50	229.50
	2	5	4.70	23.50
	Total	22		
A16	1	17	13.32	226.50
	2	5	5.30	26.50
	Total	22		

Test Statistics[a]

	A1	A2	A3	A4	A5	A6
Mann-Whitney U	34.000	35.000	31.000	34.000	35.500	34.500
Wilcoxon W	49.000	188.000	184.000	49.000	188.500	187.500
Z	-1.844	-.988	-1.026	-.741	-.569	-.648
Asymp. Sig. (2-tailed)	.065	.323	.305	.459	.569	.517
Exact Sig. [2*(1-tailed Sig.)]	.543[b]	.595[b]	.401[b]	.543[b]	.595[b]	.543[b]

Test Statistics[a]

	A7	A8	A9	A10	A11	A12
Mann-Whitney U	34.500	34.000	23.500	37.500	34.000	15.000
Wilcoxon W	170.500	170.000	38.500	52.500	49.000	30.000
Z	-.472	-.509	-1.739	-.339	-.751	-2.174
Asymp. Sig. (2-tailed)	.637	.611	.082	.734	.453	.030
Exact Sig. [2*(1-tailed Sig.)]	.660[b]	.660[b]	.179[b]	.842[b]	.543[b]	.040[b]

Test Statistics[a]

	A13	A14	A15	A16
Mann-Whitney U	34.000	18.500	8.500	11.500
Wilcoxon W	44.000	28.500	23.500	26.500
Z	.000	-1.437	-2.801	-2.575
Asymp. Sig. (2-tailed)	1.000	.151	.005	.010
Exact Sig. [2*(1-tailed Sig.)]	1.000[b]	.172[b]	.005[b]	.011[b]

a. Grouping Variable: B3.2

b. Not corrected for ties.

```
FREQUENCIES VARIABLES=B3.1
  /ORDER=ANALYSIS.
```

Frequencies

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	

Notes

Output Created		29-MAY-2014 20:32:25
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.

	Cases Used	Statistics are based on all cases with valid data.
Syntax		FREQUENCIES VARIABLES=B3.1 /ORDER=ANALYSIS.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00

Statistics

B3.1

N	Valid	21
	Missing	1

B3.1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	1	4.5	4.8	4.8
	2	6	27.3	28.6	33.3
	3	14	63.6	66.7	100.0
	Total	21	95.5	100.0	
Missing	System	1	4.5		
Total		22	100.0		

```
RECODE B3.1 (1=SYSMIS) (ELSE=Copy) INTO b3.1adj.
EXECUTE.
NPAR TESTS
  /M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B3.1(2 3)
```

NPar Tests

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Number of Cases Allowed[a]	

Notes

Output Created		29-MAY-2014 20:38:36
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>

	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each test are based on all cases with valid data for the variable(s) used in that test.
Syntax		NPAR TESTS /M-W= A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13 A14 A15 A16 BY B3.1(2 3) /MISSING ANALYSIS.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,00
	Number of Cases Allowed[a]	35746

a. Based on availability of workspace memory.

Mann-Whitney Test

Ranks

	B3.1	N	Mean Rank	Sum of Ranks
A1	2	6	9.33	56.00
	3	14	11.00	154.00
	Total	20		
A2	2	6	7.00	42.00
	3	14	12.00	168.00
	Total	20		
A3	2	6	10.17	61.00
	3	14	10.64	149.00
	Total	20		

A4	2	6	8.67	52.00
	3	14	11.29	158.00
	Total	20		
A5	2	6	14.00	84.00
	3	14	9.00	126.00
	Total	20		
A6	2	6	12.67	76.00
	3	14	9.57	134.00
	Total	20		
A7	2	6	9.25	55.50
	3	13	10.35	134.50
	Total	19		
A8	2	6	13.58	81.50
	3	13	8.35	108.50
	Total	19		
A9	2	6	6.17	37.00
	3	13	11.77	153.00
	Total	19		
A10	2	6	10.00	60.00
	3	13	10.00	130.00
	Total	19		
A11	2	6	12.67	76.00
	3	14	9.57	134.00
	Total	20		
A12	2	6	10.17	61.00

	3	13	9.92	129.00
	Total	19		
A13	2	6	10.17	61.00
	3	13	9.92	129.00
	Total	19		
A14	2	6	8.08	48.50
	3	13	10.88	141.50
	Total	19		
A15	2	6	8.25	49.50
	3	14	11.46	160.50
	Total	20		
A16	2	6	10.58	63.50
	3	14	10.46	146.50
	Total	20		

Test Statistics[a]

	A1	A2	A3	A4	A5	A6
Mann-Whitney U	35.000	21.000	40.000	31.000	21.000	29.000
Wilcoxon W	56.000	42.000	61.000	52.000	126.000	134.000
Z	-1.528	-2.797	-.188	-1.033	-1.803	-1.114
Asymp. Sig. (2-tailed)	.127	.005	.851	.302	.071	.265
Exact Sig. [2*(1-tailed Sig.)]	.602[b]	.091[b]	.904[b]	.397[b]	.091[b]	.312[b]

Test Statistics[a]

	A7	A8	A9	A10	A11	A12
Mann-Whitney U	34.500	17.500	16.000	39.000	29.000	38.000
Wilcoxon W	55.500	108.500	37.000	130.000	134.000	129.000
Z	-.411	-1.941	-2.641	.000	-1.261	-.094
Asymp. Sig. (2-tailed)	.681	.052	.008	1.000	.207	.925
Exact Sig. [2*(1-tailed Sig.)]	.701[b]	.058[b]	.046[b]	1.000[b]	.312[b]	.966[b]

