An Investigation into the Implementation of Enterprise Risk Management in Senwes to Reduce Procurement Risk

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Declaration

I, Itumeleng Josiah Moleme, declare herewith that the mini-dissertation entitled "An investigation into the implementation of Enterprise Risk Management in Senwes to reduce procurement risk" which I herewith submit to the North West University, Mafikeng Campus, as partial completion of the requirements set for the Master of Business Administration Degree, is my own work and has not previously been submitted to any other university.

Signed By:_____ Date: 03/04/2012

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Abstract

The study is based on gathering information on employee perception about risk in procurement and the application of an ERM framework on procurement to reduce related risks. ERM is an important part of an organisation when the company wants to remain competitive and relevant in their industry. Firstly they need to understand and know the risk they are exoposed to, and secondly they need to proactively manage identified risk on a continuous basis, in an attempt to incresase shareholder value and embed ERM into their daily operations. Procurement is one of the risks that companies are exposed to, starting by identifying the supplier to the quality rendered by the identified supplier and to the commitment displayed by the board and everyone intrumental to the procurement process. The study is qualitative and explores probable procurement risk and the need for the procurement practitioner to know and understand their purchasing mandates. Probability, snowball sampling was used. Data were collected through structured questionnaires, and loaded into the Statistical Package for the Social Sciences (SPSS), a software for analysis.

This survey has shown agreement from respondents that the board is at the top of setting the tone in Senwes. This is vital in developing and maintaining the ethical integrity of the business. Without it, the ability to mitigate the risk of something going wrong is significantly impaired. This is encouraging news and positive affirmation that organisations are responding to the emerging and increasing risks around conducting business on an ethical basis across the enterprise.

Managing risk becomes a very strong competitive advantage when an organisation can identify risks and opportunities earlier than competitors, and when they are better at managing foreseeable and unpredictable events.

Enterprise risk management framework should be applied in procurement planning up to the level of selecting the best suppliers.

List of Acryomyms and Pseudo – acronyms

CEO	Chief Executive Officer.
CFO	Chief Financial Officer.
COSO	Committee of Sponsoring Organisations of the Treadway Commission.
CPO	Chied Purchasing Officer.
CSR	Corporate Social Responsibility.
CRO	Chief Risk Officer.
ERM	Enterprise Risk Management.
IT	Information Technology.
KRI	Key Risk Indicators.
MPP	Material Purchase Planning.
PLC	Public Listed Companies.
SCM	Supply Chain Management.
SDLC	System Development Life Cycle.
SPSS	Statistical Package for the Social Sciences.

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Chapter 1

Nature and Scope of the Study

1.1 Introduction

Business involves the undertaking of risk for reward. Risks are uncertain future events that could influence the achievement of a company's objectives. Some risks must be taken in pursuing opportunity, but a company should reduce its exposure to losses through responsible risk taking and well defined risk strategies.

The King Report on Corporate Governance for South Africa - 2009, referred to as the King III Report (2009:73), highlights the importance of a thorough understanding of the risks of the organisation and states that risk management is inseparable from a company's strategic and business process. It recommends that the following be done if an organisation wants to reduce and manage its risk effectively in pursuance of its objectives:

- A policy and plan for a system and process of risk management should be developed.
- The board should comment in the integrated report on the effectiveness of the system and process of risk management.
- The board's responsibility for risk governance should be expressed in the board charter.
- The induction and ongoing training programmes in risk governance should be performed.

Risk management initially started out as an indemnity/security/cover management purpose. The cost of indemnity had restricted management's alternatives in dealing with the hazards faced by the organisation. One of the foremost problems was that insurers rated firms according to business in such a way that a fine run firm that had few losses was required to pay for the claims of poorly run firms within the same industry. With this, the role of risk management appeared. Management began to make out that abridged/shortened losses intended reduced cost of risk. If risk managers reduced losses they could hold themselves without resorting to indemnity. However, it took some time for industries to settle in risk management.

This research seeks to examine and weigh the advantages and disadvantages of implementing an enterprise risk management to mitigate procurement risks in Senwes business based in Klerksdorp SA. Moreover, a comparison with other organisations' risk management practices was undertaken. This was necessary to come up with a conclusion and the creation of recommendations.

This chapter discusses the background, and general purpose of the study. Moreover, the objectives of the study and the research statements are presented. Here, vital concepts, questions and assumptions are stated. Finally, the scope and limitation of the study as well as overview of the methodology used, and the significance of the research are discussed.

1.2 Background to Problem Statement

Senwes is an agricultural business that focuses on the development of access to markets for agricultural produce, the supply of input products to the agricultural producers as well as adding value to role players in this chain (Senwes 2011b).

Founded 101 years ago, Sentraal-wes played a leading role in the South African agricultural industry. The business has grown steadily and diversified, and on 10 April 1997, the old co-operative business form made way for a new public company. Senwes conducts extensive activities in sectors such as the grain industry, the mechanisation market and financing services focused on agriculture, mainly with presence in the Free State, the North West, the Northern Cape and Gauteng provinces (Senwes 2011b).

With integrity, accountability, innovation, business orientation, self motivation and loyalty as Senwes core values, the business is focused on sustainable value-adding and delivering competitive products and services package.

1.2.1 Main Products and Services

The organisation is an agricultural business that focuses on:

- The development of access to markets for agricultural produce including maize, wheat, sunflower, sorghum, barley, soy and malt.
- The supply of input products to the agricultural producer, including, seed, fertilizer, agricultural equipment and general farming requisites.
- Adding value to role players in this chain (Senwes 2011b).

1.2.2 Extent of Operations

The well-deployed silo infrastructure has a capacity of 4.8 million tons at 62 sites and constitutes more than 25 % of the total South African commercial storage capacity. The silo operations handle about 30 % of the country's grain and oilseeds in a normal agricultural production year (Senwes 2011b). During the 2010/2011 Interim Financial Results for six months, the market access division contributed to R103 million of the organization's profit before tax (Senwes 2011a).

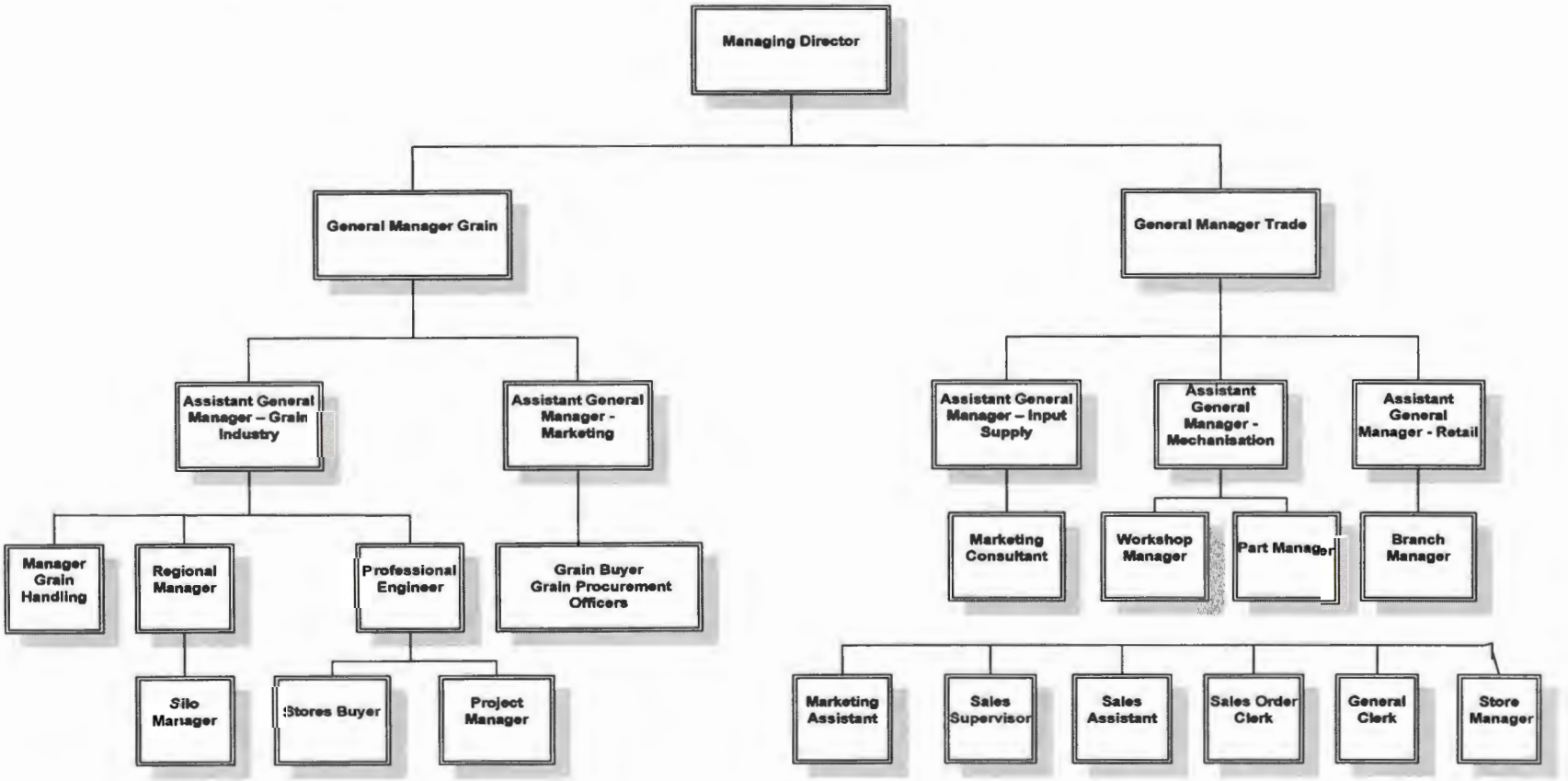
The trade and mechanisation side of the business is aimed at providing agricultural producers with exclusive and competitive value and service packages at their 32 operational sites (Senwes 2011b). During the 2010/2011 financial year, the Supply Input division contributed to R32 million of the organization's profit before tax (Senwes 2011a).

1.2.3 Organisational Operations

Senwes has two procurement operations running separately which are found on the following divisions; Market Access and Input Supply. The following organogram represents both the Market Access and the Input Supply and for the purpose of this dissertation. The study is limited to the Input Supply unit of the procurement division forming part of the General Manager Trade Section as depicted on the diagram below.

Figure 1.1 Organogram.

(Senwes Village and Grain-Link Organogram



Source: Senwes.co.za/organogram

The current status of Risk Management in Senwes may not have been successfully implemented in order to give the assurance to senior executives of the board and all other stakeholders that all potentially significant procurement risks are identified and managed.

There could be a minor progress on Senwes that allow adaptation to changing risk an opportunity.

1.3 Problem Statement

There is a constant need in today's business world to identifying, assessing, managing and monitoring the organisation's business opportunities and risks. Risk management is a well-established philosophy; although, organisations are struggling to implement, embed and sustain a realistic Enterprise Risk Management solution that adds value and creates a balance between cost and reward (Barton, Shenkir and Walker, 2002:272).

According to the results of the 2010 risk management study conducted by AON (2010): "The number of respondents who have matured to the 'advanced level' since 2007 has more than doubled from 3% to 7%, and respondents in this stage of the maturity report they now have dynamic Enterprise Risk Management processes that allow adaptation to changing risks and opportunities".

The global risk management survey sixth edition conducted in 2009 (Deloitte 2009: 9) indicates that Enterprise Risk Management implementation during the last two years has been limited. Only 36 percent of the institutions participating reported that they had an Enterprise Risk Management program or an equivalent in place, similar to the percentage in the 2006 survey, while another 23 percent were in the process of implementing one. More than 40 percent of the participating institutions lacked an Enterprise Risk Management program.

The U.S. Protiviti Risk Barometer (Protiviti 2007) notes that almost fifty percent of senior executives surveyed, lack a high degree of confidence that their current risk management capabilities allow them to properly identify and manage all potentially significant business risks.

1.4 Objective of the Study

This study is an endeavour in understanding the importance of assessing risk management in the Senwes procurement process. This study may be helpful to the Senwes Village General Manager and Procurement Practitioners for this may be a guide for them when they employ effective procurement approaches to their organisation. By examining the risks and other factors involved in procurement strategies, Senwes Village General Manager and Procurement Practitioners may be able to design measures to minimise the risks. Further, through the understanding of the needs of their consumers in terms of satisfaction, this study may help different supplier/ manufacturers to satisfy their consumers. Moreover, this study may be an endeavour in promoting effective procurement strategies that suffice the needs of consumers.

This study may be deemed useful for future researchers on procurement strategies and its application to different business organisations. This study may also serve as an academic tool in informing its readers about the business development and organisational change. Moreover, this research provides recommendations on how to value business development as they are taking part in the organisations success. In addition, this study provides information to business leaders regarding business progress and development. Knowing how consumers perceive development of an organisation will assist business leaders in establishing programs, policies, and staff development.

1.5 Research Design

A literature review of available articles were completed, the empirical research focused on the collection of data for which structured questions and questionnaires were designed and selected as the data collection method. All the questionnaires were completed by Senwes employees in Head Office and employees at different locations to determine if risk reduction takes place in the entire Senwes procurement environment.

The questionnaire focused on information that helped to determine whether the risk policy and its implementation have been fully understood and were communicated to all stakeholders across the enterprise.

1.6 Layout of the Dissertation

Chapter 1 maps out the problem statement and objectives of the study, culminating in how the problem will be researched, as well as including the background information on the Agribusiness sector that has been researched.

Chapter 2 entails a literature review with an emphasis on managing procurement in a large agricultural organisation, and the need to focus on the implementation of the enterprise risk management framework in mitigating procurement risk.

Chapter 3 describes research procedure followed

Chapter 4 includes an analysis and interpretation of the data. The research outcomes were discussed and showing how Senwes could learn to control risk.

Chapter 5 presents answers to the research questions, including conclusion and making recommendation as well as future research that could be conducted.

1.7 Conclusion

If the organisation wants to develop a framework of risk management for risk mitigation in a procurement environment, certain aspects must be put in place and Roberts, Wallace and Mc Lure (2006) identified the following.

Enterprise Risk Management provides a company with the process it needs to become more anticipatory and effective at evaluating, embracing and managing the uncertainties it faces as it creates sustainable value for stakeholders. It helps an organisation manage its risks to protect and enhance enterprise value in three ways, namely, that it helps to establish sustainable competitive advantage, it optimises the cost of managing risk, and it helps management improve business performance (De Loach 2005).

According to Deloitte (2006) in the article The Risk Intelligent Enterprise 'ERM Done Right', organisations that are most effective and efficient in managing risks to both existing assets and to future growth will, in the long run, outperform those that are less so. Thus, companies make money by taking risks and lose money by failing to manage them.

This research study has a broad range of topics regarding status of the risk management, programs in Private and Public Enterprises in SA with respect to the perception of confidence by management in implementing risk management, especially on procurement. Although the focus was on the perception of the respondents, other considerations such as the needs of the respondents, effect of management programs on consumers, and other general information about business development are discussed. The outcome of this study is limited only to the data gathered from books and journals about procurement strategies and risk management development, and from the primary data gathered from the result of the questionnaire survey and interview conducted by the researcher. The detailed literature review and other factors are discussed on the next chapter.

Chapter 2

Literature Overview

2.1 Introduction

A matrix which is obtainable on Appendix 3 is provided is attached at the end of the research; the purpose of the matrix is to provide record of work done and give evidence to the heading and sources from where they were obtained as well as the authors of the related articles, prior to construction of a literature review.

ERM differs from traditional risk management approaches in terms of focus, objective, scope, emphasis and application. It aligns strategy, people, process, technology and knowledge (De Loach 2005:1). The emphasis is on strategy and the application is enterprise wide, under an ERM approach, management's attention is directed to the uncertainties around the enterprise entire asset portfolio, including its intangible such as customer assets, employee and supplier assets (De Loach 2005:1).

Interest in Enterprise Risk Management has grown rapidly during the past 15 years, with regulators, professionals associations and even rating firms calling for its adoption, in response to this demand more and more companies are today embracing ERM, yet its implementation remains poorly integrated, with desperate practices grouped under the same label (Arena, Anaboldi and Azzone 2010:659), ERM can be viewed as the culmination of the risk management explosion that started in the 1990s and is touted as a holistic approach for assessing and evaluating the risk that an organization face, ERM is most frequently defined with reference to the 2004 guide document published by COSO (Arena *et al.*, 2010: 659).

Managing risk is a fundamental concern in today's dynamic global environment. In recent years however, a paradigm shift has occurred regarding the way to view risk management, instead of looking at risk management from a silo – based perspective, the trend is to take a holistic view of risk, referred to as Enterprise Risk Management, the general argument gaining momentum in the literature is that the implementation of an ERM will improve

firm performance (Barton, Shenkir and Walker. 2002; Gordon, Loeb and Tseng. 2009: 301-302).

2.2 Background on Enterprise Risk Management Framework

In September 2004, COSO issued Enterprise Risk Management – Integrated Framework, to provide a model framework for ERM. That framework defines ERM as a process effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives (Beasley, Clune and Hermason 2005: 522-523).

The COSO framework defines risk management as an ongoing, enterprise – wide that has eight interrelated components, to establish the foundation for effective enterprise risk management. The organisation must create an internal environment that fosters commitment to competence, provides discipline, and articulates governance structure within the risk culture of the firm. With a sound foundation in place management can evaluate their objective setting procedure to be certain that, throughout the organisation, business process performance objectives are linked to and support the strategic objective of the organisation (O'Donnell 2005:178).

Based on the ERM framework, risk can be defined as an observable event(s) or action(s) that can have material impact on the organisation's financial or operations performance. Risk does not exist in isolation although it may exist across different domains (such as operational risk, financial risk, human capital, strategic, with such a framework it offers fundamentally pro-active approach for organisations to identify risk, manage and exploit risk). It may lead to better operational and strategic decision in Information Technology (IT) adoption which may result in sustainable competitive advantage (Teoh and Cheong 2008:1012).

Management must undertake an (3) event identification phase to develop or update the list of specific events that, if they occur, could influence business process performance. This is because for every event management performs (4) risk assessment it assesses the

likelihood that an event will occur and estimate the probable impact of an event if it does occur. Management selects and implement appropriate (5) risk response for all events based on the risk appetite of firm and the cost/benefit relationship for the various response options (O'Donnell 2005:178).

Management establishes (6) controls activities to help ensure that those risk responses are properly executed, to manage this network of processes. The organisation must establish channels for (7) information and communication that enable personnel to carry out their responsibilities and that provides management with feedback about the extent to which the organisation is achieving its objective, to govern the risk management process. The organisation must establish a program for (8) monitoring how well each component is functioning and for tracking performance over time (O'Donnell 2005:178).

It has been argued that for ERM to be effective, companies must "look beyond technology" to establish a culture of risk management throughout the organisation (Arena *et al.*, 2010:660).

Risk management is the process that allows IT managers to balance operational and economic costs of protective measures. This can be achieved when gains in mission capability by protect the IT systems and data that support their organisations' missions. This process is not unique to the IT environment. Indeed it pervades decision-making in all areas of our daily lives. Take the case of home security, for example. Many people decide to have home security systems installed and pay a monthly fee to a service provider to have these systems monitored for the better protection of their property. Presumably, the homeowners have weighed the cost of system installation and monitoring against the value of their household goods and their family's safety, a fundamental "mission" need (Stoneburner, Goguen and Feringa 2002:4).

2.3 Linking ERM with Business Strategy

One of the biggest challenges facing management teams is how to link business plan and enterprise risk management. This is a requirement if the company wants to remain competitive and increase the shareholders' equity and value; and also if it wants to be aware of risk and be ahead of its competitors, the recent event has warned that strategy and risk management must be closely linked, linking the business strategy to ERM can also provide the context for setting risk appetite and risk measure so that they are linked to a long-term view of the entity (KPMG 2001:11).

The three approaches for effective strategic risk management are (1) a strategic risk assessment process; (2) a process to identify and protect genuine assets that are at risk; and (3) strategic risk monitoring and performance measurement (Frigo 2008:46).

Risk is an integral part of any business and managing risk is an essential function for management, according to the framework as mentioned (Haggi and Sivakumar 2009:286). Managing risk is one of the primary strategic objectives of global strategy. While risk is important for strategic management; it has been poorly understood by many managers (Power 2009:849).

Connecting strategy and enterprise risk management is critical for every company in its quest to create and protect shareholder value and corporate assets. Vigilance regarding forces of change means continuous strategic risk assessment. Risk management includes managing both the upside and downside of risk for it to be effective. Risk assessment, risk management and ERM should be embedded in strategic plans and budgets, execution plans and performance measures. Using these approaches could help management and board as well as to protect corporate reputation, corporate integrity and shareholder's value (Frigo 2008:49).

