

DEVELOPMENT OF A FRAMEWORK TO ASSIST WITH RISK MITIGATION IN A PROCUREMENT ENVIRONMENT

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CHAPTER 1

NATURE AND SCOPE OF THE STUDY

1.1 INTRODUCTION

Risk Management is the logical and formalised method of identifying, classifying, analysing, and responding to risk and then monitoring and controlling the process in order to ensure that the risk involved remain effectively managed in the long term (Roberts, A, Wallace, W, McLure, N., 2006). The framework to mitigate risk has to be able to identify and assess all the risks involved in the procurement process. The consequences of missing or wrongly assessing a particular risk can be considerable.

The Risk Management framework has to be designed and implemented to embrace the organisation and all external parties. The Risk Management system has to be practical and user-friendly; if the system does not comply with these requirements people won't use the system and it won't be proactive (Kaliprasad 2006).

Procurement is the process by which goods and services are acquired. It is the process of the two (or more) contractual parties, who have different aims and objectives, interacting and agreeing on a contract within a given market sector. Procurement is a very important function. It is the process by which the organisation can attract and contract good-quality services. Good procurement leads to good suppliers and creates the conditions for increased performance and improved profitability (Roberts et al., 2006).

1.2 PROBLEM STATEMENT

The need for this study has arisen when it was found that most organisations don't have a formal system in place to mitigate their risks in the Procurement division. Organisations suffered huge financial losses due to proper controls not

been in place to ensure procurement takes place in a way that would mitigate their Risk and minimize financial losses.

The Procurement Risk Management system should be designed with a view toward proactive and built-in risk assessment, management, monitoring and control. Many best practices in Procurement are also best practices in risk management and control (Kaliprasad 2006).

In most cases people see Risk Management as a conformance function. Risk Management is not a stand alone function/silo; it forms an integral part of the organisation on every level. When looking at Operational function the following Risk areas will be researched, purchasing, contract review, inspection and testing, non-conformance management, measurement requirements, service, internal audit and training requirements (Watermeyer, 2003).

The following areas were identified as risks areas in where research in the Procurement environment will be focused on – effective management, measurement, and control of suppliers, contracts and overall expenditures. Issues that have an effect on this risk – the lack of timely and accurate information, correct tools and methodologies analysing data, integrity of data, different systems from which the data must be extracted. Post award contract management and control. Manage expenditures for leveraged sourcing. The availability of information for decision making, measurement and control. Supplier selection and contracts planning, negotiation and control (O'Keeffe 2006).

Risk Management disciplines form an inherent part of strategy, too often procurement personnel have to deal with incomplete information and have little time to spend on market research, risk, and spend analysis components of their work.

Defining information for decision-making requirements and supporting systems and data capability needs to support the critical procurement processes. Many organisations continue to under invest in the strategies, processes, skills,

information, systems, and data disciplines required to effectively managing these risks (Schacht 2002).

Controllable and predictable procurement interruption risks continue to challenge management in today's world. These more controllable risks include supplier failures (technical or financial) and demand and supply fluctuations. The successful management of supply interruption risks requires the organisation to have proactive Risk Management in place to identify these risks before they occur. When organisations have identified these risks, the following steps should be in place.

Evaluate the impact of the risk, assess the possibility of occurrence, assess the resulting impact of the occurrence, and determine which specific risks to manage and agree on risk tolerances and make appropriate investments in Risk Management. Key suppliers in the organisation's supply chain should be assessed routinely to ensure they have strategies, policies, processes (Risk Management) in place to ensure they will be able to supply (Kaliprasad 2006).

Sarbanes-Oxley Act compliance and controls – most organisations are less likely to be concerned or aware of Sarbanes-Oxley Act compliance requirements and controls. The Procurement function and many of the controls within it have a direct impact on the financial statements and, therefore, will be scrutinized for compliance with the Sarbanes-Oxley Act.

The Sarbanes-Oxley Act was enacted to help restore investor confidence in the integrity of financial reporting. The act requires certifying officers to file an internal control report that must articulate management's conclusion on the effectiveness of these internal controls. The company's external auditors must audit management's reports. The essence of the act requires management to conclude on the effectiveness of internal control over financial reporting (O'Keeffe 2006).

1.3 OBJECTIVES OF THE STUDY

The main objective this research is to develop a framework to mitigate Risk in a Procurement Environment. The specific objectives are:

- Objective 1; the importance of a framework to mitigate Risk in a Procurement Environment.
- Objective 2; to evaluate if risk mitigation is done in procurement by means of a questionnaire.
- Objective 3; to make recommendations about risk mitigation in procurement.

1.4 RESEARCH METHOD

The research method consists of literature study and an empirical study (survey).

1.4.1 Literature study

A quantitative study was done based on specific keywords. The internet played a vital role in searching for the most recent publications and information on Risk Management and Procurement, Risk Mitigation and Procurement Risk Management. Books, journals, articles, and internet were also consulted during the literature study.

1.4.2 Survey

A questionnaire was compiled to find out if risk mitigation is being done in procurement. Questions about risk and procurement processes formed part of the questionnaire.

1.4.3 Data analysis

The statistical analysis was carried out with the SPSS program (SPSS, 2007). Descriptive statistics in the form of frequencies and percentages are calculated.

1.5 CHAPTER DIVISION

The study will be divided into four chapters. In Chapter 1 the nature and scope of the study are presented which include the problem statement, research objectives, method and procedures. In Chapter 2 the literature regarding risk mitigation in a procurement environment are discussed. This includes theory on the subject.

Furthermore in Chapter 3 the results of the empirical research are presented. Chapter 4 conclusions were made and recommendations regarding these conclusions were discussed and presented.

CHAPTER 2

RISK MITIGATION WITHIN A PROCUREMENT ENVIRONMENT: A LITERATURE OVERVIEW

2.1. INTRODUCTION

Risk management is often thought of in a negative light. However, it can also be thought of as a means to aid in seizing an opportunity and not just avoiding an unfavorable outcome. Risk management is a part of everyday lives, whether we consciously think of it in these terms or not (Kaliprasad, 2006:1).

The Royal Society (1983) define 'hazard' as a situation which could lead to harm. It is the realisation that a situation may induce 'harm' that inspires the recognition of risk in association with the hazard. It can be postulated that risk is the philosophy concerned with the understanding of the nature of harm associated with the hazard.

Risk can be considered as a "systematic way of dealing with hazards" (Beck, 1986). If it is assumed that there is uncertainty associated with any prediction of a hazard occurring, then there is only uncertainty because there is only ever a prediction of the likely occurrence.