Test Statistics[a]

	A13	A14	A15	A16
Mann-Whitney U	38.000	27.500	28.500	41.500
Wilcoxon W	129.000	48.500	49.500	146.500
Z	-.092	-1.054	-1.190	-.045
Asymp. Sig. (2-tailed)	.927	.292	.234	.964
Exact Sig. [2*(1-tailed Sig.)]	.966[b]	.323[b]	.274[b]	.968[b]

a. Grouping Variable: B3.1

b. Not corrected for ties.

```
CROSSTABS
  /TABLES=B1.3 BY B1.5
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Dimensions Requested	
	Cells Available	

Notes

Output Created		29-MAY-2014 20:39:54
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>

	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=B1.3 BY B1.5 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT /COUNT ROUND CELL.
Resources	Processor Time	00:00:00,00
	Elapsed Time	00:00:00,02
	Dimensions Requested	2
	Cells Available	131029

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
B 1.3 * B1.5	22	100.0%	0	0.0%	22	100.0%

B 1.3 * B1.5 Crosstabulation

Count

	B1.5			
	1	2	3	Total

B 1.3	1	2	2	9	13
	2	0	0	4	4
	3	0	2	3	5
Total		2	4	16	22

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.019[a]	4	.403
Likelihood Ratio	5.097	4	.278
Linear-by-Linear Association	.182	1	.670
N of Valid Cases	22		

a. 8 cells (88.9%) have expected count less than 5. The minimum expected count is .36.

```
CROSSTABS
  /TABLES=B3.1 BY B4.1
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Dimensions Requested	
	Cells Available	

Notes

Output Created		29-MAY-2014 20:41:49
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>

	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=B3.1 BY B4.1 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT /COUNT ROUND CELL.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02
	Dimensions Requested	2
	Cells Available	131029

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
B3.1 * B4.1	21	95.5%	1	4.5%	22	100.0%

B3.1 * B4.1 Crosstabulation

Count

		B4.1		
		1	2	Total
B3.1	1	0	1	1
	2	3	3	6
	3	10	4	14
Total		13	8	21

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.524[a]	2	.283
Likelihood Ratio	2.841	2	.242
Linear-by-Linear Association	2.214	1	.137
N of Valid Cases	21		

a. 4 cells (66.7%) have expected count less than 5. The minimum expected count is .38.

```
CROSSTABS
  /TABLES=B3.1 BY B7.2
  /FORMAT=AVALUE TABLES
  /STATISTICS=CHISQ
  /CELLS=COUNT
  /COUNT ROUND CELL.
```

Crosstabs

Notes

Output Created		
Comments		
Input	Data	
	Active Dataset	
	Filter	
	Weight	
	Split File	
	N of Rows in Working Data File	
Missing Value Handling	Definition of Missing	
	Cases Used	
Syntax		
Resources	Processor Time	
	Elapsed Time	
	Dimensions Requested	
	Cells Available	

Notes

Output Created		29-MAY-2014 20:42:30
Comments		
Input	Data	E:\cbm 2014\gerhard grebe\data may 2014 gg.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>

	Split File	<none>
	N of Rows in Working Data File	22
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each table are based on all the cases with valid data in the specified range(s) for all variables in each table.
Syntax		CROSSTABS /TABLES=B3.1 BY B7.2 /FORMAT=AVALUE TABLES /STATISTICS=CHISQ /CELLS=COUNT /COUNT ROUND CELL.
Resources	Processor Time	00:00:00,02
	Elapsed Time	00:00:00,02
	Dimensions Requested	2
	Cells Available	131029

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
B3.1 * B7.2	21	95.5%	1	4.5%	22	100.0%

B3.1 * B7.2 Crosstabulation

Count

		B7.2				
		1	2	3	4	Total
B3.1	1	0	1	0	0	1
	2	0	1	5	0	6
	3	1	3	7	3	14
Total		1	5	12	3	21

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.017[a]	6	.421
Likelihood Ratio	6.672	6	.352
Linear-by-Linear Association	.558	1	.455
N of Valid Cases	21		

a. 11 cells (91.7%) have expected count less than 5. The minimum expected count is .05.

APPENDIX E:
Ethical clearance certificate

UNISA university of south africa

04 June 2014

2014/CEMS/FRM&B/005

ETHICS REVIEW COMMITTEE: DEPARTMENT OF FINANCE, RISK MANAGEMENT & BANKING

Mr Gerhard Grebe (Student No. 50-543-474) [grebegpm@unisa.ac.za]
Supervisor: Prof Henry Mynhardt (staff number: 90166388) [mynharh@unisa.ac.za]
Co-supervisor: Prof Johan Marx (staff number: 1978438) [marxj@unisa.ac.za]

This is to certify that the application for ethics clearance submitted by Mr. Gerhard Grebe for a primary data research project in fulfillment of the Degree MCom in Business Management entitled:

"The Management of Fraud Risk in South African Private Hospitals" has received ethics approval.

The application for ethics clearance for the above mentioned research was reviewed by **the Research Ethics Review Committee of the Department of Finance, Risk Management & Banking** on 30 May 2014 in compliance with the Unisa Policy on Research Ethics. Please be advised that the Research Ethics Review Committee needs to be informed should any part of the research methodology as outlined in the Ethics Application (Ref. Nr.: 2014/CEMS/FRM&B/005), change in any way

The Research Ethics Review Committee wishes you all the best with this research undertaking.

Kind regards,

Ashley Mutezo

Chairperson of the Departmental Research Ethics Review Committee
012 429 4595/mutezo@unisa.ac.za

Prof Valiant Clapper

Executive Dean

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