ERM should be intrinsically linked to the entity's business strategy. This encompasses an organisation's established vision, mission, and objective. The process for defining operational imperatives; and its philosophies, policies plans, and initiatives for growth and development, aligning ERM resources and actions with business strategy is necessary to

maximise organisational effectiveness. Risk process can be carried out in the context of where a business is headed, not solely based on where it is today (KMPG 2001:11).

The goal of an ERM Framework is to help an organisation achieve its objective the horizontal dimension divides the organisation objective into four types (Nazir 2006:1-2).

Strategic: High level goal of an organisation which supports it in achieving its mission (e.g. acquisition of another company, launching a new product, etc),

Operations: Effective and efficient use of its resources (for example, delivering the product to the customer at the right time, effectively marketing the product, financing at a reasonable rate, arranging human resources, etc.),

Reporting: Reliability of reporting (e.g. preparation of financial reports in a reliable manner, environmental reporting, compliance reporting etc), and

Compliance: Compliance with applicable laws and regulations, for example, company law, tax law, security and exchange law.

These four categories of an organisation's objective expose the organisation to certain risks.

Strategic risk includes completion entry, increase in intensity of competition, technological developments in the industry. Operational risks include supply chain problems, employee fraud, production breakdown, physical safety and security (Nazir 2006:1-2).

2.4 Stages of ERM Implementation

Shaw (2005) *cited* in Teoh and Cheong (2008) recommended seven steps of implementing an effective ERM program, which are more specific: (1) assemble and educate a cross-functional team representing each significant functional area of the enterprise; (2) identify risks and opportunities the enterprise faces; (3) determine the enterprise's risk appetite; (4) identify correlations between the risks and opportunities the enterprise faces; (5) prioritise risks and opportunities; (6) determine appropriate actions for mitigation of risks and exploitation of opportunities, and (7) implement an enterprise risk management system to

continually monitor and respond to events and trends. Building on these recent studies, we explore our case study in light of these findings (Teoh and Cheong 2008:1013).

ERM consists of eight interrelated components which are derived from the way management runs an enterprise and are integrated with management process of the business (Nazir 2006:3).

2.4.1 Internal Environment

Internal environment encompasses the tone of an organisation and sets out the basis for how the risk is viewed and addressed by the entity's people; this includes the risk management philosophy and risk appetite, integrity and ethical values and environment in which they operate (Nazir 2006:2).

The internal environment is the tone of an organisation and how they view and cope with risk management. This particular component is more relative to the upper management/executive level because these are the members of business or government agency who set the tone for the rest of the organization (Goessl 2010).

Factors in the immediate environment of the organisations are its suppliers, customers, competitors, intermediaries, trade organisations and all parties directly related with a company (Nazir 2006: 3).

2.4.2 Objective Setting

The objective must exist before management can identify potential events affecting their achievements. ERM ensures that management has in place a process to set objectives and that the chosen objectives support and align with an entity's mission and are consistent with its appetite (COSO2004 *cited* in Nazir 2006:6).

As one of the ERM goal processes, the objective setting helps align with the organisation's mission. This component also identifies and prioritises these objectives which run parallel with the company's designated acceptable risk levels. The level of risk is not a one-size fits all formula; there are many variables that will fall into account and will vary from organization to organization (Goessl 2010).

2.4.2 Event Identification

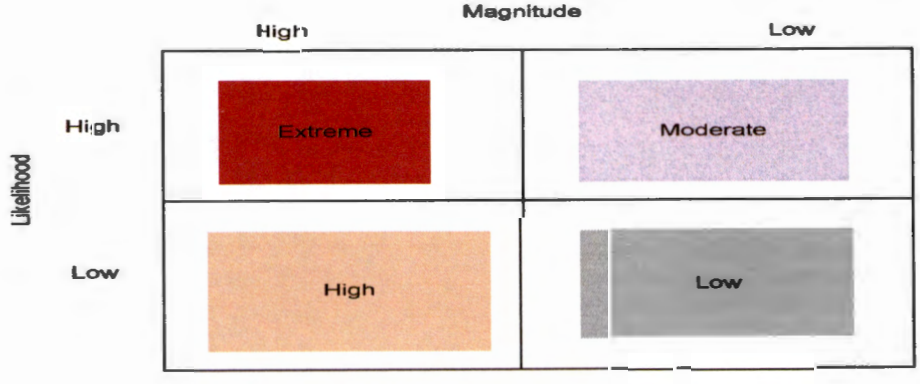
During the event identification, management identifies potential events that could affect an entity's ability to achieve its objective. An event is an incident/occurrence that emanates from either internal or external sources; events with potentially negative impacts represent risk, which requires management assessment and response. Event identification begins by analysing the activities that an organisation uses to execute its business process (O'Donnell 2005:185).

A COSO guideline explains that it is useful to group potential events into categories, which allows management to consider the completeness of its event identification efforts. Internal risk factors, for example, include infrastructure, personnel, process and technology; external factors include for example economic, business, technological, environmental, political and social (O'Donnell 2005:186).

2.4.4 Risk Assessment

Risks are analysed, considering the likelihood and impact, as a basis for determining how they should be managed (Nazir, 2006:8). Risk assessment is the process of determining the likelihood of an impact/magnitude of risk after the identification of risk event, after calculating these two elements of risk. Overall risk rating will be determined as shown in Figure 2.1 below:

Figure 2.1 – Risk Assessment Strategy



Source: Nazir 2006: 8)

A business risk assessment is conducted and risk impact is considered with this component. Risk assessments are where the likelihood of an event is compared with the extent or potential consequences of the risk actually occurring. Depending on whether or not the risk is low or high, the organization will determine where it falls on the risk assessment scale (Goessl, 2010).

2.4.5 Risk Response

This section of COSO's ERM framework deals with organisational approaches to coping with risks. This includes whether the organisation plans to avoid, accept, reduce or share the levels of risk assessed. Risk tolerance is an important factor (Goessl 2010).

2.4.6 Control Activities

This is where an organisation establishes policies and procedures to be carried out which relate to risk under the ERM process model (Goessl 2010).

2.4.7 Information and Communication

Communication of the risk strategy and structure is essential. Such communication should be designed using appropriate technology and communication language and concept to ensure that all employee and stakeholders understand the board's vision and objective. Leaders must clearly demonstrate the relevance of the ERM strategy, providing success stories to maximise the value of the communication process (KPMG 2001:15).

2.4.8 Monitoring

Management should establish a process for continuous monitoring of the risk profile of the company, including the use of Key Performance Indicators (KPI) and best practices of performance measurement and performance management such as the balance scorecard. The balance scorecard focuses on strategy and accountability and fosters a continuous process for risk assessment and risk management (Frigo 2008:47, 49).

2.5 Presence of CRO, Board independence, and support for ERM

Driving and implementing ERM model in an organization is in many cases performed by CRO. If the process is well driven, it produces a systematic workflow for addressing the risk within the organization. Risk management is a management responsibility. This section describes the key roles of the personnel who should support and participate in the risk management process (Stoneburner *et al.*, 2002:6).

- Senior Management must ensure that the necessary resources are effectively applied.
- The system and information owners are responsible for ensuring that proper controls are in place to address integrity, confidentiality, and availability of the IT systems and data they own.
- Security Awareness Trainers (Security/Subject Matter Professionals). The organization's personnel are the users of the IT systems. Use of the IT systems and data according to an organisation's policies, guidelines, and rules of behavior is critical to mitigating risk and protecting the organisation's IT resources.

2.6 Risk technologies

Traditional risk management assumes that successful risk management results from independent department managing risk successfully (Brannan and Taylor 2006 *cited* in Teoh and Cheong 2008:1012). However, such an approach may result in insufficient or inaccurate risk management as each department may identify and manage IT related issues differently by unknowingly transferring the risk to others. It may be more effective to manage a group of relevant IT issues and risk rather than handling them separately, having the different perceptions and treatment of risk during the process of adopting IT can further be problematic (Teoh and Cheong 2008:1012).

In light of its strengths, many organisations have started adopting ERM at various IT implementations. Not much is known about the stages of ERM deployment or factors that affect the uptake of ERM in an enterprise (Beasley *et al.*, 2005); (Teoh and Cheong 2008:1012) and it can even be difficult to determine which enterprise are using ERM

(Teoh and Cheong 2008:1012). Factors can affect ERM implementation and adoption by affecting characteristics such as size, audit type, industry and of critical importance the leadership of the board and senior management. The existence of chief risk officer, board independence and support from CFO and CEO would also have a positive effect on ERM implementation which could influence the process of IT adoption (Teoh and Cheong 2008:1012).

The objective of performing risk management is to enable the organisation to accomplish its mission(s) (1) by securing the IT systems that store, process, or transmit organisational information; (2) by enabling management to make well-informed risk management decisions to justify the expenditures that form part of an IT budget; and (3) by assisting management in authorising (or accrediting) the IT systems on the basis of the supporting documentation resulting from the performance of risk management. An effective risk management process is an important component of a successful IT security program. The principal goal of an organisation's risk management process should be to protect the organisation and its ability to perform its mission, not just its IT assets. Therefore, the risk management process should not be treated primarily as a technical function carried out by the IT experts who operate and manage the IT system, but as an essential management function of the organization (Stoneburner *et al.*, 2002: 2).

2.7 Integration of Risk Management into the SDLC

Minimising negative impact on an organisation and the need for sound basis in decision making are the fundamental reasons organisations implement a risk management process for their IT systems. Effective risk management must be integrated into the SDLC. An IT system's SDLC has five phases: initiation, development or acquisition, implementation, operation or maintenance, and disposal. In some cases, an IT system may occupy several of these phases at the same time. However, the risk management methodology is the same regardless of the SDLC phase for which the assessment is being conducted. Risk management is an iterative process that can be performed during each major phase of the SDLC (Stoneburner *et al.*, 2002: 10-11).

2.8 ERM Corporate Governance

Corporate governance and risk management are interrelated and they are interdependent. The stability and the improvements of the company's performance are highly depended on the effective role of both components. The element of control is one of the corporate governance roles, while a control environment is developed from the risk management process (Manab, Isahak and Rasid. 2010:242). As mentioned by Knight, corporate governance may be regarded as the glue which holds an organisation together in pursuit of its objective. Risk management provides the resilience. In fact, the ERM concept and practice have been observed as "a vital engine for strengthening corporate governance (Manab 2010). Thus, Knight (2006) *cited* in Manab *et al.*, 2010:241) defines corporate governance in relation to risk management as the way in which an organisation is governed and controlled in order to achieve its objectives. The control environment makes an organisation reliable in achieving these objectives within an acceptable degree of risk.

Manab *et al., (2010)* emphasise corporate governance as being vital for effective ERM and none of the ERM components can be achieved without corporate governance compliance (Manab *et al.,* 2010:242). It normalises the relations between the shareholders, board of directors, top management, and stakeholders. The integration between corporate governance, risk management, and compliance are required in order to achieve objectives and maximise shareholder value (Manab *et al.*, 2010:242).

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2.9 ERM Performance and Competitive Advantage

ERM has the potential to provide an organisation with a competitive advantage as business leaders seek new ways to build shareholder value. They have begun to think about new ways about how risk management is tied to value creation (KPMG 2001:2).

The key factors in the relation between a firm's ERM system and its performance are found on the five key factors that are critical in understanding the relationship. They are the following: environmental uncertainty, industry competition, firm size, firm complexity, and a board of directors monitoring (Gordon, Loeb and Tseng 2009:303-305).

Environmental Uncertainty (EU) creates difficulties for organisation due to the increasing unpredictability of future events affecting the organisation.

- Industry competition is a fundamental concern to all organisations.
- Lawrence and Lorsch *cited* in Gordon *et al.,* (2009:304) wrote that the there is primary relation between firm size and organisational structure.
- Greater firm complexity will cause less integration of information and more difficulties in management control systems within an organisation.
- The importance of board of director in the monitoring of the enterprise risk management has been recommended by COSO, 2004.

2.10 Management Expectation for ERM

Before the ERM process is implemented in a company, the financial manager, and senior manager must believe in the process and its value. The ability to apply an ERM framework and commit senior management to ERM is some of important aspects of the future of ERM (Folks (2001:10) found that about 55% of financial managers named organisational culture as the only barrier to effectively implement an ERM program, whilst 50% of senior management acknowledged that ERM was not perceived as a priority by senior management.

2.11 ERM Control, Accountability and Decision Making

National and International governance regulations reflect the view that corporate governance, internal control and risk management are interdependent. In the private sector context, the primary responsibility for all three rests with the board of directors. Private sector initiatives to improve risk and internal control systems have been mirrored by similar promptings for change in the public sector, where risk management is also seen as an important dimension of good governance as well as tool to aid the achievement of strategic objective (Woods 2009:69).

It is not sufficient just to identify the threats, the organisation needs to make a judgement on whether those identified threats are adequately controlled and where it is necessary introduce additional controls, monitoring procedure and responsibility.

Davis (1997) recommends that for risk management strategy to be cost effective the controls should reflect the degree of the risk and so it necessary to have a feel for the relative probability and potential of each risk.

A risk intelligent enterprise comprises of risk management strategies that address the full spectrum of risks and risk assessment processes that augment the conventional emphasis on probability by placing significant weight on residual risk or vulnerability. Further characteristics include risk management approaches that do not solely consider single events, but also take into account risk scenarios and the interaction of multiple risks Furthermore, it also includes risk management practices that are infused into the corporate culture, so that strategy and decision-making evolve out of the risk-informed process, instead of having risk considerations imposed after the fact (if at all) and. Another characteristic is a risk management philosophy that focuses not solely on risk avoidance, but also on risk-taking as a means to value creation (Deloitte 2007:2).

2.12 Risk Measurement and Reporting in ERM

One of the key objectives of ERM is to promote risk transparency, both in terms of internal risk reporting and external public disclosure. Establishing a robust risk measurement and reporting system is therefore critical to ERM success. The old adage "what gets measured gets managed" holds true in risk management. The following fits into the overall ERM process (Lam and Associates 2006:5).

Stage1: ERM foundation setting. In the first stage, a company must establish a sound foundation for the overall ERM program. The board and senior management provide what is often referred to as "tone from the top" (Lam and Associates 2006:5).

Stage2: Risk identification and assessment. An ERM process should integrate various risk assessments to develop a comprehensive inventory (Lam and Associates 2006:5).

Stage3: Risk measurement and reporting. In this stage, more objective and quantitative information is developed. This information includes key risk indicators (KRIs) for business risk, credit risk, market risk, and operational risk (Lam and Associates 2006:6).

Stage4: Risk mitigation and management. The most important stage of ERM is risk mitigation and management. This includes resolution of outstanding issues. Moreover, to be a value-added function, ERM must impact decisions that increase the risk-adjusted profitability of the company (Lam and Associates 2006:6).

The above four stages of the ERM process should not be implemented in a sequential manner for the overall company. A sequential approach, in which a company spends the first year establishing the ERM foundation, the second year identifying and assessing risks, and so forth, for example, some companies spend a year or more in conducting risk assessments before developing KRIs. In the meantime, the qualitative risk assessments cannot be validated with quantitative data, and the task of designing KRIs for hundreds of identified risks and processes is daunting. Management should instead focus on the company's most critical risks and apply the overall ERM process to them (Lam and Associates 2006:6).

2.13 Procurement Background Information

One of procurers' lesser known activities is risk management, taking proactive steps to prepare for supply-disrupting events such as earthquakes and supplier bankruptcies and acquisitions. Risk management is as much an art as it is a science, because success requires broad contemplation concerning what could go wrong and how likely each potential disaster is. Planning fully for every possible problem is simply not practical. A growing number of suppliers are running into financial trouble given declining orders, increasing raw material costs, and tightened credit markets. Procurement needs to cut costs but perhaps in some companies the greater job is identifying troubled suppliers and moving to mitigate the risk of compromised supply (Wilson 2008).

In macroeconomic climate, when the demand for products and services has been falling at an alarming rate, companies focus on reducing inventory within the supply chain to lower costs and reduce the risk of write-offs. In addition, they are reducing the number of suppliers they do business with, so they can consolidate purchases with remaining suppliers to gain additional volume discounts and further reduce costs. However, as a result of these efforts, one of the biggest risks to a company's supply chain comes from its unhealthy suppliers (Santhanam 2009).

Procurement professionals and business executives are obsessed with cost-cutting measures at the expense of effectively analysing potential supply chain disruptions, owed to the economic recession. Cost cutting can yield immediate profit results, but if implemented at the expense of risk management, it might be a short lived catastrophe. A corporate growth strategy entails three aspects: integration strategies, diversification strategies, and aggressive strategies (such as market penetration or product innovation and development), which demand that an organisation be more innovative in product development. Where the supply chain function is not keeping abreast with supply market developments, a gap will slow down product development (Mlalazi 2010).

Effective procurement requires the utilisation of sound business practices that maximise value to the organisation through the acquisition of goods and service. Employing the best practice in procurement ensures that the organisation and ultimately the professional make

correct decisions. This means that the organisation must develop plans that are in alignment with its goal and best interest. Frequently this evolves from well defined sourcing strategies developed to help the organisation achieve its overall objective. In turn sourcing strategies rely on a clear set of tactical procedure to ensure their implementation (Sollish and Semanik 2007:2).

2.14 Procurement Definition

Risk management in procurement is about ensuring potential risks associated with the purchase of goods or services are identified, assessed and managed to ensure unexpected or undesirable outcomes are minimised whilst achieving maximum benefit from procurement (State Board Procurement 2010:3).

Material procurement is the process of obtaining raw material from outside suppliers; it is a capital intense decision that often accounts for a large portion of the total operating cost faced by most organisations. When making decisions in Material Purchasing Planning (MPP) problems, the purchaser must identify and assess the potential impact on its business of the important uncertainty. In the real world, these uncertainties include the material unit price, the product demand and the uncertainty of changing raw material to finished product demand.

Single-source procurement contracts have been identified as an issue for concern by many, for reasons dealing with transparency, democratic oversight, and value for money, and corruption risk. In most countries, extant laws prohibit single-source contracts, but with exceptions for national interest or emergency regarding defence procurement; the terms in this context are often broadly defined. Single-source procurement contracts are those contracts awarded by a government to a company without competitive process. Such contracts are also referred to as sole-source, non competitive, or no-bid. The decision to use single-source – because most systems presume competition – is itself a corruption risk (Paymen, Wilson and Scott 2009:216-217).

Xiao, Zeng and Wang (2009) mentioned that effective identification and measure to procurement risk are important in that they are the basis of effective risk management and risk prevention (Xiao *et al.*, 2009).

2.15 Linking Procurement with Business Strategy

Successful organisations are those whose procurement functions' objectives are aligned to strategic corporate goals and promote adequate representation and early involvement of supply chain input in all the aspects of the business. Risk lies everywhere within the supply chain. Procurement professionals need to know and understand the organisation's corporate strategic goals and the direction in which it is heading. This is the base on which Procurement's strategic objectives must be built. Guiding corporate strategic goals include building strategic corporate relationships with key stakeholders such as suppliers (Mlalazi 2010).

A holistic example of procurement embracing corporate strategy would be presented as follows: The corporate objective is a cost reduction programme. In order for the supply chain to achieve the goal it might, among other things, introduce supply rationalisation, standardisation and e-procurement. Risk needs to be identified, analysed and managed. It is possible that certain risk aspects within the supply chain may not be eliminated. Hence supply chain professionals need to have the ability not only to identify but also be able to analyze and rate the risks. Risks elements need to be eliminated, others minimised (Mlalazi. 2010).

2.16 Presence of the CPO as Head of Supply Chain

Strategic Supply Chain Management (SCM) is designed to strategically equip Chief Purchasing Officers (CPO's) or Heads of Supply Chains to adequately deliver and ensure that their organisations realise maximum value. Properly positioned, CPOs can fully contribute to organisational profitability by realigning the procurement strategy and objectives to the corporate strategy and objectives (Mlalazi 2010).

Supply chain executives need to fully understand the corporate strategy and goals at a high level so that they can own and align the Procurement strategy and goals to that of the

organisation. For purchasing objectives to reflect and be aligned to corporate objectives, it is critical that corporate objectives and strategies are defined, and then used to derive the purchasing objectives and strategy (Mlalazi 2010).

The level of success or failure of Procurement to achieve its goals is determined by how well Procurement professionals understand their roles and their operating environment. To achieve a sustainable supply of materials and services, all risks associated with supply need to be identified, analyzed and managed with appropriate strategies (Mlalazi 2010).