Therefore for a risk to exist there must be a hazard. The perception of hazards is entirely subjective. What one person finds hazardous, his neighbour may not. It is the way in which we feel threatened by circumstance and in turn the opinion we develop by association with the threat or hazard (Greene, 2001).

As noted by Watermeyer (2003), risk cannot be eradicated, but can be managed; it is better to be proactive than reactive. Risks, however, need to be identified, quantified and understood if they are to be managed. Risk management is an iterative process consisting of well defined steps which, taken in sequence,

support better decision-making by contributing a greater insight into risks and their impact. The risk management process can be applied to any situation where an undesired or unexpected outcome could be significant. Decision makers need to know about possible outcomes and take steps to control their impact.

Risk management is recognised as an integral part of good management practice. To be most effective, risk management should become part of an organisation's culture. It should be integrated into the organisation's philosophy, practices and business plans rather than be viewed or practiced as a separate program.

Risk Management enables continual improvement in decision-making. It is as much about identifying opportunities as avoiding or mitigating losses (Watermeyer, 2003:1).

In a study by Dockeary and Lacy (2004) the following was stated: Procurement, as the acquisition and management of external resources, is a function of strategic and operational importance to any organisation in a modern economy. This is equally the case whether it is managed by procurement professionals through a central procurement organisation or distributed organisationally on some other model.

Dockeary and Lacy (2004), further stated that procurement's role is to ensure that an organisation has a predictable supply of the external input/s it requires, offering demonstrable value for money and delivered in a cost-effective manner to support the attainment of the organisation's objectives.

By its nature, procurement exposes an organisation to risk. Procurement practices have, for this reason been developed with inbuilt controls designed to deal with that risk, for example purchasing through public or selective tendering, in the right circumstances, will encourage competition and diminish the scope for corruption and collusion in acquisition processes (Dockeary and Lacy, 2004:3).

Risk in procurement, however is often considered from a transactional viewpoint where risk management is focused on the things that can “go wrong” in the procurement process. This view is concerned with events that may contribute towards: breakdown in process, failure to comply with required processes and inadequacy of process to achieve the commercial outcome required (Dockeary et al., 2004:3).

Procurement is the process by which goods and services are acquired. It is the process of two (or more) different contractual parties, who have different aims and objectives, interacting and agreeing on a contract within a given market sector. Procurement is a very important function. It is the process by which the organisation can attract and contract good-quality services. Good procurement leads to good suppliers and creates conditions for increased performance and improved profitability. (Roberts, Wallace and McLure, 2006:169)

The aim of this paper is to develop a framework to assist with risk mitigation within a procurement environment. In achieving this goal, the paper builds on previous surveys, extends and updates them, and offers some different assessments on how to mitigate risk in Procurement.

2.2 A RISK MANAGEMENT SYSTEM TO MITIGATE PROCUREMENT RISKS

To develop a framework for risk mitigation in a Procurement environment certain aspects must be in place. Firstly in an organisation the Risk Management System must be established and interactive. Roberts, Wallace and McLure (2006) constitute that a typical risk management system first identifies all of the risks that are relevant. It analyses these risks and classifies them in some way, and then it gives consideration to the amount of risks that is acceptable in a particular application.

Having established the level of risk that is acceptable, the risk management system makes an appropriate response. It then monitors and controls itself over a period of time.

In a study by Hearn (2004), it was determined that a key part of any successful procurement is the identification, allocation and management of risks. In order to manage procurement risks, it is important to systematically identify, analyse and assess risks and develop plans for handling them early on. Responsibility should be allocated to the party best placed to manage the particular risk in question. This may involve implementing new practices, procedures or systems or simply negotiating suitable contractual arrangements. It is also important to ensure that the costs incurred in risk management are commensurate with the importance of the procurement activity and the nature and magnitude of risks involved.

The aim of this research is to integrate Risk Management into Procurement. A framework will be set up, integrating the whole Procurement process and risks associated with Procurement working according a typical risk management system.

A typical risk management system comprises (Roberts et al, 2006:128):

- * Determining the risk context;
- * An identification process;
- * An analysis and classification process;
- * A controlled consideration of organisational attitude or strategy;
- * A precaution or safeguard related to risk appetite;
- * A response process;
- * Ongoing control and self-assurance.

The following figure demonstrates the process as a whole:

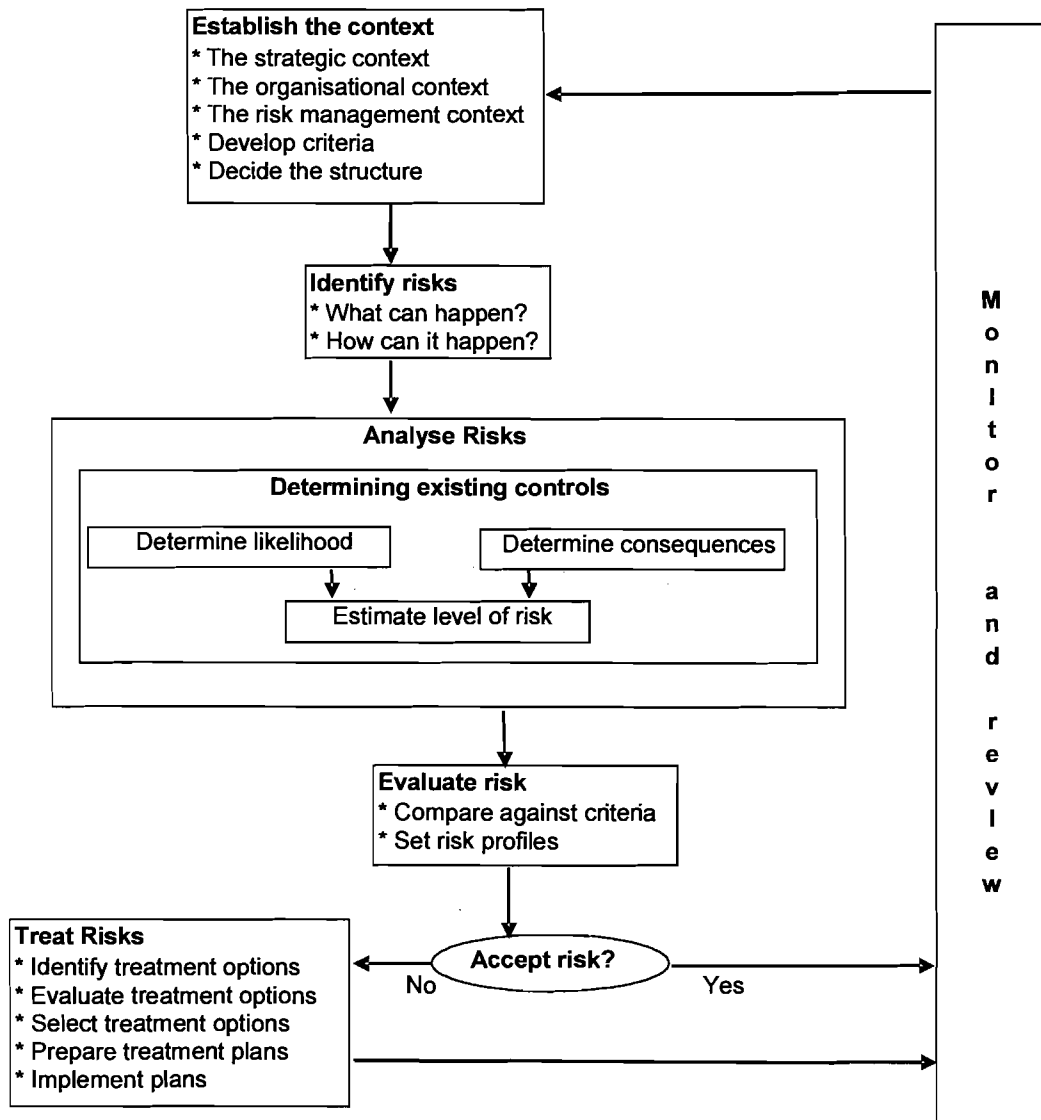


Figure 1: The process associated with establishing and implementing a risk management plan Source: (Watermeyer, 2003:3)

All the stages of the risk management system are equally important. Incorporating the risk management system into a framework the following process will be adhered to:

2.2.1 Determining the risk context

The risk context represents the starting point in the process. The first step has to be the definition of where the risk sits in the organisation and the extent to which the risk will affect the organisation as a whole if it does occur. In order to be able to do this, the organisation must define its objectives and the processes that must occur to attain these objectives Roberts et al. (2006).

2.2.2 Identify the risk

A formal risk identification process must identify the extent and nature of the risk, the circumstances under which risks arise, causes, and potential contributing factors (Mayhew, 2003). Risk identification should be discrete and continuous. Periodic risk evaluations should be conducted to identify risks; however, a continuous process should be established to regularly review available information in order to identify risks. Once the risk has been identified, the appropriate management level should assign a risk owner. The risk owner has the overall responsibility for risk management activities until final closure of the risk (Constald, 2007).

2.2.3 Analysis and classifications

Watermeyer (2003) define this as follows, determine the existing controls and analyse risks in terms of consequence and likelihood in the context of those controls. The analysis should consider the range of potential consequences and how likely those consequences are to occur. Consequence and likelihood may be combined to produce an estimated level of risk. Compare estimated levels of risk against pre-established criteria. This enables risks to be ranked so as to identify management priorities.

2.2.4 Organisational strategy.

The whole risk mitigation process must form an integral part of the Organisation strategy. According to Thompson, Strickland and Gamble (2007) the tasks of crafting and executing company strategies are the heart and soul of managing a business enterprise and winning in the marketplace. A company's strategy is the game plan management is using to stake out a market position, conduct its operations, attract and please customers, compete successfully, and achieve organisational objectives. The central thrust of a company's strategy is undertaking moves to build and strengthen the company's long-term competitive position and financial performance and, ideally, gain a competitive advantage over rivals that then becomes a company's ticket to above-average profitability.

2.2.5 Risk appetite.

The extents to which large risks are taken or the level to which identified risks are reduced are measures of the risk appetite of the organisation. Risk appetite, as often described, is an upper amount of risk a person or organisation is prepared to accept and is often viewed as something relatively fixed and driven by personality or goals. The idea is that each risk is rated in some way and then plotted on a graph where there is a line representing the risk appetite. If the risk falls below the line, then no action is needed. If the risk falls above the line, then controls must be added until it is below the line (Leitch, 2007).

2.2.6 The response process

The risk management system also contains a requirement for response. After analysing the risk and considering the risk appetite the appropriate response is made. Piney (2002) summarised it in the following way – Risk Response Planning entails developing options and determining actions to enhance opportunities and reduce threats. A clear explanation of the appropriate approach is given in Hillson (1999) – there are four main categories of

response strategies for threats: avoidance, transfer, mitigation and acceptance.

2.2.7 Monitoring and control.

Finally, the risk management system needs a provision for ongoing monitoring and control. A risk management system can itself create new risk in that it can generate a false sense of security. There is always a danger that managers will assume that the risk management process will take care of everything and operational vigilance can be reduced. The risk profile that faces an organisation can vary both significantly and quickly. The risk management system has to be monitored and adapted as necessary as the risks that it is attempting to manage change (Roberts et al, 2006:227).

2.3 PROCUREMENT RISK

Risk is intrinsically linked to decision making. If you don't have the right information you can't make the right decisions. The decision can be made on the basis of likelihood and impact assessment. Conditions of risk apply where there is a reasonable likelihood that an event will occur and where some kind of assessment of its impact can be made (Kaliprasad, 2006:9).

Procurement has been identified as a major cost driver that greatly impacts a company's bottom line and therefore is critical to competitiveness in the marketplace. However, functioned at the boundary of companies, procurement is always burdened with risk (Fu, Lee and Teo, 2006:2).

Hugo, Badenhorst and van Biljon (2007), said every organisation needs to acquire goods and services in order to fulfill its operational requirements and to attain its objectives. Any unplanned events that may occur during the acquisition, delivery or use of the goods or services and which negatively affect the organisation's ability to serve its own customers can be regarded as risks.

2.3.1 Procurement Process

Procurement generally includes a number of individual life cycle phases. These may vary from company to company but there will be a number of common phases (Roberts et al, 2006):

- Objective phase. At this stage the need is identified, what is it we want to purchase; a detailed scope of work is needed (Roberts et al, 2006).
- Exposure phase. Possible sources need to be identified. This may be done by a standardised selection process where suitable sources are identified from past experience and reliable ones are listed (Roberts et al, 2006).
- Alternative phase. This phase usually involves a scrutiny of the various alternative sources available. Each alternative to be analysed and evaluated. The alternative phase also involves a decision on the type of contract to be adopted (Roberts et al, 2006).
- Documentation phase. A scope of work is drawn up and put to the market. The scope of work is very important as it allows all bidders to bid on the same basis (Roberts et al, 2006).
- Tendering stage. Once the applicants have been scrutinised, those selected to proceed may be invited to tender or bid as source. This involves the client preparing a formal document that sets out all conditions and terms. Short listed bidders complete these documents and tender their offer (Roberts et al, 2006).
- Award Stage. The bids are scrutinised by experts; the bidder who complies with all requirements will be awarded the contract (Roberts et al, 2006).
- Contract administration stage. Having awarded the contract, the client administers the contract in order to ensure that both parties comply with its terms and conditions. Contracts are vehicles for risk transfer. Risk can usually be transferred to whatever degree is considered necessary by the person who is drafting the contract (Roberts et al, 2006).