2.17 The Risk management Process

Depending on the nature of the procurement, the level of detail required in the management of risk will vary, the specific process of risk management is however useful in gauging the nature of risk involved with a project and should be considered for any procurement exercise (State Procurement Board 2010:4).

The following is an overview of the key elements of risk management process and how each element relates to procurement activities

2.17.1 Communication and Consultation throughout the process

Ensuring appropriate communication and consultation is undertaken with internal and external stakeholders (including end–users and suppliers) (State Procurement Board 2010:4).

Information and communication form an important part of the fraud risk management process, no process can be taken out successfully unless the essential information is communicated to all relevant and important parties, the information needs to be constantly updated with the latest information (COSO 2004:67).

It is essential for the procurement function to have information and communication structure in place to ensure that relevant information is accurately and timeously reported to top management, chief risk officer and procurement personnel, this practice will enable all participants to carry out their risk management activities and responsibilities successfully (Venter 2007: 90)

The risk management function often consists of several role players, such as the supply chain risk manager, divisional risk managers, compliance officers, project risk managers, et cetera. In addition, assurance providers, such as internal audit, have close links with the risk management function. It is imperative that proper communication channels exist within the risk group and between the risk management function and assurance providers. In addition, communication channels between the risk group, management and relevant risk management forums should be formalised to ensure continuity in terms of informal feedback and formal reporting (Bredell and Walters 2007:9)

2.17.2 Establishing Procurement Context

It is important to understand the environment in which the procurement is being undertaken relating to the organization, stakeholders, strategy and timeframe and determining what contextual elements are relevant to the procurement (State Procurement Board 2010:5).

Issues that may be considered in establishing the risk management context are as follows:

- Legislation, policy targets that are relevant to procurement decision;
- The objective and benefits to the business that is required from procurement division;
- The timeframe to undertake the procurement activities; and
- The stakeholders impacted by the decision and the extent of their involvement in risk assessment.

2.17.3 Identifying the risk

A procurement practitioner should identify potential risk, impacts, events, causes and potential consequences associated with procurement. This will generate a comprehensive list of risk based on events that may impact the achievement of procurement and business objective, in addition to business risk that may arise through the procurement (State Procurement Board 2010: 5).

The types of fraud that generally occur in the procurement process are the following: personal procurement schemes; tender fraud, conflicts of interest; kickbacks; the creation

of shell companies; pass-through-schemes; pay-and-return schemes; acceptance of poor or inferior quality products or no products; and inflated invoices or billing. The Financial and Management (Venter 2007:87)

Procurement professional should always and naturally be very concerned about the risks they should be in position to demonstrate that they have conducted risk management activities in a consistent, reasonable and responsible way throughout the procurement cycle. This requires stronger risk management thrust at both strategic and operational level of the procurement organisation, this will mean that procurement professional and practitioners at operational level should be able to identify the risk by themselves without relying solely on contractor or client they must identify the risk and be able to document identified risk (Mattingly 2004:20)

2.17.4Risk Assessment

During fraud risk assessment, the possibility is considered that a particular procurement fraud situation will occur, and the expected size and cost of the loss is estimated in order to determine the impact it will have on the enterprise (CIMA 2001 *cited* in Venter 2007). A number of elements need to be considered, as discussed below:

- **Frequency**

The risk analyst can use the historical procurement fraud statistics of the enterprise as a basis for calculating the frequency of procurement fraud (Venter 2007:87).

- **Severity**

The risk analyst should also determine the severity of the losses that the enterprise may incur if procurement fraud risks occur (Venter 2007:87).

2.17.5 Analysing Risk

In understanding the level of risk associated with procurement transaction, each identified risk is analysed by determining likelihood and consequences. In line with the definition of risk as 'the effect of uncertainty on objectives' only risk that are deemed to have the

potential to impact on the objectives of the procurement and business are required to undergo further analysis for likelihood and consequences to determine the level of risk.

When rating risk for likelihood and consequences, it is essential to consider the effect of the controls built into existing procedure, unless they are deemed to be ineffective (State Procurement Board 2010:7).

2.17.6 Evaluating Risk

The main objective of evaluating risk is to make decisions regarding which risks need treatment and priority for treatment, for risk that fall into a relatively low risk category. These may be accepted with no or minimal further treatment (State Procurement Board 2010:7).

The evaluation of risk will enable priorities to be established that equate to an appropriate level of risk. This will allow procurement professional to decide what an appropriate action for treating each risk will be. The evaluation should not consider the effectiveness of the current internal control environment. The evaluation should focus on the risks and exposures inherent to the procurement function being evaluated. However, while performing the risk evaluation, the procurement professional should consider what controls are needed in order to minimise, if not eliminate, the risks and exposures (Maree 2010:8).

2.17.7 Treat Risk

Risk treatment involves assessing whether risk levels are tolerable and if not, generates risk treatment. Risk treatment options can include (State Procurement Board 2010:7):

- Avoiding risk by deciding not to start or continue with the activity that give rise to the risk;
- Taking or increasing the risk in order to pursue an opportunity;
- Remove the risk source;
- Acting to reduce the consequences;
- Acting to reduce the likelihood;
- Sharing the risk with another parties (including contracts and risk financing); and

- Retaining the risk by an informed decision.

It is important that the procurement manager take the necessary steps to manage and control the various fraud risks. (Venter 2007:88) mention that there are five alternatives in managing risks, namely: avoidance, acceptance, elimination, reduction and transfer of risks. These approaches to the management and control of risks are relevant and should be applied to the management of procurement fraud risks ('acceptance' of the fraud risk after controls, not accepting the occurrence of fraud).

- **Risk avoidance**

In the case of procurement fraud risk, it is almost difficult for management to avoid procurement fraud risks completely (Venter 2007:88).

Piney (2002) identified that risk avoidance entails taking actions so that the risk event no longer impacts procurement objectives. This can be achieved either through changing the way of carrying out the relevant activities or by modifying the objectives. If avoidance can be achieved for little or no cost that approach should obviously be taken. On the other, avoidance will be mandatory if the potential impact remains unacceptable

- **Risk acceptance**

Risk acceptance implies that management has made a deliberate decision not to put any control measures in place to decrease the risk (Hugo *et al.*, 2006, as cited in Venter 2007:88).

- **Risk elimination**

Risk elimination can be defined as the introduction of standards, procedures and actions that are needed in order to eliminate risks. Consequently, risks are neutralised, so that there is no possibility that they will be realised (Valsamakis *et al.*, 2005 as cited in Venter 2007:89).

- **Risk reduction**

Risk reduction implies limiting the possibility that procurement fraud will occur, and/or lessening the impact it will have on the enterprise. Reducing procurement fraud risk may be achieved by various methods and means such as physical measures, procedural measures, segregation of duties, training, performance indicators and high-level monitoring and legal procedures.

- **Risk transfer**

Procurement fraud risk can be transferred to a third party, it is usually not feasible for a procurement manager to transfer the responsibility for procurement fraud risks to a third party, and therefore this risk control approach is not available to the procurement manager. (Venter 2007:89).

2.18 Monitor and Review Risks on a ongoing basis

Companies should monitor risk and effectiveness of treatment throughout the procurement life-cycle. The nature of the risk may change throughout the course of the procurement and it is likely that the risk management process may need to be repeated and appropriate action taken as required (State Procurement Board 2010).

If the implementation and operation of the risk management process is not successfully monitored, all preceding steps and effort may fail (Ernst and Young – Indonesia 2005 *cited* in Venter 2007:91).

Organisation at strategic level should be able to monitor and measure the effectiveness of their risk management policies, strategies and demonstrate how risk management activities have contributed to the mission, values and effectiveness of the overall organisation (Mattingly 2004:20).

2.19 Supply chain and collaboration results

Ineffective collaboration has long been a supply chain sore spot, and its costs are set to rise drastically. If it's hard to agree on the right response to a disruption in a supply chain, it will be more difficult still when companies deal with multiple interconnected supply chains, each possibly requiring a different solution (Glatzel, Jochen and Ildefonso. 2011:2).

Many senior-management teams give precious little attention to supply chain issues. Across the trade-offs McKinsey's found for example that, no more than 26 percent of the respondents said that their companies reach alignment among functions as part of the supply chain decision making process. Moreover, 38 percent say that the CEO has no or limited involvement in driving supply chain strategy (Glatzel *et al.*, 2011: 5).

McKenzie's survey went on to reveal that CEOs looking to get started can benefit from asking themselves five questions and by beginning to search out situations where faulty collaboration may be preventing supply chains from reaching their full potential (Glatzel *et al.*, 2011:5):

- Is production capacity being developed in the right locations—both for today and the future?
- Is the sales group doing all it can to make demand smooth and predictable?
- Are customers offered the service levels they really need?
- Is my marketing department calling for too many niche products that may be too costly to supply?
- Are our purchasing and sourcing decisions being made with their supply chain implications in mind?

Poor collaboration and silo thinking have long frustrated the efforts of companies to get more from their supply chains. In a future characterized by rising complexity and uncertainty, solving this perennial problem may change from a valuable performance enhancer to a competitive necessity (Glatzel *et al.*, 2011:6).

2.20 Reducing risk by increasing procurement expertise

The reality is that supply chain has increased dramatically, but the companies' ability to support procurement with improved risk management capabilities has not kept the pace. Accenture experience has shown that applying innovation risk management practices to procurement could reduce raw material and commodity based product cost by up to 3 percent (Mulani 2009:20).

Further up the ladder might be a more advanced risk management capability such as the following (Mulani 2009:20).

- Formal risk management policy that articulates the organisation's risk appetite, risk limits, and risk taking policies.
- Additional tools focused on making holistic decisions across product portfolios.
- More sophisticated demand planning expertise, highly accurate demand forecast are key to defining optimal procurement batches, thus avoiding panic purchases and emergency transportation cost.

2.21 Mitigating Supplier Risk

For the company to achieve superior risk management capabilities, the key recognition is the balance between the company's commodity dependencies. The impact of commodity price volatility on the company's portfolio Accenture's experience has shown that four factors are generally required to significantly reduce procurement risks. Mulani (2009:20) identified the following capabilities that will assist in mitigating risk:

Firstly, given that a typical Company's strongest risk-management capabilities (and responsibilities) reside within the treasury function, it is vital that procurement and finance tighten their bond. One such link might be a corporate risk policy that aligns the Company's overall risk appetite with the comfort zone of each individual buyer or trader. Clearly-defined and shared responsibilities are also needed to ensure that finance and procurement work together to pool risks and hedge the company's total position accordingly (Mulani 2009:21).

Developing supplier contingency plans by documenting competitive suppliers and continually researching new suppliers are good strategies. Working with a critical supplier with whom you want to maintain a relationship may involve negotiating new payment terms or adjusting delivery dates (Dun and Bradstreet 2010:9).

2.22 Working together to manage supplier risk

In mitigating the risk of supplier failure which involves systematically assessing the likelihood and impact of failure and deciding where intervention is required, and, taking action as appropriate PwC (2009:4) identified the following in managing and reducing supplier risk:

- Identification of critical suppliers,
- Assessment of vulnerability,
- Contingency planning,
- Ongoing monitoring.

According to Benchmarking Partner Incorporation, component and raw material account to 35% of company cost, moreover the threat of lost production with customer fuming and orders lost weighs heavy on the minds of purchasing manager. This puts purchasing at the heart of risk management (Sadgrove 2005:73).

When a supplier becomes insolvent, supply ceases and the plant stops producing goods, and could be attributed to bad supplier, or to management decision relying on a single or distant suppliers about whom little is known (Sadgrove 2005:73).

Partnership sourcing and supplier development involves the process where supplier are deeply involved in the client business this include giving more information to suppliers, involving them at an early stage in the development project and giving them advance notice of production plan (Sadgrove 2005:75).

2.23 Research Questions

The literature review and some research conducted by reputable organizations like AON (2010) had shown an increased interest in ERM implementation. For purpose of effective risk identification and risk assessment with the aim of enhance shareholders value, the question that stands is what is the level of ERM implementation in Senwes and what are the challenges in the successful implementation of ERM in Senwes? Thus the following research remains:

1. Has Enterprise Risk Management implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigation in the entire enterprise with specific reference to procurement?
2. Is there an Enterprise Risk Management culture in Senwes that encourages full engagement and accountability at Senwes Village Procurement Department?
3. Is Risk Management being seen as core business practice with broad implication for strategy in procurement?

2.24 Conclusion

To develop a framework for risk mitigation in a Procurement environment, certain aspects must be in place, senior management must have a buy in and full support must be available. The risk culture, risk awareness should be promoted from high board to the executive authority and be in the language that will most certainly be understood and complied by all in an organisation.

Connecting strategy and enterprise risk management is critical for every company in its quest to create and protect shareholder value and corporate assets. Vigilance regarding forces of change means continuous strategic risk assessment and risk management that include managing both the upside and downside of risk. To be effective, risk assessment, risk management, and ERM should be embedded in strategic plans and budgets, execution plans, and performance measures. Using this approach can help management and boards protect corporate reputation, corporate integrity, and shareholder value.

In the words of Beasley *et al.,* (2005: 530), little is known why some organisations embrace ERM while others do not. This study provides some initial explanatory empirical evidence that highlights the organisational characteristics associated with the entity extent of ERM deployment.

The next chapter looks at research methodologies that were used to establish the extent to which the implementation of enterprise risk management framework and the alignment of it with organisational objective to mitigate procurement risk thereby increase shareholder's value.

Chapter 3

Research Methodology

3.1 Introduction

Research methodology refers to the steps or approach taken to link the research questions and objectives to data collection, analysis, and interpretation in a logical manner (Hartley 2004). The methodology to be used for a particular research problem must always take into account the nature of the data that will be collected in the resolution of a problem (Leedy and Omrod 2005).

The research questions arrived at is (1) Has Enterprise Risk Management implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigation in the entire enterprise with specific reference to procurement? (2) Is there an Enterprise Risk Management culture in Senwes that encourages full engagement and accountability at Senwes Village Procurement Department? (3) Is Enterprise Risk Management in Senwes being seen as core business practice with broad implication for strategy in procurement?

The aim of the study is to determine the extent to which enterprise risk management can be implemented in mitigating procurement risk. To validate this, it is necessary to collect information from a target population using correct a methodology and then analyse the responses. Overall, this chapter describes the research methodology used in this study; the data collection method chosen, types of questions that can be asked and the development of the questionnaire, the survey population and sample size determination; data handling and concludes with the discussion of a researcher's compliance with research ethics.

3.2 Research Types

3.2.1 Qualitative and Quantitative Research

According to Leedy and Ormrod (2005), all research can be categorised as qualitative, quantitative, or what he refers to as triangulation. The nature of the data and the problem for research will dictate the research methodology. If the data is verbal the methodology is qualitative and if the data is numerical the methodology is quantitative.

Quantitative analysis is a formal, objective, systematic process in which numerical data are utilized to obtain information about the world. It involves either identifying the characteristics of a phenomenon or exploring the possible correlation among two or more phenomenon (Leedy and Ormrod 2005). It is neither intended to involve experimental investigation by changing or modifying the situation under investigation, nor does it aim to determine the cause-and-effect relationships. It is intended to examine the situation as it is, without any alteration (Leedy and Ormrod 2005).

Drott (1989) asserts that quantitative methods involve systematic evaluation of alternative actions as a basis for choice between them. Furthermore, Drott emphasizes that the application of a quantitative method involves setting up models of the problems to be analysed, selecting inputs to the models which quantify the judgements of those responsible for organizational decision and deriving the model's outputs from inputs.

A quantitative method examines the "extent to which differences in one characteristic or variable are related to differences in one or more other characteristics or variables" (Leedy and Ormrod 2005).

Below is a table describing the difference between the qualitative method and quantitative method.

Table 3.1 Distinctions between quantitative and qualitative methodology

Qualitative	**Quantitative**
Counting only if clearly necessary	Bias toward counting
Favour greater personal investment in the data	Favour a more detached, impersonal orientation toward the data
Encourage substantial flexibility in research procedures - no strong prototyping models to follow	There are relatively clear mental models for the research designs - more rule driven
Focus more on understanding organizational processes and less predicting outcomes	Focus more on predicting outcomes and less on process variables
Heavily grounded within the local context in which the phenomena of interest occur. As a result generalizing empirical results to a larger population or other settings can be problematic	It is typically presented as more context-free and therefore more generalisable
More explicit about participants' reactions	Less focus on participant reactions

Table 3.1 Distinctions between quantitative and qualitative methodology (*Source*: Cassel and Symon 1994).

3.2.2 What data is required?

Primary and Secondary Data

Primary data refers to original information that is collected by the researcher specifically for the research study at hand, for example data obtained through interviews and surveys. Secondary data refers to information that has been previously gathered by someone else for some other purpose which can be reused by the researcher. Secondary sources include

books, journal articles, and reports among others. Leedy and Ormrod (2005) refers to primary data as layer closest to the truth and secondary data as a layer farther away, which are not derived from the truth itself but from the primary data instead. For this study both primary and secondary data were used. To extract meaning from the data, we employ what is commonly called research methodology (Leedy and Ormrod 2005). A survey was used to acquire primary data; and secondary data will be drawn mostly from organisational annual reports, company magazines and available literature in the academic field.

3.3 Data collection method

3.3.1 Methods for collecting primary data

There are several types of research methods that can be used to collect primary data. Interviewing is probably the most common data gathering method in qualitative research (Leedy and Ormrod 2005). It can be described as the "meeting of two persons to exchange information and ideas through questions and responses, resulting in communication and joint construction of meaning about a particular topic" (Esterberg 2002). In qualitative studies, interviews are often quite open-ended; however in survey research interviews are fairly structured (Leedy and Ormrod 2005).

a) Interviews

According to Leedy and Ormrod (2005), in quantitative research interviews are more structured than in qualitative research. In a structured interview, the researcher asks a standard set of questions and nothing more.

- **Structured interview**

A structured interview is the most formal and rigid of the types and most likely used in survey research, telephone interviews and market research (Leedy and Ormrod 2005).

- **Semi-structured interview**

Semi-structured interview is also known as in-depth interviews (Leedy and Ormrod 2005).

- **Unstructured interview**

An unstructured interview is usually conducted in the field in conjunction with an observational study (Leedy and Ormrod 2005).

b) Survey

A survey is characterised by the systematic collection of numeric/quantitative data from a group of entities using direct observation.

In this study, the primary data were collected by means of survey using a structured questionnaire which was handed to the employees and management who will be asked to fill in the questionnaire as well disseminate it to other decision makers in their areas. The reason for taking this route is time and cost efficiency given the geographic location of business units and the size of the company. A survey is a good way, often the only way, of getting a picture of the current state of a group, a community, an organisation, an electorate, a set of corporations, a profession.

A survey was conducted to test the association between risk management information quality and managerial procurement decisions. The aim is to establish the extent to which the risk management could be used in identification of procurement risk which impact on managerial decisions. The preferred design for the survey was cross sectional because there will be no sufficient time to do observations of participants over a long time.

3.3.2 Questionnaires

The questionnaire was used as the data-gathering tool. This allowed the collection of quantifiable and qualitative data and allow for the analysis of this data to determine patterns and relationships. The proposed survey questionnaire was on word document. The management personnel who were selected will be asked to complete the survey. Both Tse (1998) and Schaefer and Dillman (1998) have found significantly faster response times with e-mail surveys. A copy of the questionnaire was also being attached as a convenience to the participant and to prevent the loss of the questionnaire from being cited as a reason for the lack of a response.

The table below refers to the questionnaire outline.

A short disclaimer describing the purpose of the study and the permission required by the researcher to use participants responses for research purpose – **Part 1**	
Questionnaire	
Part 2 Questions 1 to 6	Gathers biographical data on the respondents including age, gender, and qualifications
Part 3 Questions 7 to 12	Looks at dedication and commitment shown by the board of director in Senwes.
Part 4 Questions 13 to 25	Focuses on specific questions with regards to the culture of managing risk in Senwes.
Part 5 Questions 26 to 36	Focuses on gathering evidence on whether the enterprise risk management is seen by Senwes employees as the business necessity and the challenges in not implementing the program

Table 3.2: Questionnaire Outline

3.3.3 Sampling Method

Sampling strategy that is, designed and its size depends on the research paradigm. The quantitative method requires random and representative sampling characterised by larger samples (Leedy and Ormrod 2005). Sampling, according to Fink (1995), means taking any portion of the population as representative of the target population. A population is a set of all cases of interest (Shaughnessy, Zechmeister and Zechmeister 2003). The population of interests for this study is all the employees, procurement officials and managers from their business areas who are involved in procurement decisions and responsible for identifying the related risks. The participant will have to meet the following criteria to be included in the sample:

- The participant must be a Senwes employee.