2.3.2 Procurement Risk Opportunities.

Procurement incorporates a wide range of very significant and inherent risks and opportunities. These risks and opportunities apply to activities within the organisation as well as outside. For most organisations, it is clear that procurement can greatly influence the organisation's performance and the predictability of that performance. Procurement processes contain major risks and opportunities in supplier management, product and services sourcing and outsourcing, contract management and control, purchasing execution and control. These risks exist at all kinds of organisations and in every type of industry. Organisations of all sizes should have recognised the need to put strategies and capabilities in place to identify, prioritise, and manage risks and opportunities across procurement (O'Keeffe, 2004).

2.4 PROCUREMENT RISK PERSPECTIVES.

By its nature, procurement exposes an organisation to risk. Procurement practices have, for this reason been developed with inbuilt controls designed to deal with that risk, for example purchasing through public or selective tendering, in the right circumstances, will encourage competition and diminish the scope for corruption and collusion in acquisition processes (Dockeary and Lacy: 2004).

Using a Risk Framework can help a procurement department demonstrate its value to the organisation. Most internal customers don't understand why procurement needs to follow all the steps that are laid out by the company, and they don't care. Using a Risk Framework becomes an educational tool. It teaches end-users what happens if the procurement steps are not followed. It shows them in black and white what can happen – the risk – and how procurement professionals deal with it – the framework. It shows them that procurement wants to help them do business in a less risky way. In summary, identify risk, assign levels to those risks, and determine the steps to avoid or

mitigate those risks and share the framework with all stakeholders (Dominick, 2005).

Broadbent, (2001), identified the following three main risk areas in Procurement:

- 1) Strategic Risk – long term adverse impacts from poor decision-making or poor implementation.
- 2) Operational Risk – poor contract management, inadequate terms and conditions, failure to deliver services or goods effectively and on time.
- 3) Process Risk – failure to comply with procurement legislation or internal procedures, or the lack of documentation to prove compliance.

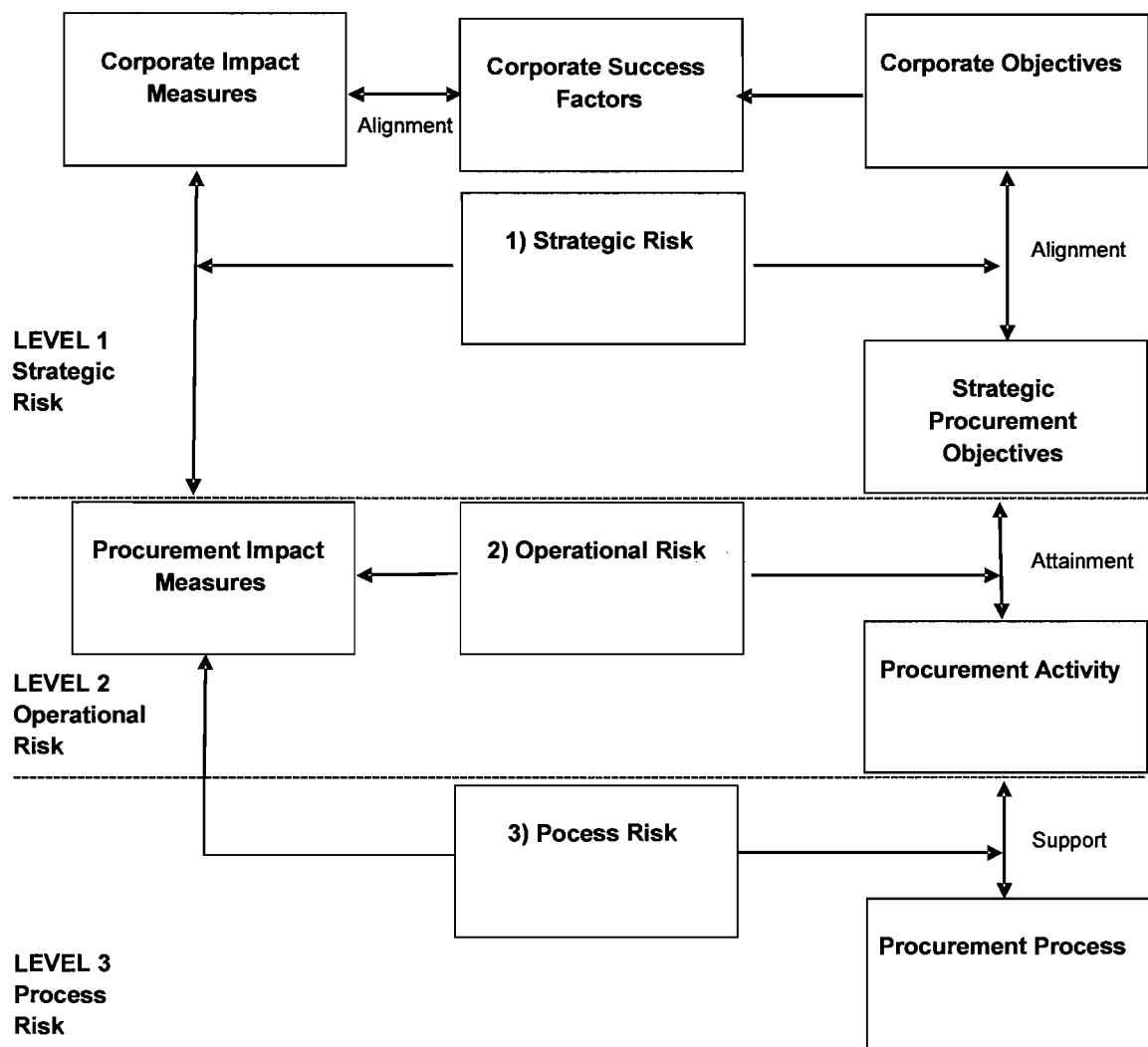


Figure 2: Main Risk Areas in Procurement Source : (Broadbent, 2001)

2.5 RISK MANAGEMENT AS AN INTEGRAL PART OF PROCUREMENT.

Dockeary and Lacy (2004) summarised this whole integration of Risk Management into procurement as follows:

The integration of best practice in risk management will better position the procurement professional to manage stakeholder expectations, and facilitate outcomes that are within risk tolerance of the organisation. Risk Management, applied effectively, will assist the procurement professional to identify changes to the procurement environment, implement treatment plans and reengineer cost effective procurement process to mitigate risk.