- The participant must be an employee of Senwes, and, be involved in procurement decision-making and, the participant must have worked in this role at least for 2-4 years.

The restriction of at least four years of experience is stipulated because employees who are new may not have sufficient experience in dealing with procurement and quality issues and this could skew the results. To get a fair representation in the sample, a list of names and email addresses of Procurement Heads were obtained and randomly selected, the sample to be used in the survey following the stated criteria.

Krejcie and Morgan (1970) provided a table for the establishment of the appropriate sample size (S) based on the size of the population (N). In terms of this study, N = 60, S = 47, for this study, S will be taken as 47. Thus, a minimum of 47 completed questionnaires were required for meaningful conclusions to be drawn from the data gathered from the survey.

3.3.4 Types of variables

Each question in a questionnaire or collected in quantitative research, gives rise to a variable. A variable is thus an empirically observable characteristic of some phenomenon that can take on more than one value or response category (e.g. gender, job level, level of agreement with a statement, profit, percentage of budget spent on advertising (Diamantopoulos and Schlegelmilch 2004).

Nominal variables - the response categories can be placed in any order and the numbers assigned to the response categories have no other property except to serve as labels.

- Nominal variables allow us to categorise responses.
- For nominal variables we can determine how many (frequency) or what percentage of responses fall in each category.
- The response categories should be mutually exclusive and collectively exhaustive.
- Numbers assigned to the categories have no numerical meaning.

Ordinal variable - the response categories have a certain order and the numbers assigned to the response categories also have an order.

- An ordinal variable allows us to categorise responses.
- Can determine how many (or what %) of responses are in each category.
- The order of the numbers assigned to the categories has meaning.
- The numbers assigned to ordinal variables do not have meaning.
- An ordinal variable allows us to rank or order responses.
- The difference between consecutive categories need not be the same.

Ratio variable – it is a numerical variable where there is some standard unit of the property being measured. The distance between consecutive numbers is the same. Hence one can make accurate statements on the differences between cases.

- A ratio variable allows us to categorise responses.
- We can determine how many (or what %) of responses are in each category
- The numbers assigned to a ratio variable have numerical meaning.
- The order of the numbers assigned to the categories have meaning
- A ratio allows us to rank or order responses.
- The distance between two cases can be calculated, that is we can say how much more or less of the measured property cases contain.
- The ratio of two responses can be calculated.

A combination of variables was used in the survey. In order to identify participants, nominal and ordinal variables would be used. Survey questions would vary from ordinal to ratio variables, depending on how the questions are posed.

3.4 Ethical considerations pertaining to the study

According to Reinard (2001), the researcher may delete all names and identifiers from the data and report only on the broad categories of responses to help ensure confidentiality. In this study, participants remained anonymous and the participation was entirely voluntary. It was considered unethical to use any personal details of respondents in the report, which

can identify who the respondent is. Each participant was informed of the exact nature of the research and participation in the survey will be entirely voluntary. Participants were assured that the information provided would not be used for any purpose other than stated.

If this type of research has been conducted by other researchers, it was ensured not to commit plagiarism and to give credit to all authors that were drawn from to compile the body of knowledge for the research study.

3.5 Limitations

The major limitation of a questionnaire is the inability of the researcher to ensure a sufficiently high return rate. The returned questionnaires may not be representative of the sample originally selected for the specific disciplines, which may impact on the relevance of the research findings.

3.6 Conclusion

This chapter described the research design and methodology used in this study. Further, it looked, research type, population, sampling method, and data gathering methods from a theoretical perspective.

A discussion of how these were applied in this study was also presented. Justifications for the choices made were also given. Both Tse (1998) and Schaefer and Dillman (1998) have found significantly faster response times with e-mail surveys, and the same was done for this study as it has used e-mail survey approach. The next chapter presents the study findings that would be used in rejecting or accepting the raised questions.

Chapter 4

Data Discussion

4.1 Introduction

This chapter discusses the research findings and provides an analysis and interpretation of the data. In the survey, certain specific questions were asked and the analysis was done based on an application of Pearson correlation coefficient and p-value. The Pearson correlation coefficient method correlates all listed variables with each other (taking two at a time) and indicates which of the resulting relationships are statistically significant. The p-value provides information on how far down in the significant region the result lies (Diamantopoulos and Schlegelmilch 2004).

The problem identified was to investigate the implementation of Enterprise Risk Management in Senwes to mitigate procurement risk. The implementation of the enterprise risk management will be helpful to Senwes in helping management understanding what their employees perceive risk and procurement to mean in procurement activities. Furthermore, to determine whether Senwes organisational culture encourages procurement officers to take full responsibility when performing their duties and assume accountability for procurement risk.

This chapter starts with a descriptive introduction, based on the biographical profile of the respondents, information about risk and type of work being done on risk, the findings of the target employees perceptions regarding the impact of risk in procurement, the knowledge and understanding of what risk is and finally the measure of association between two or more variables is tabled and discussed.

4.2 Return rate

The total number of questionnaires distributed by e-mail and by hand is a total of 60 where 50 was by e-mail to a group of employees who are based in Senwes Village which form the bulk of the distribution targeted, an additional number of 10 questionnaire were distributed to middle and senior management as well as to other department across Senwes company.

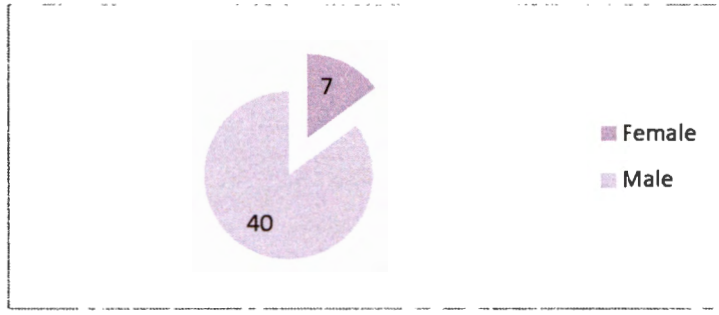
The response rate to the questionnaire was 47 representing 78% of the entire questionnaire distributed. The response rate was high given the nature and sensitivity of the topic and coupled with the fact that the participation was fully voluntary, this was deemed acceptable.

Data in questionnaires were summarised on a spreadsheet and the statistics were calculated using SPSS as summarised on Table 4.1.

The results on the demographic of the response and the information about the risk and the type of work done is discussed below, for reference purpose the questionnaire could be obtained from Appendix 1 and Appendix 2 of the research.

4.3 Demographics of the respondents

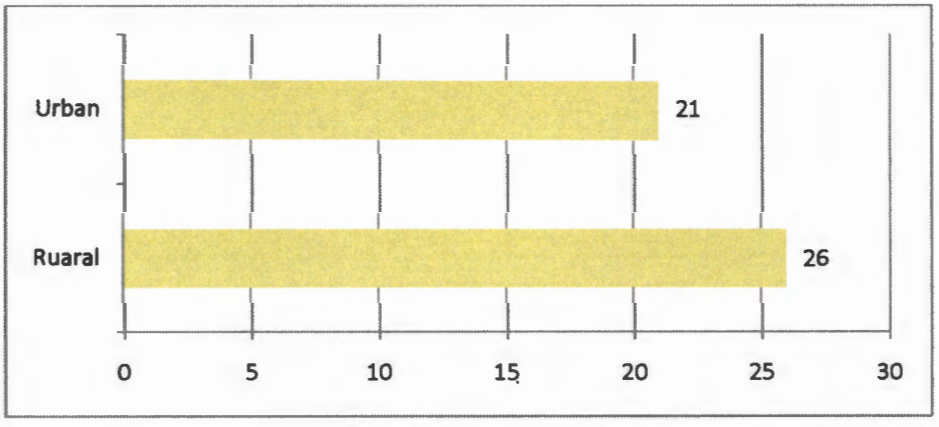
Figure 4.1 Gender



Out of a total number of 47 respondents, 7 (15%) were female, and the remaining 40(85%) were male. As no preference was given to gender, the sample breakdown is considered as being a fair representative of the demographics of the risk and procurement section. These figures reflect that the employees that responded on risk and procurement questionnaires are dominantly male employees. This may be due to the fact that risk and procurement role

was traditionally a male role and given that the historical background supported employment of males into any working environment. This could be the reason of the high representation of male employees' participation within procurement and risk questionnaire.

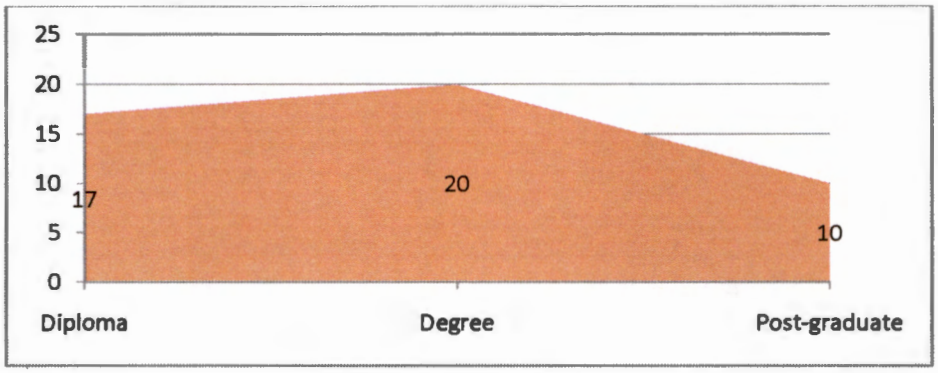
Figure 4.2 The region where I grew up



Quality of life is one of the central issues to consider in any comparison between rural versus urban living. Important factors in the comparison include the capacity to make general choices, diversity, health, and employment concerns. Rural and urban living offer great benefits as they both have a seemingly equal number of drawbacks. Rural and urban areas are generally similar in terms of human interaction but differ most widely when diversity and choice are issues (Health First, 2010).

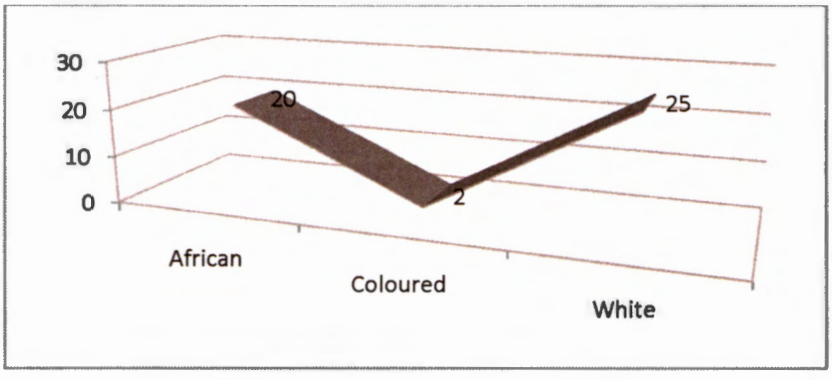
About 55% of the respondents are originally from the rural areas and due to the absence or lack of decent employment opportunities they had to relocate to the city where they found decent employment opportunities, while 45% of the respondents were born in the city.

Figure 4.3 Qualifications



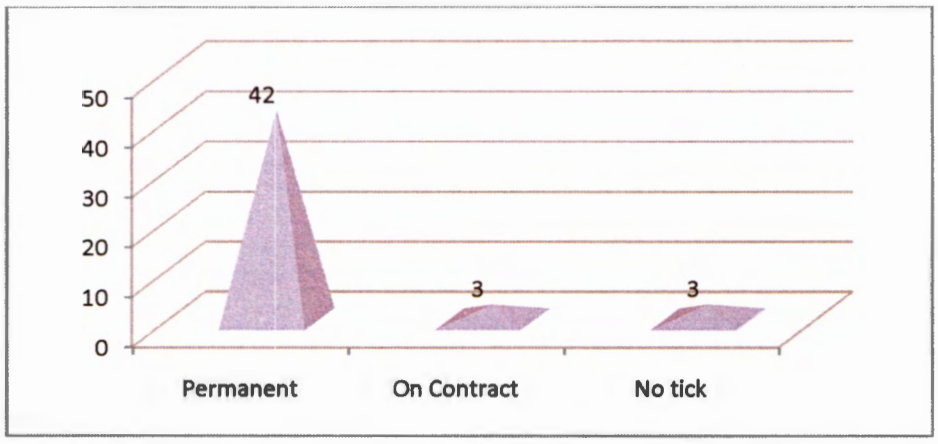
The majority of the respondents have a decent education or qualification with 36% of the respondents in possession of the diploma qualification, 43% of the respondents have a degree qualification and 21% of the respondents have a postgraduate degree, for purpose of this dissertation the level of qualification is not relevant in determining the understanding and knowledge of risk.

Figure 4.4 Race of Respondent



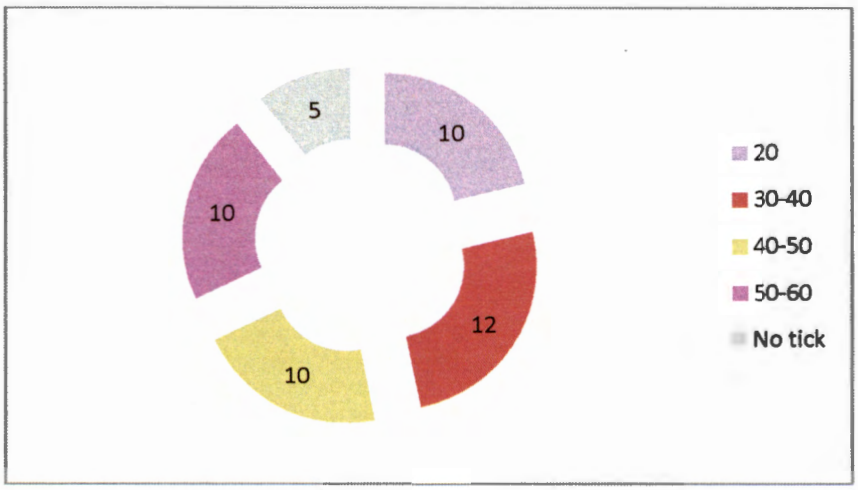
The highest response was received from the whites representing 53% of the total respondents. This could be because Senwes is predominantly a white firm; the second response rate is received from the Africans with 43% followed by the coloureds with 4%.

Figure 4.5 Appointment (status)



From 47 completed questionnaires, 42(89%) of the respondents occupy permanent positions in the organization while 3 (5%) are employed on a contract. This indicates that a level of experience and knowledge is contained by most employees that are permanently employed, and have matured in the organisation, thus giving the respondents a better understanding of what organisational culture in Senwes is and the level of risk implementation in Senwes procurement. The "no" tick mark has no potential impact on the research as no preference was given to either permanent or employees on contract basis.

Figure 4.6 Age.



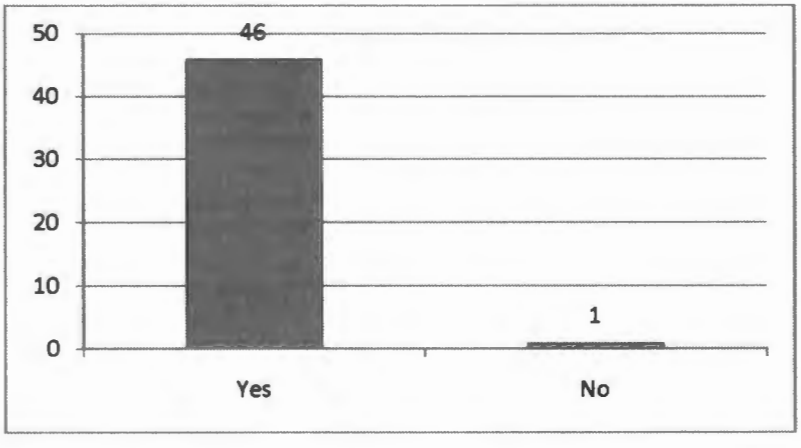
From the 47 questionnaires received from the respondents, 10 (21%) were aged between 20 and 30 years; 12 (26%) were aged between 31 and 40 years; 10 (21%) were aged

between 41 and 50 years; and 10(21%) were aged between 51 and 60 years and respondent with a no-tick on age represent 5(11%) of the respondents. The majority of respondents were aged between 31 and 40 years. This is an average age group within the working class that may have acquired sufficient work experience to understand the role and the implications of risk in procurement and the importance of risk mitigation.

4.4 Information about the risk and the type of work being done on risk

The response arising emanating from the research question are provided and tabled hereunder as obtained from results of the empirical research (1) Has Enterprise Risk Management implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigation in the entire enterprise with specific reference to procurement? (2) Is there an Enterprise Risk Management culture in Senwes that encourages full engagement and accountability at Senwes Village Procurement Department? (3) Is Enterprise Risk Management being seen as core business practice with broad implication for strategy in procurement?

Figure 4.7 Board in Senwes

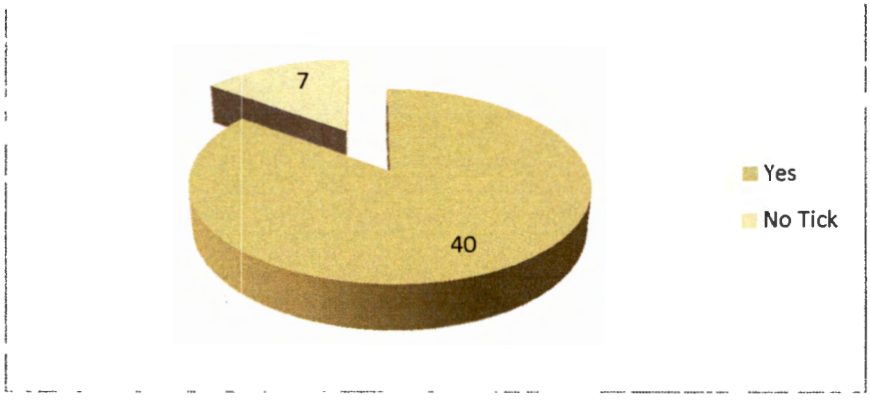


The respondents gave confirmation of the existence of the board of directors with about 46 (98%). The response provides an indication of the understanding of the respondents business. The role of board of directors in their organisation, whose place is to instill an appropriate discipline around continuously improving risk management capabilities, examples of elements of ERM infrastructure include, among other things, an overall risk

management policy, an enterprise-wide risk assessment process, presence of risk management on the Board and CEO agenda, a chartered risk committee, clarity of risk management roles and responsibilities, dashboard and other risk reporting, and proprietary tools that portray a portfolio view of risk. Only 1 (0.02%) did not provide a tick due to ignorance or lack of information.

The key factors relation between a firm's ERM system and its performance is found on the five key factors that are critical in understanding the relationship and are the following: environmental uncertainty, industry competition, firm size, firm complexity, and a board of directors monitoring (Gordon 2009). ERM is designed to increase the board and senior management ability to oversee the portfolio of risk facing an enterprise (Beasley *et al.*, 2005:522).

Figure 4.8 Board setting tone at the top in Senwes?



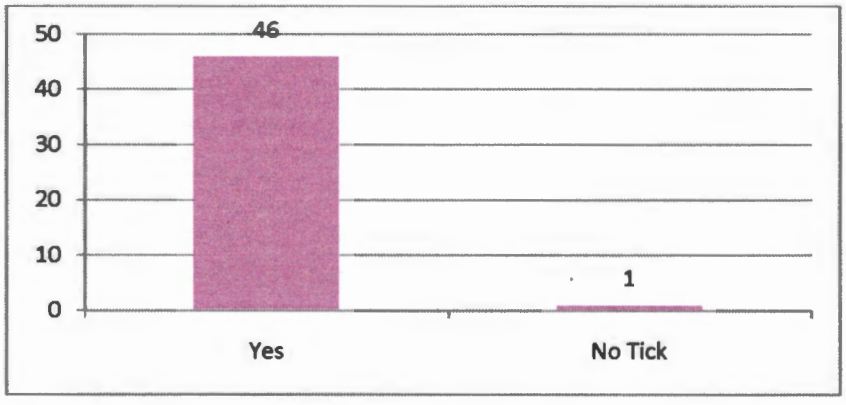
This survey has shown agreement from respondents that the board is at the top of setting the tone in Senwes. This is vital in developing and maintaining the ethical integrity of the business. Without it, the ability to mitigate the risk of something going wrong is significantly impaired. This is encouraging news and positive affirmation that organisations are responding to the emerging and increasing risks around conducting business on an ethical basis across the enterprise.

The board and senior management provide what is often referred to as "tone from the top." This includes developing the ERM framework, allocating sufficient resources, and engaging in risk policy discussions. The company's risk appetite is also defined in risk

policies and limits. Education and learning is another key component, which includes training programs and organizational processes that share best practices and lessons learned. To motivate desired behaviour, incentive systems should incorporate risk management effectiveness and risk-adjusted profitability measurement (Lam and Associates 2006:5).

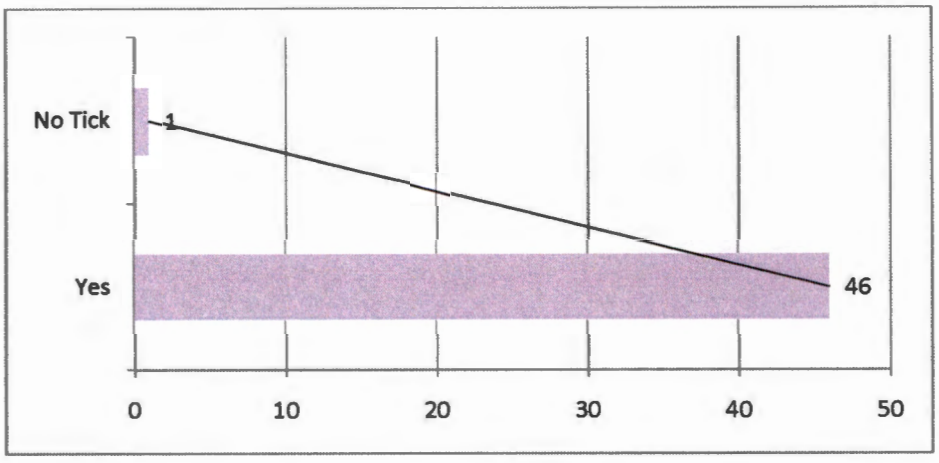
The 2009 PwC survey indicates that the challenges for leaders now is not only to set the right tone from the top, but also to move from a command and control management model. This requires people to obey orders rather than to take personal responsibility for doing the right thing. A morally mature business encourages constant dialogue around common purpose, shared values, good behaviour and sustainable outcomes.

Figure 4.9 Board allow sound risk management practices



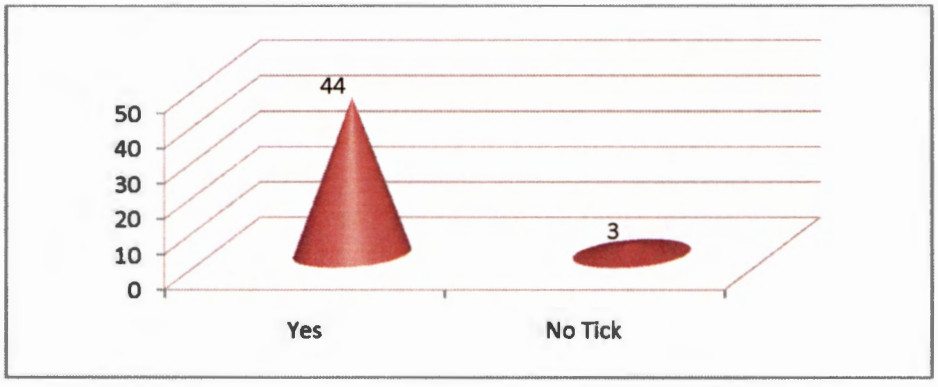
About 98% of the respondents strongly agreed that the board allows sound risk management practices; this is an indication that the respondents are convinced that the board either significantly or entirely understands or supports risk management activities. Board level commitment to an enterprise risk management initiative is absolutely critical in achieving the value from ERM efforts. The respondent turnover suggested that enterprise risk management is at a growing stage with the board allowing a sound risk management practices. Internal environment encompasses the tone of an organisation and sets out the basis for how the risk is viewed and addressed by the entity's people, including the risk management philosophy and risk appetite, integrity and ethical values and environment in which they operate (Nazir 2006:2).

Figure 4.10 Board providing oversight on procurement compliance with applicable law and regulation?



Oversight of risk management should be an acknowledged responsibility of the board of directors, and 98 percent of the respondents confirmed that Senwes board of directors had overall oversight responsibility for the management and control over the risk on procurement of goods and services. As part of this responsibility, the board of directors should consider and approve a clearly-stated risk framework that will mitigate procurement, associated risk policies, which should be communicated throughout the organizations procurement division. In addition, the board of directors should approve a statement of the institution's risk appetite, and the survey results indicate that many do. A formal statement of risk appetite can provide strategic direction for business decision-making by making explicit the amount of risk that an institution is willing to take. The no tick may be a result of a lack of understanding of the relationship between procurement and risk by the respondent.

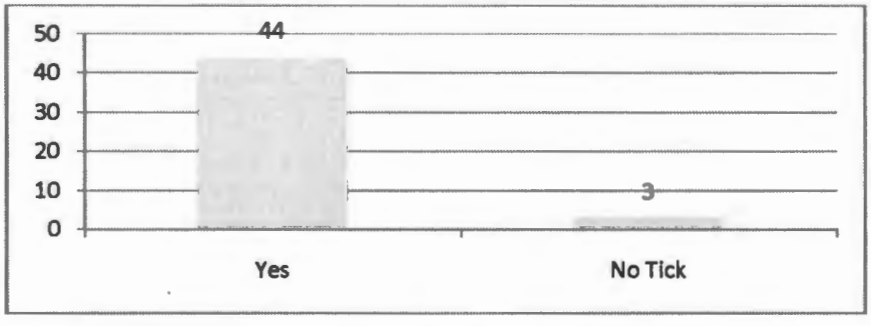
Figure 4.11 Is the board approving transactions not only during the ordinary course of business?



The board has the prerogative as well as the responsibility to approve transactions at any time during their sitting. Any transaction that is outside the mandate of management is referred to the board to authorise it be it during normal course of business, as long as the transaction is ethical and legal. About 94% of the respondents confirmed the prerogative of the board in terms of the power vested in them to approve any transaction during the ordinary course of business.

About 6% of the respondents made no tick; this could be due to their lack of knowledge on the nature of the duties the board has over the company.

Figure 4.12 Is the board applying corporate governance as a key part on procurement?



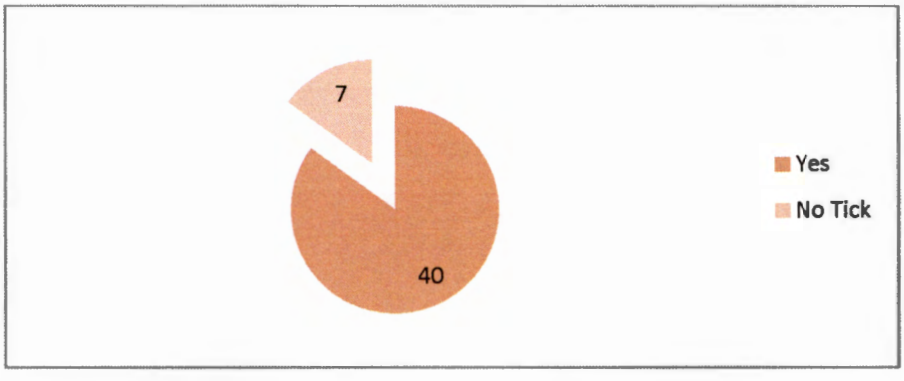
Good Corporate Governance forms the basis of all Senwes decision-making and monitoring processes and they subscribe to the highest standards of integrity in all their dealings.

In terms of the mandate granted to the board by the shareholders, it is apparent that the majority of the respondents confirmed commitment by the board on applying corporate governance as a key part on procurement with 94% of respondents confirming that Senwes has, and is ensuring an efficient, effective, economic and uniform procurement of goods and services as required by the organization. This is made with compliance to South African rules and regulations as set by the government of South Africa.

Thus, Knight (2006) *cited* in Manab *et al.*, 2010 defines corporate governance in relation to risk management as "the way in which an organisation is governed and controlled in order to achieve its objectives". The control environment makes an organisation reliable in achieving these objectives within an acceptable degree of risk

Corporate governance initiatives are developed through corporate governance bodies and institutional investors. Risk management is linked with corporate governance standards and has been named as a responsibility of the board of directors. This regulation is applied to the public listed companies (PLCs) and some of requirements have been legislated and some are simply recommended (Manab *et al.* 2010: 5).

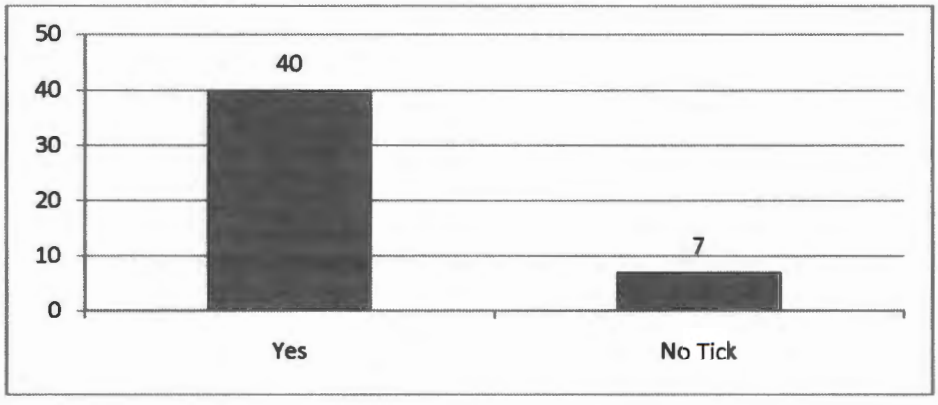
Figure 4.13 Is the risk part of core business procurement in Senwes?



The results indicate that risk management is a "must have" capability, in other words, a link can be established between the level of procurement performance a company has achieved and the depth and sophistication of the risk management solutions it has implemented.

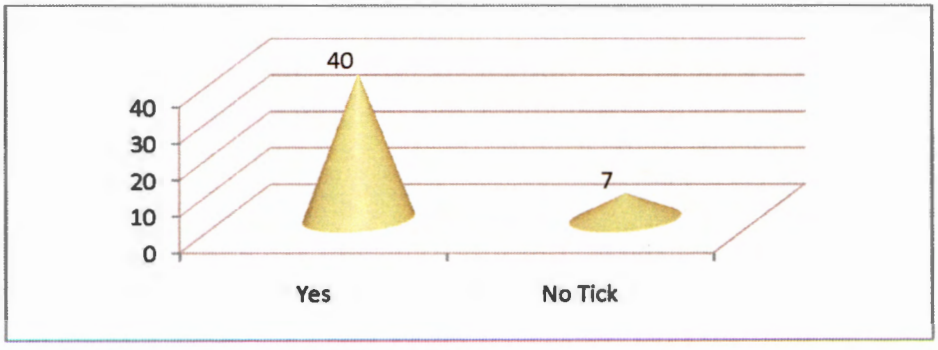
About 85% of the respondents knew that risks affecting procurement have impact that extends far beyond the procurement. One key to successful risk management in procurement is to ensure its presence across all the organisations with which procurement interacts on a regular basis—from product design to manufacturing to supply chain management to service and spare parts management. Only 15% of respondents did not tick the question in questionnaire.

Figure 4.14 Has there been strategic implementation of risk in Senwes?



The presence of the group risk manager, the buy - in from the board of directors and risk committee have laid down the strategic implementation of risk in Senwes. This was confirmed by 85% of the respondents who have seen and experience its implementation and only 15% of the respondents have not made a tick.

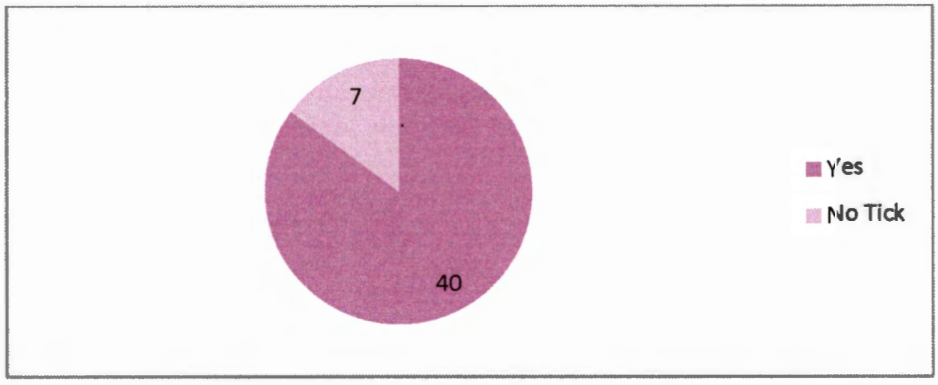
Figure 4.15 Is there documentation strategy explaining risk management in Senwes?



The responses from survey participants could be that they are all in possession of such a document explaining what risk is.

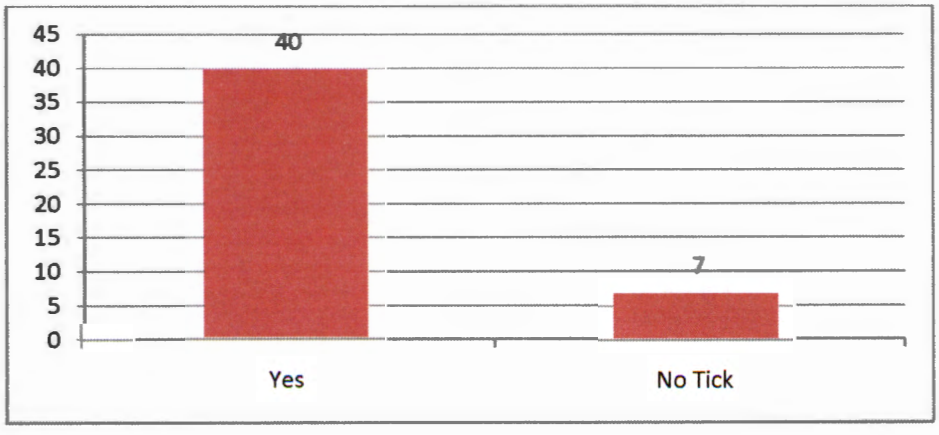
The documentation strategy explaining risk management function should determine that risks are defined and monitored consistently within the context of the organization's risk policy. The 85% response rate confirms the existence of the documentation strategy explaining what risk management is, and how it applies to the Senwes environment. Risk management responsibilities may need to be infused throughout the organisation and integrated into performance goals and compensation decisions.

Figure 4.16 Is there a risk management committee in Senwes?



Senwes has developed an ERM governance oversight structure in the name of a risk management committee to handle the risk. The chairman of the risk committee is the member of the board of directors, 85% of participants confirmed the existence of the risk management committee.

Figure 4.17 Is the procurement strategy understood by purchasing division in Senwes?

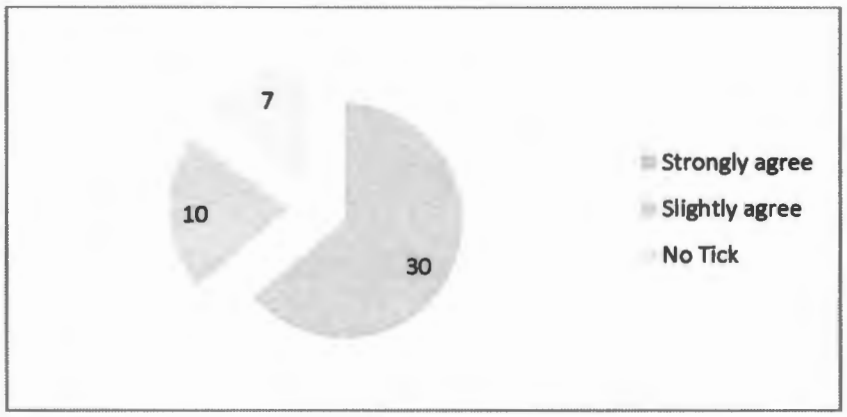


The purchasing divisions understand procurement strategy and know the purpose of procurement. This means that the procurement officials are naturally concerned about the risk. The results confirm that procurement officials are clear in their belief that the value proposition that underpins their own procurement function is really about managing and leveraging risk in an effort to secure value. The positive 85% response rate from participants confirms that the procurement strategy is understood.

The level of success or failure of procurement to achieve its goals is determined by how well procurement professionals understand their roles and their operating environment. To achieve a sustainable supply of materials and services, all risks associated with supply need to be identified, analyzed and managed with appropriate strategies (Mlalazi 2010).

Supply chain executives need to understand the corporate strategy and goals so that they can own and align the procurement strategy and goals to that of the organisation. For purchasing objectives to reflect and be aligned to corporate objectives, it is critical that corporate objectives and strategies are defined, and then used to derive the purchasing objectives and strategy (Mlalazi 2010).

Figure 4.18 Does an organisation's culture have an impact on the ability to prevent the risk?

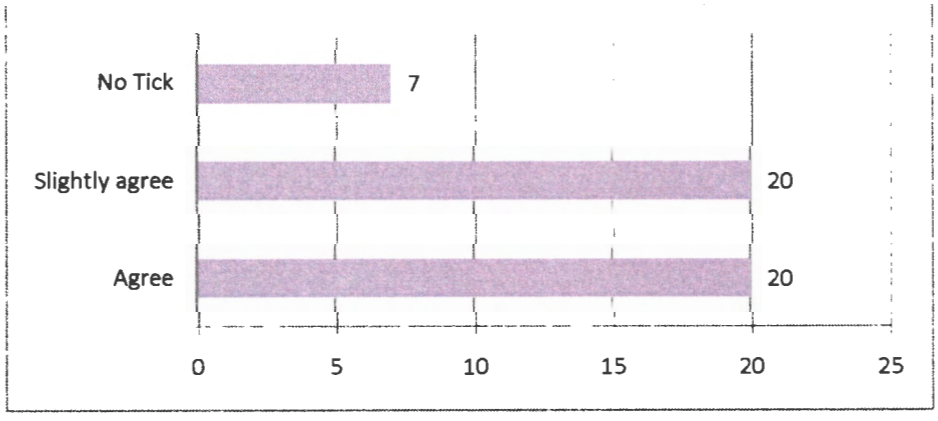


When the organisational culture is proactive and responds positively to the risk it confirms that the organisation has the potential to prevent the risk from happening. Senwes board of directors and senior management teams will have to seek additional education and training on risk management if they want to have everyone strongly agree to what they stand to

offer. Senwes may need to create a more risk-aware culture, further infusing risk management into performance objectives and business decision eventually they will need to have everyone believing in their ability to prevent the risk.

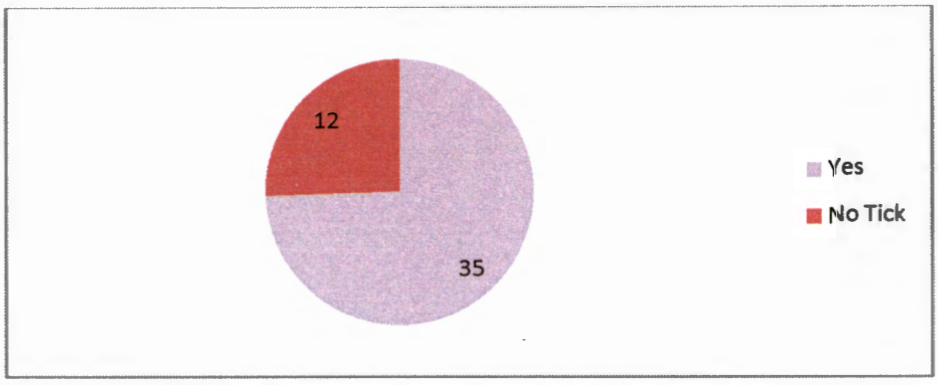
Information Systems are essential to virtually all organisations, in order to protect the confidentiality, integrity and availability of information. Security controls must be employed which can effectively avoid loss of information.

Figure 4.19 Does culture encourage the procurement officer to take full responsibilities and accountability for procurement?



The organisational culture should be able to direct the activities of the organisation towards achieving the organisation's objective by setting the code of conduct and the manner in which the responsible personnel have to behave. They conduct themselves whilst performing the function in their area of responsibility. About 43% of the respondents "feel" that the Senwes orga nisational culture encourages responsibility and accountability in procurement sections when officers conduct their procurement duties. The other 43% slightly agree.