The consequences of not managing procurement risk effectively can include: discontinuity in the supply of essential goods or services, avoidable increases in project costs and in the unit costs of purchased inputs, in both the immediate and longer-term, loss of power and influence in relationships with essential suppliers, loss of market share or revenue through inability to meet customers demand, cash flow problems, procurement outcomes that do not support organisational needs and objectives, opportunity for fraud and corruption, negative impact on reputation in the market place, exposure of Directors and Officers to prosecution and litigation and failure in Corporate Governance and compliance controls. In the extreme, crystallisation of a significant procurement risk can cause a business or organisation to cease operation (Dockeary and Lacy 2004).

There are many benefits in the effective integration of risk management with procurement but there are three that would be almost universally achieved:

- Smarter procurement decisions – achieving both financial and non-financial benefits;
- Fewer surprises, and better identification and achievement of stakeholder expectations through acknowledgement of risks; and,
- Better procurement outcomes for buyers and suppliers, satisfying the commercial and relationship needs for both parties.

Risk Management is integral to good procurement practice, as it is to good enterprise management. Through its application an organisation will better understand: the risks and opportunities to which it may be exposed through procurement and how procurement strategy, practice and process can be developed and implemented to ensure those risks are managed effectively (Dockey and Lacy 2004).

2.6 DEVELOPMENT OF A FRAMEWORK TO ASSIST WITH RISK MITIGATION WITHIN A PROCUREMENT ENVIRONMENT.

The Australian/New Zealand Risk Management Standard 4360:2004 (AS/NZS 4360) provides a generic framework for the management of risk. The critical elements of the Standard are:

- Establish the context,
- Identify the risk,
- analyse and evaluate the identified risks, and
- Treat the risk.

The process that the Standard describes requires on the one hand ongoing communication and consultation and, on the other, continual ongoing monitoring and review.

2.6.1 Procurement Risk Context

Cooper (2007) determined that to be able to recognise a risk it is necessary to know what is at risk. The first step in the standard process is to define the context of the risk assessment, which falls into two parts, one descriptive and the other creative. To ensure that all significant risks are captured, it is necessary to know the objectives of the organisation within which risks are to be managed. This is the descriptive part of the context analysis. The second part of the context analysis is creative rather than descriptive. Risk identification will generally be

unproductive if an attempt is made to consider the organisation as a whole. It is much more effective to break it into components for risk identification.

Lindner (2006) explains establishing Procurement Risk Context: "This relates to understanding the environment in which procurement is being undertaken relating to the organisation, stakeholders, strategy and the associated importance of risk management for that transaction".

Issues which may be considered in establishing the risk management context are:

- the organisation's approach to risk in terms of levels of acceptable risk;
- importance of procurement to the business and its objectives;
- stakeholders – who is involved or impacted by procurement;
- defining relationships between stakeholders and the organisation;
- defining responsibilities for risk management in the procurement process;
and
- Previous experience or lessons learned in procurement.

Dockeary and Lacy (2004) has established the following: effective application of AS/NZS 4360:2004 for any purpose requires establishment of a specific context. This context defines the basic parameters within which risk must be managed, and sets the scope for the rest of the risk management process.

There are three distinct and essential elements to a risk:

- An event or circumstance;
- Its likelihood; and
- Its impact on the attainment of objectives.

No event is a risk for an organisation in its particular context unless it has an impact on the organisation's objectives. It is therefore vital in any particular context that there is a shared understanding of organisational, procurement and stakeholder objectives.

It is equally important that the procurement objectives be aligned with the objectives of the broader organisation. Should there not be alignment the effectiveness of both the procurement and risk processes will be diminished and there will be a significant risk that corporate objectives will be compromised.

2.6.2 Identify the Procurement risk

Risk Identification is a very important and distinct step in the Risk Management Process. This is in fact a fact finding exercise. The objective is to reveal all possible risks in an organisation. If this step is not conducted properly, the whole risk management process will be affected (Li, 2007),

Planning and preparation is called for prior to the commencement of this step. Essentially this step is a brainstorming workshop where potential risks that threaten the likelihood of procurement success are discussed and captured (Kaliprasad, 2006).

Duncan and McGrath (2003) asked the following question: "How do I know that I have completely identified all of the risks in the business? ". While 100% risk elimination is neither desirable nor possible, every effort must be made to identify all critical risks. A multi-faceted approach is needed to consider the risks inherent in the industry and those that are unique to procurement. This approach must take into account industry practice, as well as existing controls and the knowledge of management and staff.

Lindner (2006) – Procurement practitioners should seek to identify potential risks associated with procurement. There are a number of useful tools and techniques that can be used including checklists, brainstorming, system analysis, drawing on outside experience and scenario analysis.

Hugo, Badenhorst and van Biljon (2007) identify procurement risk in a broader sense: procurement risks involve the potential occurrence of events associated

with inbound supply that can have significantly detrimental effects on the organisation.

Every Risk Management System must necessarily be put in motion by the process of risk identification, for obviously a risk will not be managed if it is not identified. Hence this process must be viewed as the single most important function of the risk management system and should be approached in as systematic manner as possible (Valsamakis, Vivian, Du Toit, 2006).

Valsamakis et al. (2006) summarised certain features of importance in the risk identification process:

- It is unlikely that one particular method or technique of identification will be sufficient to identify all risk exposures and address all associated problems.
- Since the various methods themselves have developed in response to solving problems within particular industries, certain methods are found more useful in some industries than others.
- The process of identification is greatly assisted and enhanced by consultation with as many people outside the risk management department as possible.
- Risk identification is an on-going process, and should not be regarded as an isolated or once-off exercise.
- Risk identification entails a certain degree of creativity. While past routines used in risk identification provide some system and rigour to the activity, there should be no limit imposed on any lateral approach to identification.

O'Keeffe (2004) identified the following procurement risk areas in his research:

1) Risk Area 1 – Procurement strategic Planning.

There is a risk if an infrastructure component is deficient the following must be in place; Procurement Strategies and Policies, Procurement and Risk Management Process, People and Organisational Structure, Information for decision making and Procurement Systems and data.

2) Risk Area 2 – Sales and Operation Planning.

Sales and operations planning is a key risk area and a critical risk management and mitigation practice.

3) Risk Area 3 – Procurement Risk Management.