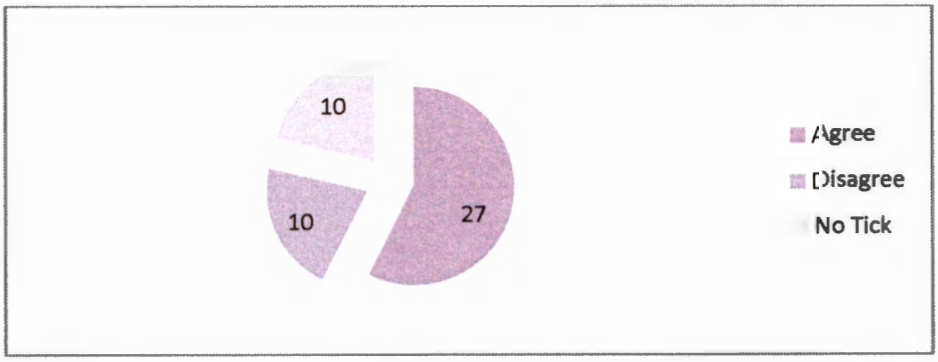
Figure 4.20 Is the procurement function centralised?



The Centralized Organizational Model is recommended for an organisation that has similar products or services, common channels of distribution, and a single to a few core competencies. About 74% of the respondents 'feel' that procurement is done from Senwes Head Office and requisition and orders are handled centrally.

The structure and nature of the business can also provide opportunities for fraud. KPMG named that there is a risk in widely decentralised operations, especially in some emerging economies. Procurement fraud tends to occur where there is an opportunity, and these opportunities can emerge as a company changes and grows. Keeping controls up to date with technology and the growth cycle of the business is critically important (KPMG 2010:5).

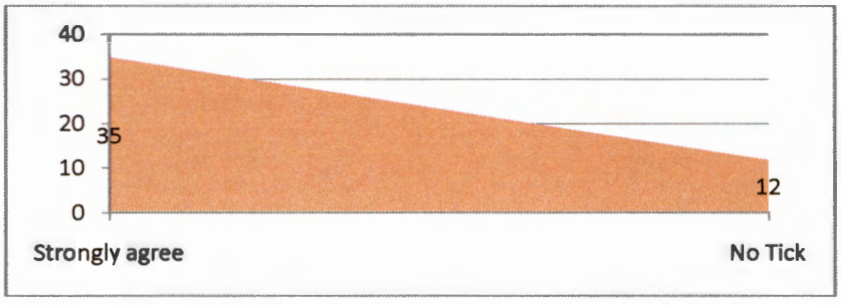
Figure 4.21 Overall top management is highly committed to socially responsible buying?



Management as the people who are responsible for the overall organisation must uphold the rule of law and motivate by being exemplary. They commit themselves to a socially responsible buying, green procurement, environmentally friendly, not being unethical by polluting the environment when they dispose of waste material. About 57% of the respondents believe that management is buying responsibly and they are responsible citizens. About 21% don't agree that the top management is committed to the procurement of goods that are not detrimental to the environment.

Corporate Sustainability Risk—one of the areas that's often overlooked in risk management is related to corporate sustainability and corporate social responsibility (CSR). The risks and opportunities facing companies in the area of corporate sustainability are more complex and have greater potential impact than ever before, and senior executives, board members, and managers should seek better ways to manage these challenges and opportunities. Marc Epstein presents a definition for corporate sustainability that's useful in strategic risk management. He focuses on nine principles of sustainability: ethics, governance, transparency, business relationships, financial return, community involvement/economic development, value of products and services, employment practices, and protection of the environment. Each of these areas can be assessed as part of strategic risk management. For example, changes in environmental regulations and expectation of environmental standards for companies in a global business environment should be considered in risk assessment and risk management strategies (Frigo, 2008:48)

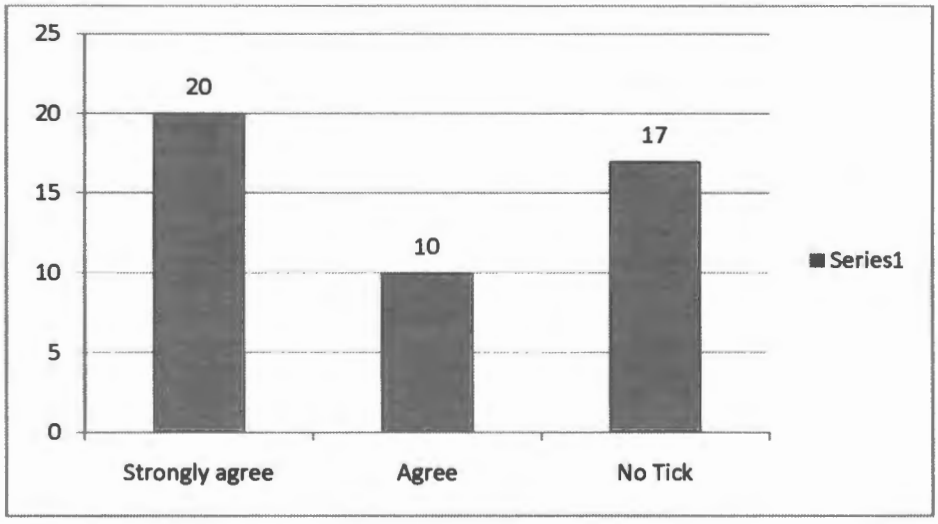
Figure 4.22 Cost, product quality and supplier sustainability should play important criteria when Senwes identifies a new supplier



For the organisation to survive in any environment it needs to apply a cost leadership strategy, be innovative and responsive in terms of their product quality and differentiate them in terms of the product they offer. It should be able to know that the supplier would able to deliver the product in the agreed condition. About 74% of the respondents strongly agree that the presence of both the cost, product quality and the suppliers' sustainability should be present in the minds of the decision makers when the new supplier has to be identified.

Developing supplier contingency plans by documenting competitive suppliers and continually researching new suppliers are good strategies. Working with a critical supplier with whom you want to maintain a relationship may involve negotiating new payment terms or adjusting delivery dates (Dun and Bradstreet 2010:9). Procurement personnel execute a sourcing strategy that considers price and availability of raw materials, and ensures a reasonable level of inventory to meet demand. On the other hand, experts in corporate trading support procurement by pooling purchases and contracting with market participants on future purchase volumes and prices (Mulani 2010:21).

Figure 4.23 Purchasing performance should be measured in terms of its contribution to Senwes's success.



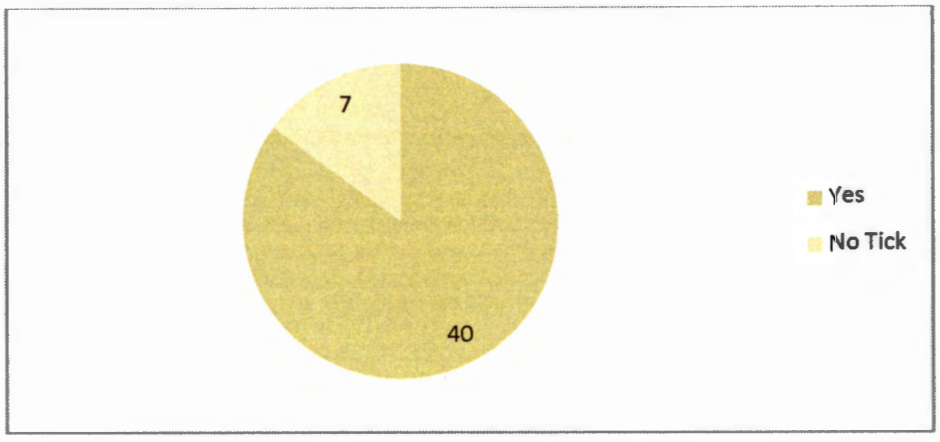
The sustainability and capabilities of the supplier is measured against the ability to produce a product at the required quantity, price, and quantity. This should be the measuring stick

to determine the performance of the supplier. The benefits for Senwes would be to deliver the product to the customer in time when the need arises from the customer for specific goods. There is nothing irritating the customer than waiting for an item that is nowhere on the Senwes shelves, 43% strongly agree that purchasing performance should be measured in terms of the contribution it brings to Senwes.

Effective procurement requires the utilisation of sound business practices to maximise value to the organisation through the acquisition of goods and service. Employing the best practice in procurement ensures that the organisation and ultimately the professional make correct decision. This means that the organisation must develop plans that are aligned with its goal and best interest, frequently this evolve from well defined sourcing strategies developed to help the organisation achieve its overall objective, in turn sourcing strategies rely on a clear set of tactical procedure to ensure their implementation (Sollish and Semanik 2007:2).

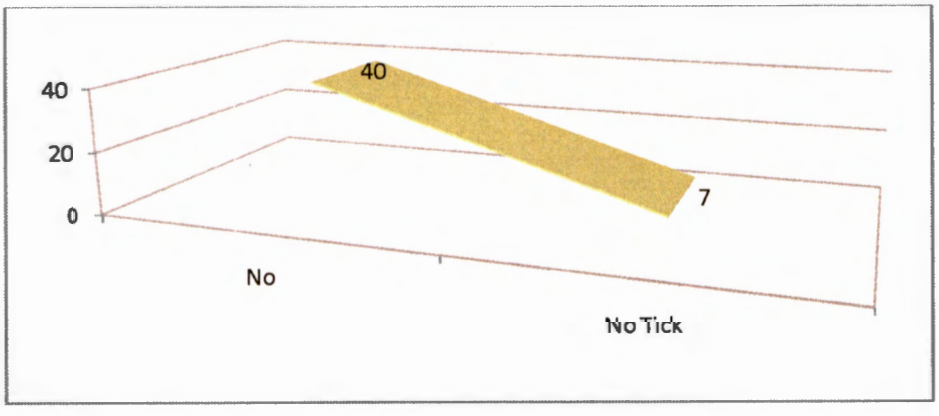
According to Mulani (2009), the company's strongest risk-management capabilities (and responsibilities) reside within the treasury function. It is vital that procurement and finance tighten their bond. One such link might be a corporate risk policy that aligns the Company's overall risk appetite with the comfort zone of each individual buyer or trader. Clearly defined and shared responsibilities are also needed to ensure that finance and procurement work together to pool risks and hedge the company's total position accordingly. This also helps individual buyers see the effect that their purchasing decisions have on the company (Mulani 2009:21).

Figure 4.24 Do you know what risk management is?



When the employees know and understand what risk management they are in better position to manage and reduce risk this is evidenced by the 85% of the respondents who know what risk management mean. King III Report (2009:73) highlights the importance of a thorough understanding of the risk of the organization and states that risk management is inseparable from a company strategy and business process.

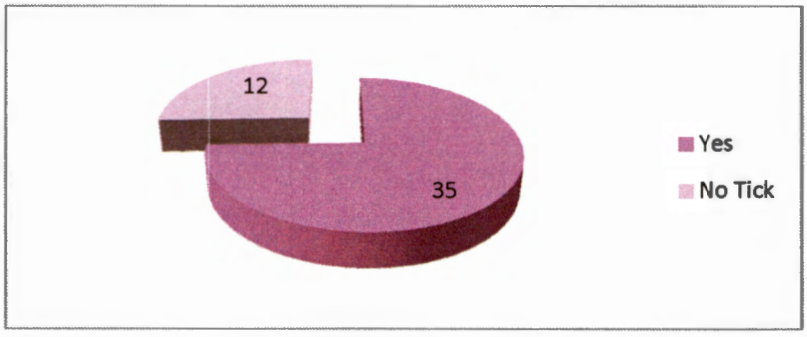
Figure 4.25 Risk management is not taken seriously in Senwes because all their assets are insured with insurance companies.



The approach to traditional risk management is through reducing the risks by using various strategies, including aggressive control of loss, safety, clinical risk management, and training. In instances where the losses cannot be controlled, the risks are transferred through the use of insurance (Teoh and Cheong 2008:2).

Transferring of risk to the third party is another risk strategy of treating the risk. 85% "believe" that risk is taken seriously even if the assets are insured against possible damage.

Figure 4.26 There is no need to develop risk management in Senwes



Effective risk management is fundamental to the success in the grain and financial service. In challenging and changing environment, as this survey shows, Senwes has unfinished agenda when it comes to the development of risk management capabilities. Managing the risk they are confronted with, some respondents do not see a need when, and the benefits that come along the implementation. Maybe the risk management is not performing when it has to perform. Risk management should be proactive and be able to mitigate identified risk on a continuous basis hence the majority or 74% have not seen the benefits and do not see why risk management should exist in Senwes. A lot has to be done by management to raise awareness and illustrate the benefits that come along effective risk management.

Many senior-management teams give precious little attention to supply chain issues. Across the trade-offs McKinsey's found for example that, no more than 26 percent of the respondents said that their companies reach alignment among functions as part of the supply chain decision making process. Moreover, 38 percent say that the CEO has no or limited involvement in driving supply chain strategy (Glatzel *et al.*, 2011: 5).

Poor collaboration and silo thinking have long frustrated the efforts of companies to get more from their supply chains. In a future characterized by rising complexity and uncertainty, solving this perennial problem may change from a valuable performance enhancer to a competitive necessity (Glatzel *et al.*, 2011:6).

4.5 Measures of association

In the section that follows next, measures of correlation are applied to the question themes. To be specific, the *spearman's rho* was used to measure correlation which is a measure of the relation between two or more variables (Thomas and Brubaker 2008: 232). The measurement scales used were interval scales, but other correlation coefficients are available to handle other types of data. Correlation coefficients can range from -1.00 to +1.00. The value of -1.00 represents a perfect negative correlation while a value of +1.00 represents a perfect positive correlation. A value of 0.00 represents a no correlation. Correlation coefficients above 0.600 were discussed further.

The correlation table

Table 4.1 Correlation

			Gender	Area	Qualification	Ethnic	Status	Age	Qu1	Qu2	Qu3	Qu4	Qu5	Qu6	Qu7	Qu8	Qu9	Qu10
Spearman's rho	Gender	Correlation Coefficient	1.000	-.344*	-.468**	-.428**	.901**	.311*	.	-.160	-.056	-.056	-.100	-.100	-.160	-.160	-.160	-.160
		Sig. (2-tailed)	.	.018	.001	.003	.000	.033	.	.283	.706	.706	.504	.504	.283	.283	.283	.283
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Area	Correlation Coefficient	-.344*	1.000	.693**	.827**	-.310*	.586**	.	.465**	.164	.164	.291*	.291*	.465**	.465**	.465**	.465**
		Sig. (2-tailed)	.018	.	.000	.000	.034	.000	.	.001	.270	.270	.048	.048	.001	.001	.001	.001
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qualification	Correlation Coefficient	-.468**	.693**	1.000	.758**	-.422**	.539**	.	.595**	.210	.210	.371*	.371*	.595**	.595**	.595**	.595**

		Sig. (2-tailed)	.001	.000	.	.000	.003	.000	.	.000	.157	.157	.010	.010	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Ethnic	Correlation Coefficient	-.428**	.827**	.758**	1.000	-.386*	.497**	.	.426*	.281	.281	.318*	.318*	.426*	.426*	.426**	.426**
		Sig. (2-tailed)	.003	.000	.000	.	.007	.000	.	.003	.055	.055	.030	.030	.003	.003	.003	.003
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Status	Correlation Coefficient	.901**	-.310*	-.422**	-.386**	1.000	.434**	.	-.144	-.051	-.051	-.090	-.090	-.144	-.144	-.144	-.144
		Sig. (2-tailed)	.000	.034	.003	.007	.	.002	.	.334	.735	.735	.548	.548	.334	.334	.334	.334
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Age	Correlation Coefficient	.311*	.586**	.539**	.497**	.434*	1.000	.	.527*	.186	.186	.329*	.329*	.527*	.527*	.527**	.527**
		Sig. (2-tailed)	.033	.000	.000	.000	.002	.	.	.000	.212	.212	.024	.024	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu2	Correlation Coefficient	-.160	.465**	.595**	.426**	-.144	.527**	.	1.000	.352*	.352*	.624*	.624*	1.000**	1.000**	1.000**	1.000**
		Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu3	Correlation Coefficient	-.056	.164	.210	.281	-.051	.186	.	.352*	1.000	1.000**	.565*	.565*	.352*	.352*	.352*	.352*
		Sig. (2-tailed)	.706	.270	.157	.055	.735	.212	.	.015	.	.	.000	.000	.015	.015	.015	.015
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu4	Correlation Coefficient	-.056	.164	.210	.281	-.051	.186	.	.352*	1.000**	1.000	.565*	.565*	.352*	.352*	.352*	.352*
		Sig. (2-tailed)	.706	.270	.157	.055	.735	.212	.	.015	.	.	.000	.000	.015	.015	.015	.015

	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu5	Correlation Coefficient	-.100	.291*	.371*	.318*	-.090	.329*	.	.624**	.565**	.565**	1.000	1.000**	.624**	.624**	.624**	.624**	
	Sig. (2-tailed)	.504	.048	.010	.030	.548	.024	.	.000	.000	.000	.	.	.000	.000	.000	.000	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu6	Correlation Coefficient	-.100	.291*	.371*	.318*	-.090	.329*	.	.624**	.565**	.565**	1.000**	1.000	.624**	.624**	.624**	.624**	
	Sig. (2-tailed)	.504	.048	.010	.030	.548	.024	.	.000	.000	.000	.	.	.000	.000	.000	.000	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu7	Correlation Coefficient	-.160	.465**	.595**	.426**	-.144	.527**	.	1.000**	.352*	.352*	.624**	.624**	1.000	1.000**	1.000**	1.000**	
	Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu8	Correlation Coefficient	-.160	.465**	.595**	.426**	-.144	.527**	.	1.000**	.352*	.352*	.624**	.624**	1.000**	1.000	1.000**	1.000**	
	Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu9	Correlation Coefficient	-.160	.465**	.595**	.426**	-.144	.527**	.	1.000**	.352*	.352*	.624**	.624**	1.000**	1.000**	1.000	1.000**	
	Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu10	Correlation Coefficient	-.160	.465**	.595**	.426**	-.144	.527**	.	1.000**	.352*	.352*	.624**	.624**	1.000**	1.000**	1.000**	1.000	
	Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.	
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu11	Correlation	-.160	.465**	.595**	.426**	-.144	.527**	.	1.00	.352*	.352*	.624**	.624**	1.00	1.00	1.000**	1.000**	

		Coefficient								0**			*	*	0**	0**		
		Sig. (2-tailed)	.283	.001	.000	.003	.334	.000	.	.	.015	.015	.000	.000	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu12	Correlation Coefficient	.673**	.045	.030	-.079	.606*.	.606**	.	.441*.	.156	.156	.275	.275	.441*.	.441*.	.441**	.441**
		Sig. (2-tailed)	.000	.763	.842	.600	.000	.000	.	.002	.296	.296	.061	.061	.002	.002	.002	.002
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu13	Correlation Coefficient	.615**	.368*	.057	.159	.554*.	.701**	.	.235	.083	.083	.147	.147	.235	.235	.235	.235
		Sig. (2-tailed)	.000	.011	.705	.286	.000	.000	.	.111	.579	.579	.325	.325	.111	.111	.111	.111
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu14	Correlation Coefficient	.539**	-.832**	-.793**	-.923**	.486*.	-.433**	.	-.387*.	-.137	-.137	-.242	-.242	-.387*.	-.387*.	-.387**	-.387**
		Sig. (2-tailed)	.000	.000	.000	.000	.001	.002	.	.007	.360	.360	.101	.101	.007	.007	.007	.007
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu15	Correlation Coefficient	.580**	-.774**	-.779**	-.934**	.523*.	-.370*	.	-.360*.	-.127	-.127	-.225	-.225	-.360*.	-.360*.	-.360*	-.360*
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.011	.	.013	.395	.395	.129	.129	.013	.013	.013	.013
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu16	Correlation Coefficient	.692**	-.497**	-.677**	-.619**	.623*.	-.109	.	-.231	-.082	-.082	-.144	-.144	-.231	-.231	-.231	-.231
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.465	.	.118	.586	.586	.333	.333	.118	.118	.118	.118
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu17	Correlation Coefficient	.452**	-.891**	-.820**	-.890**	.407*.	-.580**	.	-.462*.	-.163	-.163	-.288*	-.288*	-.462*.	-.462*.	-.462**	-.462**

		Sig. (2-tailed)	.001	.000	.000	.000	.004	.000	.	.001	.274	.274	.049	.049	.001	.001	.001	.001
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu18	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu19	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu20	Correlation Coefficient	.739**	-.521**	-.709**	-.649**	.665**	-.105	.	-.242	-.085	-.085	-.151	-.151	-.242	-.242	-.242	-.242
		Sig. (2-tailed)	.000	.000	.000	.000	.000	.484	.	.101	.568	.568	.310	.310	.101	.101	.101	.101
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu21	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu22	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu23	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

	Qu24	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu25	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu26	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu27	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu28	Correlation Coefficient	.914**	-.376**	-.512**	-.468**	.824**	.207	.	-.175	-.062	-.062	-.109	-.109	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.000	.009	.000	.001	.000	.162	.	.239	.680	.680	.465	.465	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
			Qu11	Qu12	Qu13	Qu14	Qu15	Qu16	Qu17	Qu18	Qu19	Qu20	Qu21	Qu22	Qu23	Qu24	Qu25	Qu26
Spearman's rho	Gender	Correlation Coefficient	-.160	.673**	.615**	.539**	.580**	.692**	.452**	.914**	.914**	.739**	.914**	.914**	.914**	.914**	.914**	.914**
		Sig. (2-tailed)	.283	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

	Area	Correlation Coefficient	.465**	.045	.368*	-.832**	-.774**	-.497**	-.891**	-.376**	-.376**	-.521**	-.376**	-.376**	-.376**	-.376**	-.376**	-.376**
		Sig. (2-tailed)	.001	.763	.011	.000	.000	.000	.000	.009	.009	.000	.009	.009	.009	.009	.009	.009
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qualification	Correlation Coefficient	.595**	.030	.057	-.793**	-.779**	-.677**	-.820**	-.512**	-.512**	-.709**	-.512**	-.512**	-.512**	-.512**	-.512**	-.512**
		Sig. (2-tailed)	.000	.842	.705	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Ethnic	Correlation Coefficient	.426**	-.079	.159	-.923**	-.934**	-.619**	-.890**	-.468**	-.468**	-.649**	-.468**	-.468**	-.468**	-.468**	-.468**	-.468**
		Sig. (2-tailed)	.003	.600	.286	.000	.000	.000	.000	.001	.001	.000	.001	.001	.001	.001	.001	.001
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Status	Correlation Coefficient	-.144	.606**	.554**	.486**	.523**	.623**	.407**	.824**	.824**	.665**	.824**	.824**	.824**	.824**	.824**	.824**
		Sig. (2-tailed)	.334	.000	.000	.001	.000	.000	.004	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Age	Correlation Coefficient	.527**	.606**	.701**	-.433**	-.370*	-.109	-.580**	.207	.207	-.105	.207	.207	.207	.207	.207	.207
		Sig. (2-tailed)	.000	.000	.000	.002	.011	.465	.000	.162	.162	.484	.162	.162	.162	.162	.162	.162
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu1	Correlation Coefficient	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		Sig. (2-tailed)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

	Qu2	Correlation Coefficient	1.000**	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu3	Correlation Coefficient	.352*	.156	.083	-.137	-.127	-.082	-.163	-.062	-.062	-.085	-.062	-.062	-.062	-.062	-.062	-.062
		Sig. (2-tailed)	.015	.296	.579	.360	.395	.586	.274	.680	.680	.568	.680	.680	.680	.680	.680	.680
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu4	Correlation Coefficient	.352*	.156	.083	-.137	-.127	-.082	-.163	-.062	-.062	-.085	-.062	-.062	-.062	-.062	-.062	-.062
		Sig. (2-tailed)	.015	.296	.579	.360	.395	.586	.274	.680	.680	.568	.680	.680	.680	.680	.680	.680
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu5	Correlation Coefficient	.624**	.275	.147	-.242	-.225	-.144	-.288*	-.109	-.109	-.151	-.109	-.109	-.109	-.109	-.109	-.109
		Sig. (2-tailed)	.000	.061	.325	.101	.129	.333	.049	.465	.465	.310	.465	.465	.465	.465	.465	.465
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu6	Correlation Coefficient	.624**	.275	.147	-.242	-.225	-.144	-.288*	-.109	-.109	-.151	-.109	-.109	-.109	-.109	-.109	-.109
		Sig. (2-tailed)	.000	.061	.325	.101	.129	.333	.049	.465	.465	.310	.465	.465	.465	.465	.465	.465
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu7	Correlation Coefficient	1.000**	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu8	Correlation Coefficient	1.000**	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175

		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu9	Correlation Coefficient	1.000**	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu10	Correlation Coefficient	1.000**	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu11	Correlation Coefficient	1.000	.441**	.235	-.387**	-.360*	-.231	-.462*	-.175	-.175	-.242	-.175	-.175	-.175	-.175	-.175	-.175
		Sig. (2-tailed)	.	.002	.111	.007	.013	.118	.001	.239	.239	.101	.239	.239	.239	.239	.239	.239
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu12	Correlation Coefficient	.441**	1.000	.779**	.205	.266	.477**	.062	.736*	.736*	.513*	.736*	.736*	.736*	.736*	.736**	.736**
		Sig. (2-tailed)	.002	.	.000	.167	.070	.001	.679	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu13	Correlation Coefficient	.235	.779**	1.000	-.045	.040	.355*	-.250	.672*	.672*	.386*	.672*	.672*	.672*	.672*	.672**	.672**
		Sig. (2-tailed)	.111	.000	.	.763	.791	.014	.090	.000	.000	.007	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu14	Correlation Coefficient	-.387**	.205	-.045	1.000	.944**	.779**	.897**	.590*	.590*	.817*	.590*	.590*	.590*	.590*	.590**	.590**

		Sig. (2-tailed)	.007	.167	.763	.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu15	Correlation Coefficient	-.360*	.266	.040	.944**	1.000	.795**	.876**	.634**	.634**	.808**	.634**	.634**	.634**	.634**	.634**	.634**
		Sig. (2-tailed)	.013	.070	.791	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu16	Correlation Coefficient	-.231	.477**	.355*	.779**	.795**	1.000	.654**	.757**	.757**	.951**	.757**	.757**	.757**	.757**	.757**	.757**
		Sig. (2-tailed)	.118	.001	.014	.000	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu17	Correlation Coefficient	-.462**	.062	-.250	.897**	.876**	.654**	1.000	.495**	.495**	.685**	.495**	.495**	.495**	.495**	.495**	.495**
		Sig. (2-tailed)	.001	.679	.090	.000	.000	.000	.	.000	.000	.000	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu18	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000	1.000**	.808**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
		Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu19	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000	.808**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
		Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu20	Correlation Coefficient	-.242	.513**	.386**	.817**	.808**	.951**	.685**	.808**	.808**	1.000	.808**	.808**	.808**	.808**	.808**	.808**
		Sig. (2-tailed)	.101	.000	.007	.000	.000	.000	.000	.000	.000	.	.000	.000	.000	.000	.000	.000
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

Qu21	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000	1.000**	1.000**	1.000**	1.000**	1.000**
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu22	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000	1.000**	1.000**	1.000**	1.000**
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu23	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000	1.000**	1.000**	1.000**
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu24	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000**	1.000	1.000**	1.000**
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu25	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000**	1.000**	1.000	1.000**
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu26	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000
	Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
	N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
Qu27	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**

		Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47
	Qu28	Correlation Coefficient	-.175	.736**	.672**	.590**	.634**	.757**	.495**	1.000**	1.000**	.808**	1.000**	1.000**	1.000**	1.000**	1.000**	1.000**
		Sig. (2-tailed)	.239	.000	.000	.000	.000	.000	.000	.	.	.000	.	.	.	.	.	.
		N	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47	47

*. Correlation is significant at the 0.05 level (2-tailed).

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

From the results of measures of association as shown in table 4.1, the white majority in the study (Figure 4.1) are likely to get a permanent employment in Senwes (Figure 4.5) with a positive correlation of 0.901

White respondents who grew up in a rural area (Figure 4.2) are likely to get a better qualification (Figure 4.3) with a positive correlation of 0.693 and a significance of 0.000. Area has an influence in different races understanding an implication of risk management (Figure 4.4) representing a positive correlation of 0.827.

The majority of white respondents are not likely to be in favour of the centralisation of procurement function (Figure 4.20) with a negative correlation of 0.923. White respondents are less likely to agree that the overall management is highly committed to socially responsible buying (Figure 4.21) with a negative correlation of 0.934.

The white majority are less likely to agree that cost, product quality and sustainability should play an important criteria when Senwes identifies a new supplier (Figure 4.22) at a correlation of negative 0.619 and they are less likely to agree that purchasing should be measured in terms of its contribution to Senwes success (Figure 4.23), at a correlation of negative 0.890.

There is a positive relationship between the board setting the tone from the top (Figure 4.28) and when the board approves transaction not during the course of business (Figure 4.11), at a correlation of 0.624. When the board sets the tone at the top there is a positive relationship between the setting tone setting and the board applying corporate governance as the key part of procurement (Figure 4.12), giving a correlation of 0.624.

There is a positive relationship when the board provides oversight on procurement to comply with law (Figure 4.10) and when they set the tone from the top (Figure 4.8), with a correlation of 0.624. The board provides oversight on procurement to comply with applicable law (Figure 4.10) by setting a tone at the top (Figure 4.8) and this provides a positive correlation of 0.624. Providing oversight on procurement in compliance with the law and when the board uses risk as a part of core business procurement (Figure 4.13) in Senwes, give rise to a positive correlation of 0.624.

There is a positive correlation of 0.624 between the board that provides oversight on procurement to comply with applicable law and when they allow the implementation of risk management in Senwes (Figure 4.14). Correlation of 0.624 exists between board providing oversight on procurement to comply with applicable laws and regulation and a strategic documentation explaining what the risk management is in Senwes (Figure 4.15).

A positive correlation exists between the board providing oversight on procurement compliance with applicable law and the risk management committee in Senwes (Figure 4.16) with a positive correlation of 0.624. A correlation of 0.834 exists when the board provides oversight on procurement to comply with procurement laws and when procurement strategy is understood by purchasing division in Senwes (Figure 4. 17).

A correlation of 0.624 exists between the board's applying corporate as a key part of procurement (Figure 4. 12) and when the procurement strategy is understood by purchasing division in Senwes (Figure 4.17) has a correlation of 0.624.

When the procurement strategy is understood by purchasing division in Senwes (Figure 4.18), and when culture encourages procurement officer to take full responsibility and accountability for procurement (Figure 4.19) there is a positive correlation of 0.779. When procurement strategy is understood it is likely that they would know what risk management means (Figure 4.24), with a positive correlation of 0.736. When procurement strategy is understood by the purchasing division in Senwes the possibility is that they would know if risk a management division exists in Senwes at a positive correlation of 0.736.

Positive correlation of 0.736 exists between procurement strategy which is understood by the purchasing division in Senwes and the possibility that risk management is taken seriously even their assets are insured with insurance companies (Figure 4.25). When the procurement strategy is understood by purchasing division in Senwes it is likely that procurement division would conduct risk identification from time to time.

Positive correlation of 0.736 exist sbetween procurement strategy which is understood by the purchasing division in Senwes and likelihood that risk management should be like a

policeman in Senwes. Training on risk identification to be provided by risk management division and the notion that risk management is a "must have" capability in the Senwes.

The relationship between whether the organisational culture has an impact on the ability to prevent risk (Figure 4.19) and the gender of a respondent gives a positive correlation coefficient of 0.673. The relationship between the question does the organisational culture have an impact on the ability to prevent risk gives a correlation coefficient of 0.606 for both status and the gender of the respondents.

A positive coefficient correlation of 0.799 is found to exist between organisational cultures impact on the ability o prevent risk (Figure 4.18) and whether the culture encourages procurement officer tom take full responsibility and accountability for procurement (Figure 4.19).

A correlation of 0.672 is found to exist between the questions: Does an organisational culture have an impact on the ability to prevent risk? (Figure 4.18) and the question: that if the culture has the ability to prevent risk then respondents will know and understand what risk management is (Figure 4.24).

A positive correlation of 0.615 exists between whether the organisational culture encourages the procurement officer to take full responsibility and accountability for procurement (Figure 4.19) and the gender of the respondent (Figure4.1) and the age of the respondent (Figure 4.6) giving rise to 0.701 positive correlation.

A correlation of 0.944 exists between the questions: Does the organisational culture encourage the procurement officer to take full responsibility and accountability for procurement? (Figure 4.19) and 'the overall top management is highly committed to socially responsible buying (Figure 4.21)'.

The correlation of 0.779 exists between the questions: Does the organisational culture encourage the procurement officer to take full responsibility and accountability for procurement? (Figure 4.19) and: the cost, product and supplier sustainability should play as an important criterion when Senwes identifies new supplier (Figure 4.22).

The correlation of 0.897 exists between the questions: Does the organisational culture encourage the procurement officer to take full responsibility and accountability for procurement? (Figure 4.19) and as well as, whether the purchasing performance should be measured in terms of its contribution it made to Senwes success? (Figure 4.23).

The procurement function centralisation (Figure 4.20) is not likely to be influenced by the area of the respondent (figure 4.1) giving a negative correlation of 0.834, and the decision on whether to centralise the procurement function (Figure 4.20). It is not likely to be influenced by respondents qualification (Figure 4.3) giving a negative correlation of 0.793. The decision to centralise the procurement function is less likely to be influenced by the race of the respondents (Figure 4.4).

There is positive correlation of 0.944 between the centralisation of the procurement function (Figure 4.20) and commitment by overall top management to socially buying responsibility (Figure 4.21). Centralisation of procurement functions and cost product, quality and supplier sustainability playing important criteria in Senwes when new supplier is identified gives a positive correlation of 0.795. When procurement function is centralized, it is likely that management would be able to measure purchasing performance in terms of its contribution to Senwes success (Figure 4.23) resulting into a positive correlation of 0.876.

A positive correlation of 0.632 is likely to exist when a procurement function is centralised and the questions: Do you understand what risk management is? (Figure 4.24), Senwes has an approved risk management strategy/ Risk management is not taken seriously in Senwes because all their assets are insured with the insurance companies (Figure 4.25). Risk identification is conducted by Senwes from time to time, Risk management should be like policeman in many organisations, Training on identifying risk should be provided by risk management division in Senwes, and, Risk management is a must have capability in Senwes.

Positive correlation of 0.914 exists between the majority of the white respondents (Figure 4.1) and it is likely that they will know what risk management means.

A positive correlation of 0.824 exists between the appointment status of the respondents across both genders who are permanently employed in Senwes (Figure 4.5). It is likely that

they will know what risk management means (Figure 4.24), that Senwes has an approved risk management strategy and policy and, that there is a need to develop risk management in Senwes. Training on identifying risk should be conducted by Senwes risk management.

4.6 Conclusion

In this chapter, the detailed results of the research using statistical methods have been provided. Tables, graphs and stats have been used to present the results of the survey. Further, the data analysis has also been presented as part of this chapter. Drott (1989) asserts that quantitative methods involve systematic evaluation of alternative actions as a basis for choice between them. Furthermore, Drott emphasizes that the application of a quantitative method involves setting up models of the problems to be analysed, selecting inputs to the models which quantify the judgments of those responsible for organizational decision and deriving the model's outputs from inputs.

The analysis of the results revealed that Age; Qualification and Gender are the determinants of whether respondents are positive or negative about the implementation and knowledge around risk management in the organisation. This implies that the relationship between respondent knowledge on risk management and these variables is so significant that they ought to be taken into consideration when measuring the implementation of enterprise risk management in the organisation to mitigate risk in procurement. The respondents showed that there was a strong relationship between setting the tone at the top by the board and implementation of risk management in Senwes including the documentation on risk management that was understood and applied, as and when the procurement was done.

The next chapter presents the recommendation categorized in their relevance to different stakeholders. The aim is to ensure easy understanding of recommendations in order to add value to existing literature and also identify gap areas where new or further research can still be conducted.

Chapter 5

Conclusion and Recommendation

5.2 Introduction

The survey questionnaire was designed to assess employee perceptions on risk management and procurement in Senwes. This is relevant as the company is not only buying and selling products, but it is also exposed to risk as they pursue procurement to achieve the organisational objectives.

Chapter five consolidates the findings of the research derived through an analysis and interpretation of data, as discussed on the previous chapters and especially the research question defined in chapter 2: What is the level of ERM implementation in Senwes?; and What are the challenges in the successful implementation of ERM in Senwes? The following research questions thus remain:

1. Has Enterprise Risk Management implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigate in the entire enterprise with specific reference to procurement?
2. Is there an Enterprise Risk Management culture that encourages full engagement and accountability at Senwes Village Procurement Department?
3. Is Risk Management being seen as a core business practice with broad implications for strategy in procurement?

Chapter five covers the summary of the study, addresses the findings per research question. Important concerns raised by the respondents through the questionnaire and highlights possible future research opportunities in both the risk and procurement field and final conclusion.

5.2 Summary of the Study

The results from the sample of respondents who participated on the survey has confirmed that Senwes board of directors are dedicated and are committed in setting the tone from the top, with more than 90% of the respondents confirming that the board is in control and provides

clear leadership, Risk Management Culture supports and recognizes risk in procurement, that procurement strategy is well understood by all in the purchasing division. Enterprise Risk Management is seen as core business, risk is understood by all in the organisation from the efforts done by the risk management division with the buy in from the board.

5.3 Response to Research Questions

The main findings of this research in relation to each research question are now be discussed. Each question is followed by a discussion of the findings relating to that question.

5.3.1 Has ERM implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigate in the entire enterprise with specific reference to procurement?

When the board allows sound risk management as confirmed by 98% of the respondents, it is evident that they comply with COSO (2004) note that an effective ERM system is dependent on active participation by an organization's board of directors. As indicated from 47 valid respondents about (46) 98% of respondents agree that Senwes has a board of directors, with only 1 (2%) of the respondents disagreeing.

From the majority of the 47 respondents, only (40) 85% agree that the board in Senwes sets the tone at the top possibly by creating a culture where everyone has ownership and responsibility for doing the right thing Kleffner *et al.*, (2003) *cited* in Gordon (2010) found that the adoption of an ERM strategy is associated with encouragement from the board of directors.

A high confidence level as indicated from valid response of about (46) 98% of the respondents agrees that the board in Senwes is committed to providing oversight on procurement. This is done by observing and complying with applicable law and regulation ensuring that increase in compliance with applicable law and regulation should lower firms overall risk failure and thus increase performance and value. If the firm puts more efforts into regulation compliance, it seems reasonable that it will have less settlement losses and more settlement gains (Gordon *et al.*, 2009: 311-312). About 94% of the respondent reported that

Senwes board of directors has been able to apply corporate governance on procurement; this will suggest that procurement risks are mitigated at board level.

The main conclusion drawn from the findings suggests that the board is important in setting the tone from the top, they comply with rules and applicable law for procurement and corporate governance is applied as a key part of procurement all the time for risk mitigation in procurement.

5.3.2 Is there an ERM culture that encourages full engagement and accountability at Senwes Village Procurement Department?

The threat of lost production with unhappy customer and order lost weighs heavy on the minds of the purchasing manager. This puts purchasing/procurement at the heart of risk management:

If a supplier becomes insolvent, the supplier ceases and the plant stops producing goods that could be attributed to a bad supplier, or to management decision relying on a single or distant supplier about whom little was known (Sadgrove, 2005:72).

From a valid 47 response only 85% of the respondents agree that risk is part of core business procurement in Senwes with only 1(2%) disagreeing.

Although 85% of the respondents reported that risk management has been implemented, the same respondents have expressed their thoughts on the challenges experienced by Senwes in implementing risk management program as failure to demonstrate value from risk management, with only 15% shaving seen the value from the implementation of risk management and suggesting that there is no need to develop risk management in Senwes, while 85% report that risk management has been implemented in Senwes, this is quite extraordinary.

Depending on the size of the business, there may be a risk management committee or risk council, this can take several forms, it can be a group of senior manager who receives the internal audit reports, or it can be a representative from each of the main departments who get to learn from each other, and build a company appreciation of risk, they ensure among others

that staff adhere to the companies risk policies, develop risk awareness among their staff (Beasley *et al.*, 2005:46).

A risk management committee is assumed to be in existence although 15% of the respondents do not believe that the committee exists, this could be due to the fact that risk management does not exist in Senwes or it has not been implemented in the entire organisation or it is still at the developing stage.

About 85% of the respondents believe that the procurement strategy is understood by the purchasing division while only 15% do not believe that purchasing understands their purchasing mandate. This view is supported by 21% of respondents who disagree that overall top management is highly committed to social responsible buying in Senwes. Top management support and commitment has often been considered crucial in any development and implementation process, e.g. total quality management, customer relationship management, green supply chain management (Teoh *et al.*, 2009:975).

By taking control of scattered purchases done throughout the organisation by individual employees, organisations are expecting to gain savings and other benefits; centralisation of purchase activities is in an escalating trend for both public and private sector. Organisations are attempting to capture economies of scale in purchasing price and process cost by replacing individual purchase done throughout the organisation with corporate wide framework agreement; purchase centralisation is fuelled by a drive to reduce cost and increase purchasing process efficiency (KPMG, 2010:5). Results from the questionnaire reveals that 35 (74%) agrees that procurement is centralised whilst (35) 26% of the respondents reported did not answer the question that procurement functions is centralised, this will point to lack of communication from management, in the event that strategic decision has been taken in changing the organisational structure.