Limited information for decision making in strategic sourcing. Lack of Vendor and Contracts Management Monitoring and Control.

4) Risk Area 4 – Supply Interruption.

Supply interruption risk concerns have always been a day-to-day high priority for procurement professionals. The arrival of war on terrorism and infectious diseases as well as continued velocity in the growth of global sourcing and business process outsourcing have increased both the likelihood and impact of supply interruption events.

5) Risk Area 5 – Sarbanes-Oxley Act Compliance and Controls.

Procurement and operations management may find it to be very much to their advantage to leverage this corporate energy and commitment to improving process and transactional controls (complying with the act).

Risk identification is a dynamic process in which it is essential that risks that have been identified are evaluated and monitored, and new risks highlighted (Valsamakis et al. 2006).

2.6.3 Analyse and evaluate the identified Procurement Risk.

Dockeary and Lacy (2004) established that risk assessment comprises the analysis and evaluation of identified risks. Analysis involves assessment against likelihood and impact. This is where an understanding of risk is developed, and circumstances that contribute towards the risk are considered. Risk assessment also includes the identification and evaluation of the effectiveness of existing controls.

Hugo et al. (2006) identified that the assessment of procurement risks form the next step in the risk management process. The impact of the identified risks on the purchasing organisation is determined during this step and the risks are then

categorised according to the effect they may have on the organisation. A general process for risk assessment can involve establishing loss potential, identifying potential losses, understanding the likelihood of potential losses, assigning significance of losses and appraising overall risk.

Procurement activity risk should be against impact criteria that are a subset of the organisational evaluation criteria and take account of strategic procurement objectives. Criteria will generally be associated with cost, quality and predictable acceptability of supply (Dockeary and Lacy, 2004).

Lindner (2006) summarised that on completion of the risk analysis, an evaluation of the risks is conducted. The purpose is to make decisions on risk priorities and actions to be developed and implemented to manage risk to an acceptable level. It also needs to be acknowledged that in some instances it may not be possible to mitigate risk to an acceptable level. This will require decisions to be taken with regard to the future of the particular strategy or procurement activity.

2.6.4 Treat Procurement Risk

Hugo et al. (2006) stated that the risk control activities applied in an organisation must be sufficient to provide management with assurance that all risks in the organisation are being effectively managed. As such procurement is faced with five basic alternatives from which to choose when deciding how to manage risk:

- Risk avoidance
- Risk assumption
- Risk elimination
- Risk reduction
- Risk Transfer

Key procurement process elements such as identifying supply needs, specifying requirements, acquiring goods and services and ongoing management, are controls that assist with the management of risk. The effectiveness of these

process elements will determine how well the identified risk is treated (Dockeary and Lacy, 2004).

2.6.4.1 Risk avoidance

Risk avoidance occurs when a decision maker decides that risk is not acceptable. This could relate to all the risk in a given venture or parts of the associated risk. Risk avoidance is normally associated with pre-contract negotiations (Roberts et al. 2006).

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 avoidance means that the chance of loss has been eliminated. In practice it means changing suppliers, using alternative materials, ceasing some operations that have been carried out in the past, or selecting a business location where a certain peril is not present (Hugo et al. 2006).

2.6.4.2 Risk assumption

Risk assumption means that the consequences of the loss will be borne by the party exposed to the chance of loss. Often risk assumption is a deliberate risk management decision that is the assumption of risk is undertaken with the full understanding of the consequence of a potential loss, and with the understanding that these consequences will be borne by the one assuming the risk (Hugo et al. 2006).

Lindner (2006) stated that this is appropriate where the impact of the risk is minimal or insignificant and outweighs the measures, financial or otherwise, required to control or eliminate the risk.

2.6.4.3. Risk Elimination

Hugo et al. (2006) defined risk elimination as introducing standards, procedures and actions necessary to eliminate risk. Having a back-up facility at a distant location will, for example, eliminate the loss of data by fire.

2.6.4.4 Risk Reduction

Risk may be reduced by a number of means. It may be possible to reengineer the likelihood and impact of a given risk. Risk may be reduced by training and development, or by redefining the objectives of procurement (Roberts et al. 2006)

Lindner (2006) stated that risk reduction is appropriate where it is possible to mitigate risk via contingency planning or other means.

Risk reduction is aimed at reducing the likelihood of occurrence of loss and the severity of the loss should it occur. A training programme for all staff concerned with procurement is an example of an action which is aimed at reducing the frequency with which mistakes are made in the procurement process (Hugo et al. 2006).

2.6.4.5 Risk Transfer

Risk transfer involves transferring the risk to others. There are numerous ways in which this can be done. Liability could be transferred, for example, through contractual clauses or through negotiation (Roberts et al. 2006).

Watermeyer, (2003) define risk transfer as shifting the responsibility or burden of loss to another party through legislation, contract, insurance or other means or shifting a physical risk or part thereof elsewhere.

One of the key points in procurement risk management is to identify the extent to which an identified risk will be shared or allocated between buyer and supplier.

AS/NSZ 4360, in its definition of “risk sharing” has three additional notes:

- Legal or statutory requirements can limit, prohibit or mandate the sharing of some risks.
- Risk sharing can be carried out through insurance or other agreements.

- Risk sharing can create new risks or modify an existing risk.

2.7 MONITOR AND REVIEW PROCUREMENT RISKS

It must be kept in mind that Procurement Risk Management is a continuing process. The last step in the framework, monitoring and feedback completes the risk management process but at the same time restarts it. Procurement Risk Management must continuously monitor what is happening in its responsibility area as it forms part of the overall plan to reduce risk and to eventually increase the bottom line of the organisation (Hugo et al. 2006).

Lindner (2006) stated that procurement practitioners should monitor risks and the effectiveness of treatments on an ongoing basis. The nature of risk may change throughout the course of procurement and it is likely that the risk management process may need to be repeated and appropriate action taken as required. In all cases, there is a need to record risks along with the treatment applied.

2.8 CONCLUSION

Reaching a conclusion in the words of Dockeary and Lacy (2004), the standard approach is to apply risk management at key stages in procurement. This approach is valid as it is at key stages that there may be material changes to the buyer/supplier, relationship or environment, resulting in the need to revisit the identified risks to determine if the treatment strategies are adequate, or new strategies may need to be developed.

The procurement professional must however, retain the sources of risk at “front of mind”. In some instances it may not be adequate to wait until the next stage of the process to consider the risk. Organisational objectives may change, suppliers may fail to perform or become insolvent. At the strategic level, risk should be applied during the corporate planning cycle. This is necessary to ensure alignment of objectives is established, maintained and communicated.

CHAPTER 3 EMPIRICAL RESEARCH

3.1 INTRODUCTION

The aim of this chapter is to reflect the results of the empirical research. This chapter focuses on the collection of data, for which structured questionnaires have been selected as the research method. The questionnaires were completed by procurement professionals in order to determine if risk mitigation takes place in the procurement environment. These questionnaires were distributed amongst forty procurement professionals.

The questions focused on the following issues: Age, gender, Occupation and Grading. The main aim of the research was to determine if Risk Management takes place in Procurement. For this purpose the questionnaire included questions like: Procurement risks are clearly identified, Procurement risk control is done effectively on a continuous basis and Risk Monitoring is continuous.

3.2 INTERPRETATION OF THE RESULTS

The questionnaire was designed on the basis of a four point Likert scale. In the questionnaire used in this study the following format was used:

		Strongly Agree	Disagree	Agree	Strongly Agree
Q1	Relevant question/Statement	1	2	3	4

All the questions needed to be answered by making a mark on the relevant block, by using the following scale:

1 = Strongly Disagree	3 = Agree
2 = Disagree	4 = Strongly Agree

To answer the question, the respondent selected the number which describes the situation the best. The questionnaire was only made available in English as the Procurement Professional all are part of a international Company.

3.3 BIOGRAPHICAL DATA

The following biographical data were gathered from the respondents:

3.3.1 AGE

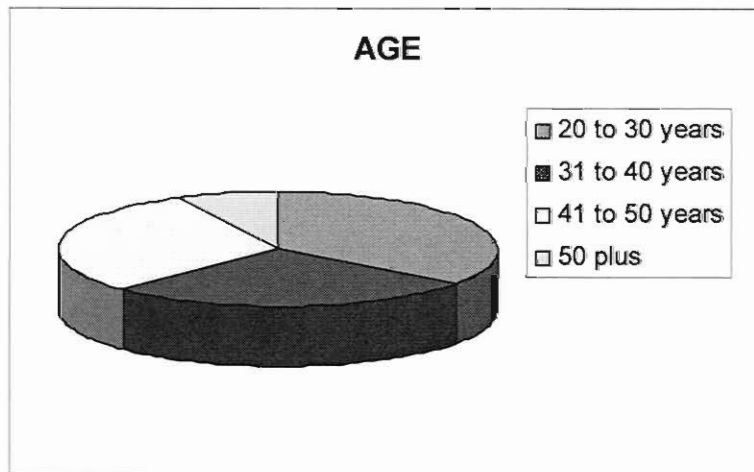


Figure 3: Age

According to Figure 3.1, fourteen of the respondents are between the age of 20 to 30 years, eleven of the respondents between the age of 31 to 40 years, twelve of the respondents between the age of 41 to 50 years and three of the respondents are over 50.

3.3.2 GENDER

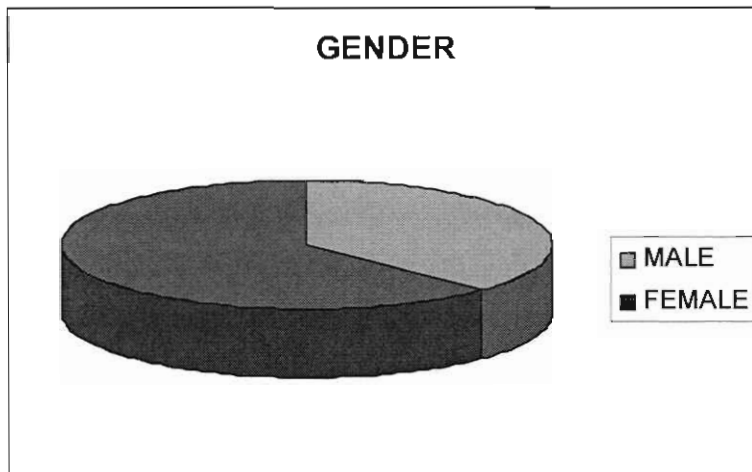


Figure 4: Gender

According to Figure 3.2 fifteen of the respondents were male and twenty-five of the respondents were female, this is a good reflection of the Procurement Occupation as it is dominated by females.

3.3.3 OCCUPATION

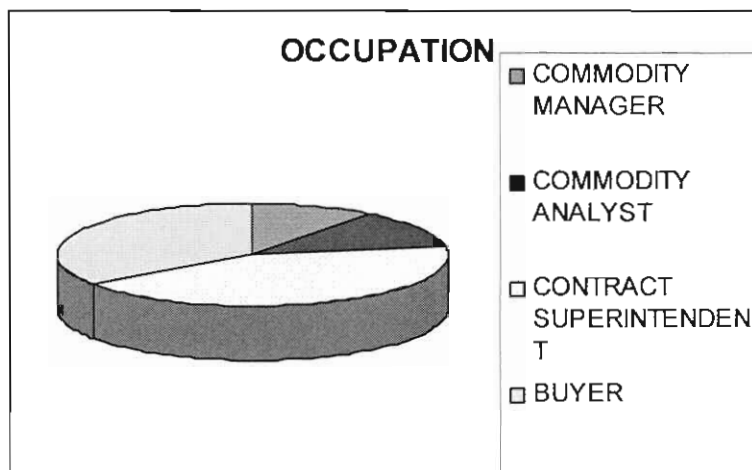


Figure 5: Occupation

According to Figure 3.3 there were four Commodity Managers, five Commodity Analyst, seventeen Contract Superintendents and fourteen Buyers that completed the questionnaires. This ratio is correct as Commodity teams consist of one Commodity Manager, one Commodity Analyst and depending on the size

of the team one to three Contract Superintendents and a team can have up to five buyers.

3.3.4 GRADE

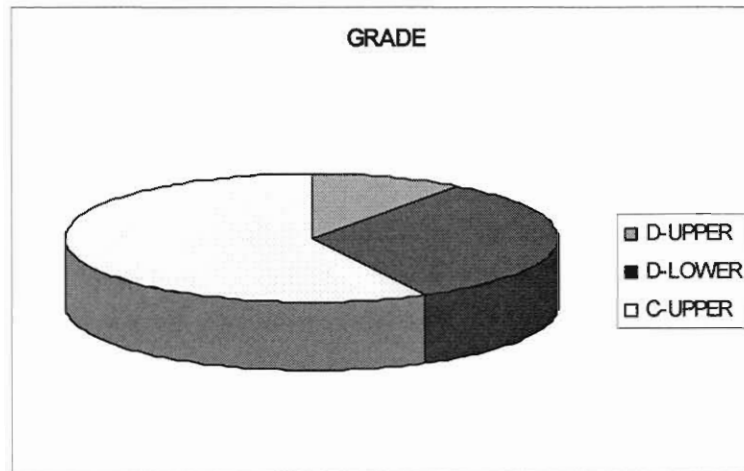


Figure 6: Grade

According to Figure 3.4, 4 of the respondents are on D-Upper level, 13 of the respondents are in D-Lower level and 23 of the respondents are on C-Upper level.