The behaviour of supervisors provides the model for how subordinates should act in the organisation. Supervisors formulate the source for workers perceptions about ethics and are important links in the organisation at each organisational level, disseminating top management's organisational policies to subordinate about 43% of the respondent respectively agree and slightly agree that organisational culture has the ability to preventing

risk, and 15% of the respondents did not make their mark, maybe because they know that risk management does not exist or does not have the ability to prevent risk (Xiao *et al.*, 2009).

Generally, from the transaction cost economy perspective, it can be postulated that the supplier switch has been successful as soon as the new transaction cost are lower than the old ones (Mulani 2009). After a decision to switch to an alternative supplier was made, the process of capabilities and capacity of new supplier has to be established, additionally the directive will determine at which time the quality management has to be involved to assess the new suppliers quality. One of the key enhancements of King III is the focus on sustainability performance and not merely sustainability reporting (King III 2009).

In the past, sustainability has often been confused with corporate social responsibility; the focus on sustainability performance will ensure that the organisation will be sustainable in the delivery of its products or services. The code suggests that sustainability should be considered as part of the strategy of the organisation and should be considered as a business opportunity (King III 2009).

Good procurement leads to good suppliers and creates conditions for increased performance and improved profitability (Robert *et al.*, 2006).

About 74% of the respondents agrees that cost, product quality and supplier sustainability should plays an important criteria when Senwes identifies a new supplier, and only 16% did not make their mark probably because they know that these issues are not considered when identification of new supplier is done, or they do not know.

When evaluating purchasing performance, a wise supervisor will establish clearly defined and easily measured goals, in view of the variety of performance evaluation used throughout the industry. The safest conclusion is that a supervisor should continuously evaluate a buyer's procurement performance by monitoring, the number of stock-outs, the inventory stock level, percentage of return, loss due to over buying, inventory turnover (Xiao *et al.*, 2009). About 43% strongly agree that purchasing performance should be measured in terms of contribution to Senwes success, 21% agree and 36% of respondents did not answer this question.

5.3.3. Is Risk Management being seen as core business practice with broad implication for strategy in procurement?

For a firm to successfully manage risk, it has to first define and understand its risk. Traditionally risk has been understood as being negative or harmful with expected adverse effects, for example, as reflected by the volatility of an entity's return (Haggi and Sivakumar 2009:286). About 40 (85%) of the respondents understand risk with only 7 (15%) of respondents not answering the question.

Managing environmental risks generally involves transferring risk through insurance, sharing risk through business alliances, or eliminating risk by withdrawing from a line of business that exceeds the organization's risk tolerance (O'Donnell 2005:187), about 40 (85%) of the respondents agrees that risk management is taken seriously although assets are insured with insurance companies and only 7 (15%) have not answered the question.

During event identification, management identifies potential events that could affect an entity's ability to achieve its objectives. An event is an incident or occurrence that emanates from either internal or external sources. Events with a potentially negative impact represent risks, which require management assessment and response (O'Donnell 2005: 177,179). 40 (85%) of the respondents agree that risk identification is conducted by Senwes from time to time and only 7 (15%) did not answer the question.

By establishing an ERM program throughout the organisation so that risk based information is gathered in a consistent manner, the organisation also develops the capability and data to integrate risk management into core decision process such as planning and budgeting (AON 2010: 18).

Although respondents view ERM as a core business, they do see a need for Senwes to develop risk management of 16% of the respondents view the importance of having a risk management division in Senwes and majority of the respondents making 74% contradicts their previous notion, this pose a questionable concern on the integrity and the honesty of the respondents whilst providing their answers to the questionnaire.

The majority of the respondents have not seen the value demonstrated by the implementation of risk management in Senwes and they felt that value for implementation has not been realised, although 64% of the respondents have previously expressed strong agreement that organisational culture have an impact and the ability to prevent risk, if this is the case then the researcher believes that the organisation will not be able to prevent risk if value from risk management is not been demonstrated, for reasons that for organisation to be able to prevent risk they should first be able to identify the risk and assess the identified risk.

5.4 Limitations

This study has been limited to Senwes Company based in Klerksdorp in South Africa; hence the opinion expressed could only be applied in Senwes environment and could not apply to other companies. For which they have not been considered within the scope of this research.

5.5 Managerial Recommendation

The main objective of the research was to understand the importance of assessing risk management in a Senwes procurement process. This study will be helpful to Senwes' Village General Manager and Procurement Practitioners since this will be a guide for them when they employ effective Procurement approaches to their organisation.

The positive findings on the research question: "Has ERM implementation in Senwes received a dedicated board level commitment as a critical framework for risk mitigate in the entire enterprise with specific reference to procurement?, has been rated by the respondents to be at an advanced stage and has been confirmed by the following literature to be very effective when applied correctly:

- According to the results of the 2010 risk management study conducted by AON (2010): "The number of respondents who have matured to the 'advanced level' since 2007 has more than doubled from 3% to 7%, and respondents in this stage of the maturity report they now have dynamic Enterprise Risk Management processes that allow adaptation to changing risks and opportunities,".
- Internal environment encompasses the tone of an organisation and set out the basis for how the risk is viewed and addressed by the entity's people, including the risk

management philosophy and risk appetite, integrity and ethical values and environment in which they operate (Nazir 2006:2).

- Good procurement leads to good suppliers and creates conditions for increased performance and improved profitability (Robert *et al.*, 2006).

- Protiviti (2006:3-4) recognises six fundamental reasons for implementing Enterprise Risk Management; ERM reduces unacceptable performance variability; ERM aligns and integrates varying views of risk management; ERM is building the confidence of the investment community and stakeholders; ERM enhances corporate governance. ERM and corporate governance are inextricably linked; ERM successfully responds to a changing business environment; ERM aligns strategy and corporate culture.

The managers responsible for business operations and IT procurement process must take an active role in the risk management process. These managers are the individuals with the authority and responsibility for making the trade-off decisions essential to mission accomplishment. Their involvement in the risk management process enables the achievement of proper security for the IT systems, which, if managed properly, will provide mission effectiveness with a minimal expenditure of resources (Stoneburner *et al.*, 2002:6).

From the findings a very worrying factor that needs management to take into consideration is the fact that many respondents believed that the following did not take place although they confirmed their implementation on the Part D of the questionnaire.

There is no need to develop the risk management in Senwes and the question on do you think the ability to demonstrate value from risk management is the challenges to Senwes in the implementing its risk management program?, this was in contradiction with the response received from has there been a strategic implementation of risk in Senwes?.

The implementation of ERM is supported by the literature hence; Enterprise Risk Management provides a company with the process it needs to become more anticipatory and effective at evaluating, embracing and managing the uncertainties it faces as it creates sustainable value for stakeholders.

It helps an organisation manage its risks to protect and enhance enterprise value in three ways namely that it helps to establish sustainable competitive advantage, it optimises the cost of managing risk, and it helps management improve business performance (De Loach 2005).

The King III Report (2009:73) highlights the importance of a thorough understanding of the risks of an organization and states that risk management is inseparable from a company's strategic and business process, and recommends that the following be done if an organization wants to mitigate and manage its risk effectively in pursuance of its objectives:

- A policy and plan for a system and process of risk management should be developed;
- The board should comment in the integrated report on the effectiveness of the system and process of risk management; the board's responsibility for risk governance should be expressed in the board charter; and
- The induction and ongoing training programmes risk governance.

5.6 Future Research

This study raised interest in further exploration of some of its findings. The following investigative research topics are suggested for further exploration at provincial scope:

- The new and improved ways performing and conducting e – procurement in Senwes.
- Study on risk treatment done to improve contingency plans and enhance the quality of the procurement decisions.
- Green procurement for socially and responsible buying.
- Fraud and corruption impact in Senwes and how controls could be improved in reducing financial loss.
- Using new risk management techniques to support the development of portfolios of procurement contracts to save hundreds of millions of dollars in procurement costs.
- The risk of supplier dependency whether sole supplier or multiple supplier is good for an organisation.
- An investigation into how to manage and value a portfolio of supplier contracts by modelling the strategic parts procurement system.

5.7 Conclusion

The importance of a board of directors in the monitoring of the enterprise risk management has been recommended by "COSO; Beasley; Kleffner *et al.*, (as cited in Gordon 2009). Both writers noted that an effective ERM system is dependent on active participation by an organisation's board of director and Kleffner *et al.*, is positively suggesting the ERM strategy to be closely associated with encouragement from Board of directors and further Beasley as cited in Gordon went further and found that the proportion of independent board members is positively related to the stages of ERM adoption.

Nomura (2003: 471) states that with respect to the effectiveness of risk management, the following matters are generally pointed out. It assumes corporate responsibility and accountability to all of its stakeholders, much as customers and shareholders. Through developing measures for risk management, profit and cash flow will stabilize. Internal control systems (corporate governance) will be reinforced. Assessment of risks and implementation of appropriate controls will be possible. Risk consciousness will be raised and recognition of risk will be shared throughout the company. Corporate morale will be enhanced with a synergistic effect on compliance. Cost of risk will be reduced.

The procurement professional must however, retain the sources of risk at "front of mind" by applying risk proactive tools of identifying risk at an earlier stage and assess the risk impact in the organisation, therefore training and supervision is imperative if the company wants to remain competitive and remain strong in their industry.

Risk becomes a very strong competitive advantage when an organisation can identify risk and opportunities earlier than a competitor, and when they are better able to manage foreseeable and unpredictable events.

Enterprise risk management framework should be applied in procurement planning up to the level of selecting the best suppliers.

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Appendix 1 – Table of Construct

Research Questions	Survey Questions	Variable(s) and or Relationships measured	Statistical Test
1. Has Risk management received a dedicated board level commitment as framework to mitigate procurement risk	1.1 Is there a board in your organisation 1.2 Is the board setting tone at the top in your organisation 1.3 Does the sound risk management practices allows 1.4 Is the board providing oversight of procurement compliance with applicable law and regulation 1.5 Is the board approving transaction not in the ordinary course of business 1.6 Is the board applying corporate governance a key part of procurement	Ordinal / Nominal Variables 1.1 Yes/No 1.2 Yes/No 1.3 Yes/No 1.4 Yes/No 1.5 Yes/No 1.6 Yes/No	Descriptive statistics, frequency tables and bar charts Convert nominal to ration 0,1,2,3,4,5 and do correlation co-efficient testing with personal information- Pearson and Spearman Rho Normal and distribution
2. Is the Risk Management culture in Senwes encourages full engagement and accountability at Senwes Village Procurement Department?	2.1 Is risk part of core business procurement in Senwes 2.2 Has there been strategic implementation of risk in Senwes 2.3 Is there documentation strategy explaining risk management in Senwes 2.4 Is there a risk management committee in Senwes 2.5 Is the procurement strategy understood by purchasing	Ordinal / Nominal Variables 2.1 Yes/No 2.2 Yes/No 2.3 Yes/No 2.4 Yes/No 2.5 Yes/No	Descriptive statistics, frequency tables and bar charts Convert nominal to ration 0,1,2,3,4,5 and do correlation co-efficient testing with personal information- Pearson and Spearman Rho Normal and distribution

	division in your organization 2.6 Does an organization's culture have an impact on the ability to prevent the risk 2.7 Does culture encourages procurement officer to take full responsibility and accountability for procurement 2.8 Is the procurement function centralised 2.9 Overall top management is highly committed to socially responsible buying 2.10 Cost, product quality and supplier sustainability should plays an important criteria when your company identify a new supplier 2.11 Purchasing performance should be measured in terms of its contribution to the organisations success	2.6 Strongly agree, Agree, Neutral Slightly agree, Disagree 2.7 Strongly agree, Agree, Neutral Slightly agree, Disagree 2.8 Yes/No 2.9 Strongly agree, Agree, Neutral Slightly agree, Disagree 2.10 Strongly agree, Agree, Neutral Slightly agree, Disagree 2.11 Strongly agree, Agree, Neutral Slightly agree, Disagree	
3. Is the Enterprise Risk Management seen as a core business with broad implications for strategy implementation in procurement	3.1 Do you know what risk management is 3.2 Your company has an approved risk management strategy and policy 3.3 Is there risk management division in your organisation 3.4 There is no need to develop risk management in my organisation 3.5 Risk management is not taken seriously is	Ordinal / Nominal Variables 3.1 Yes/No 3.2 Yes/No 3.3 Yes/No 3.4 Yes/No 3.5 Yes/No	Descriptive statistics, frequency tables and bar charts Convert nominal to ration 0,1,2,3,4,5 and do correlation co-efficient testing with personal information- Pearson and Spearman Rho

	my organisation because all their assets are insured with insurance companies 3.6 Risk identification is conducted by my organisation from time to time 3.7 Risk management are like policeman in my organisation 3.8 Training on identifying risk is provided by our risk management division 3.9 Risk management is a must have capability in my organisation 3.10 I known the role of the risk manager in my organisation 3.11 Do you think the ability to demonstrate value from Risk Management is the challenges to your organisation in implementing its Risk Management program	3.6 Yes/No 3.7 Yes/No 3.8 Yes/No 3.9 Yes/No 3.10 Yes/No 3.11 Yes/No	Normal and distribution

Appendix 2 – Research Questionnaire

FOR OFFICE USE ONLY: Respondent Code: _____

"The implementation of enterprise risk management in Senwes to mitigate procurement risk."

Researcher: Mr. Itumeleng Moleme

Supervisor: Prof Sam Lubbe

Note to the respondent

The researcher needs your help to understand how people view Enterprise Risk Management and its implementation on procurement

Although the researcher would like you to help him, you do not have to take part in this survey.

If you do not want to take part, just hand in the blank questionnaire at the end of the survey session.

What you say in this questionnaire will remain private and confidential. No one will be able to trace your opinions back to you as a person.

The questionnaire has five parts:

- Part 1 asks permission to use your responses for academic research.
- Part 2 asks about general personal particular
- Part 3 asks about the dedicated Board level Commitment
- Part 4 asks about Risk Management Culture
- Part 5 asks about enterprise risk management as core business

How to complete the questionnaire

1. Please answer the questions as truthfully as you can. Also, please be sure to read and follow the directions for each part. If you do not follow the directions, it will make it harder for the Researcher to do the research project.

2. The researcher only asks you about things that you and your fellow employees should feel comfortable to share. If you don't feel comfortable answering a question, you can indicate that you do not want to answer it. For those questions that you do answer, your responses will be kept confidential.

3. You can mark each response by making a tick or a cross, or encircling each appropriate response with a PEN (not a pencil), or by filling in the required words or numbers.

Thank you very much for filling in this questionnaire.

Part 1: Permission to use my responses for academic research

I hereby give permission that my responses may be used for research purposes provided that my identity is not revealed in the published records of the research.

Initials and surname _____ Postal address:

_____

Postal code: _____Contact numbers: Home: _____Cell: _____

No.	PART 2: GENERAL PERSONAL PARTICULARS *Please tell me a little about yourself* Please mark only ONE option per question below.	11.	Is the board approving transaction not during the ordinary course of business? ☐ Yes ☐ No
1.	I am a: ☐ female ☐ male.	12.	Is the board applying corporate governance as a key part on procurement? ☐ Yes ☐ No
2.	I grew up in: ☐ a rural area ☐ an urban area		Part 4: RISK MANAGEMENT CULTURE
3.	I have: ☐ a diploma/school Grade 12 ☐ a degree ☐ a post-graduate degree	13.	Is risk part of core business procurement in Senwes? ☐ Yes ☐ No
4.	I am: ☐ African ☐ Coloured ☐ Indian ☐ Oriental ☐ White ☐ a member of another ethnic group: _____	14.	Has there been strategic implementation of risk in SENWES? ☐ Yes ☐ No
5.	I am: ☐ Permanent ☐ Contract	15.	Is there documentation strategy explaining risk management in SENWES? ☐ Yes ☐ No
6.	I am _____ years old	16.	Is there a risk management committee in SENWES? ☐ Yes ☐ No

	PART 3: DEDICATED BOARD LEVEL COMMITMENT	17.	Is the procurement strategy understood by purchasing division in SENWES? □ Yes □ No
7.	Is there a board in SENWES? □ Yes □ No	18.	If you see two related papers and neither cite each other - will it bother you or will you accept them? □ Yes □ No
8.	Is the board setting tone at the top in SENWES? □ Yes □ No	19.	Do you think it is OK for a conference paper and a journal paper to be the same? □ Yes □ No
9.	Does the board allows sound risk management practices: □ Yes □ No	20.	Does an organization's culture have an impact on the ability to prevent the risk □ Strongly agree □ Agree □ Slightly agree □ Disagree
10.	Is the board providing oversight on procurement compliance with applicable law and regulation? □ Yes □ No	21.	Does culture encourages the procurement officer to take full responsibility and accountability for procurement □ Strongly agree □ Agree □ Slightly agree □ Disagree
22.	Is the procurement function centralised? □ Yes □ No	33.	Training on identifying risk should be provided by our risk management division □ Yes □ No
23.	Overall top management is highly committed to socially responsible buying □ Strongly agree	34.	Risk management is a must have capability in SENWES □ Yes

	☐ Agree ☐ Slightly agree ☐ Disagree		☐ No
24.	Cost, product quality and supplier sustainability should play an important criteria when SENWES identifies a new supplier ☐ Strongly agree ☐ Agree ☐ Slightly agree ☐ Disagree	35.	I know the role of the risk manager in SENWES ☐ Yes ☐ No
25.	Purchasing performance should be measured in terms of its contribution to SENWES's success ☐ Strongly agree ☐ Agree ☐ Slightly agree ☐ Disagree	36.	Do you think the ability to demonstrate value from Risk Management is the challenges to SENWES in implementing its Risk Management program ☐ Yes ☐ No
	PART 5: ENTERPRISE RISK MANAGEMENT SEEN AS CORE BUSINESS		
26.	Do you know what risk management is? ☐ Yes ☐ No		
27.	SENWES has an approved risk management strategy and policy ☐ Yes ☐ No		
28.	There is no need to develop risk management in SENWES ☐ Yes ☐ No		

29.	Is there risk management division SENWES □ Yes □ No		
30.	Risk management is not taken seriously in SENWES because all their assets are insured with insurance companies □ Yes □ No		
31.	Risk identification is conducted by SENWES from time to time □ Yes □ No		
32.	Risk management should be like policeman in my organisation □ Yes □ No		

APPENDIX – 3 MATRIX FOR RISK AND PROCUREMENT STRUCTURE USED IN THE LITERATURE REVIEW ON CHAPTER 2 OF THE DESSERTATION

	Authors	Introduction	Background: Risk Management and Frame designing	Linking ERM with Business strategy; objective setting	Stages of ERM Implementation	support for ERM	Risk technologies	Integration of risk management into the SDLC	ERM Corporate governance	ERM: performance and competitive advantage	Management expectation for ERM	ERM control, accountability and decision making	Risk measurement and reporting in ERM	Procurement risk background	Procurement definition	Linking ERM with business strategy	Presence of CPO as head of supply chain	Risk management process	Monitor and reviewing risk on an ongoing	Reducing risk increase procurement expertise	Mitigating supplier risk	Working together to manage risk
1	Deloach, 2005	□																				
2	Arena et al, 2010	□	□			□																
3	Gordon et al, 2009	□								□												
4	Beasley et al, 2005	□	□																			

5	O'Donnell,2005		□		□																	
6	Teoh and Cheong, 2008		□		□		□				□											
7	Stonerburner et al, 2002		□		□	□	□	⊐														
8	KPMG,2001			□	□					□												
9	Frigo, 2008		□	□	□			⊐														
10	Haggi and Sivakumar, 2009		□	□			□	⊐														
11	Nazir,2006			□	□	□					□											
12	Goeseel, 2010	□			□																	
13	Manab et al, 2010			□	□	□			□													
14	COSO, 2004			□						□								□				
15	Folks, 2001			□							□											
16	Woods, 2009			□	□	□						⊐										
17	Davies, 1997				□	□						⊐										
18	Lam and Asso, 2006												□									
19	Wilson, 2008								□					□								
20	Mlalazi,2010											⊐		□		□	□	□				
21	Sollish and Semanik,												□	□								

	2007																				
22	State Board Procurement, 2010											□		□			□	□			
23	Paymen et al, 2009									□				□							
24	Xiao et al,2009													□							
25	Venter, 2007	□															□	□			
26	Breddell and Waters, 2007																□				
27	Mattingly, 2004																□	□			
28	Maree, 2010					□	□										□				
29	Piney, 2002							□									□				
30	Glatzel et al, 2011								□									□			
31	Mulani, 2009	□																	□	□	
32	Dan and Bradstreet,2009	□																	□	□	
33	PwC,2009	□																	□	□	□
34	Sadgrove,2005	□																			□