3.4 RESEARCH DATA

The following questions were used to determine if Risk Mitigation is been done in a Procurement Environment. The results are being analysed in the following section.

The following statements, 3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5 and 3.4.6 were made to determine if buying is done according to procedures and customers requests and to determine if competitive buying is taking place.

3.4.1 Tender procedure is in accordance to company values and strategy.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree			1	1
Agree	2	4	8	6
Strongly Agree	2	1	8	7

Table 3.1: Tender procedure is in accordance to company values and strategy

Most of the respondents agreed or strongly agreed that tender procedures are in accordance to company values and strategy. Only one Contract Superintendent and one Buyer disagreed with this statement.

3.4.2 Invalid tenders are accepted during adjudication.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	2	1	7	8
Disagree	1	2	7	4
Agree	1	2	3	1
Strongly Agree				1

Table 3.2: Invalid tenders are accepted during adjudication

The response to this question was somewhat mixed, most respondents strongly disagreed and disagreed with this statement, however there was eight respondents that felt that invalid tenders are accepted during adjudication.

3.4.3 Contracts are established for repeat purposes.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree			3	1
Agree	2	3	8	12
Strongly Agree	2	2	6	1

Table 3.3: Contracts are established for repeat purposes

Most respondents did agree or did strongly agree with this statement, there were three Contract Superintendents and one Buyer that felt that this is not true and they did disagree.

3.4.4 Orders do not take advantage of discounts.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree		1	1	5
Disagree	2	1	8	5
Agree	1	3	8	3
Strongly Agree	1			1

Table 3.4: Orders do not take advantage of discounts

The above statement had a mixed response, most respondents strongly disagreed and disagreed with this statement, but there was at least one person in each occupation that did agree with this statement, there was two that strongly agreed with the above, the experience in the past was that orders are being placed without taking discount that was offered on quotes.

3.4.5 Orders are placed according to quotes from vendors.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree			2	3
Agree	1	4	8	4
Strongly Agree	3	1	7	7

Table 3.5: Orders are placed according to quotes from vendors

Most of the respondents did agree or did strongly agree with this statement, there was two Contract Superintendents and three Buyers that did disagree with this statement, this question refers to question 3.4.4, where respondents felt orders were placed without taking advantage of discount, the respondents that disagree also looked at this issue, because orders are not placed according to quotes from vendors if discount is not taken.

3.4.6 Orders are placed in line with customers requests.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree			2	1
Agree	4	4	10	9
Strongly Agree		1	5	4

Table 3.6 Orders are placed in line with customers requests

The majority of respondents did agree or did strongly agree with this statement. There were two Contract Superintendents and one Buyer that disagreed with this statement. However the customers were not involved in this survey, a total different response would have been received if they were involved.

The following statements 3.4.7, 3.4.8, 3.4.9, 3.4.10, 3.4.11, 3.4.12, 3.4.13, and 3.4.14 were made to determine the validity of information obtained from systems, if approvals framework are correct on system and to determine if the correct people access the correct information.

3.4.7 Masterfile information regarding vendor info is correct.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree	1	2	4	4
Agree	2	3	12	9
Strongly Agree			1	1

Table 3.7: Masterfile information regarding vendor info is correct

Most of the respondents agreed or strongly agreed with this statement, there was a lot of respondents that had a different experience with this statement and had things go horribly wrong due to incorrect information. There was one Commodity Manager that strongly disagreed. The following respondents disagreed, one Commodity Manager, two Commodity Analyst, four Contract Superintendents and four Buyers.

3.4.8 Purchases are authorised according to approval framework.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree				1
Agree	2	3	11	3
Strongly Agree	2	2	6	10

Table 3.8: Purchases are authorised according to approval framework

Most of the respondents did agree or did strongly agree with this statement only one Buyer felt that purchases were not authorised according to the approval framework.

3.4.9 Amendments to purchase orders are approved by authorised personnel.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree		1	3	3
Agree	3	4	11	8
Strongly Agree	1		3	3

Table 3.9 Amendments to purchase orders are approved by authorised personnel

The majority of the respondents did agree and did strongly agree with this statement, there was one Commodity Manager that did strongly disagree. The following respondents did disagree with the statement: one Commodity Analyst, three Contract Superintendents and three Buyers.

3.4.10 Segregation of duties is adequately addressed.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree			6	3
Agree	3	4	7	8
Strongly Agree		1	4	3

Table 3.10: Segregation of duties are adequately addressed

Most of the respondents did agree or did strongly agree with this statement. There was one Commodity Manager who totally disagreed with this, and six Contract Superintendents and three Buyers who disagreed with this statement.

3.4.11 KPI's are directly related to the job criteria.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1		1	1
Disagree			3	1
Agree	3	5	12	9
Strongly Agree			1	3

Table 3.11: KPI's are directly related to the job criteria

The majority of the respondents felt that KPI's are directly related to the job criteria. Only one Commodity Manager, one Contract Superintendent and one Buyer disagreed strongly. There were three Contract Superintendents and one Buyer that disagreed with the statement.

3.4.12 Management reports provide adequate information in terms of deviations.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree	1	2	3	2
Agree	2	2	11	8
Strongly Agree		1	3	4

Table 3.12: Management reports provide adequate information in terms of deviations.

Only four respondents are from management, two did agree on this statement one did strongly disagree and one did disagree. The rest of the respondents were from Middle Management and most did agree and did strongly agree that Management reports provide adequate information in terms of deviations. There

was two Commodity Analyst, three Contract Superintendents and two Buyers that disagreed with this statement.

3.4.13 Validity of information obtained from the system can be relied upon.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree	2	2	5	6
Agree	1	3	11	7
Strongly Agree			1	1

Table 3.13 Validity of information obtained from the system can be relied upon.

Most of the respondents did agree or did strongly agree with this statement, the following respondents did disagree, two Commodity Managers, two Commodity Analyst, five Contract Superintendents and six Buyers, one Commodity Manager did strongly disagree.

3.4.14 Confidential information has restricted access.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				1
Disagree	1		5	4
Agree	3	4	8	4
Strongly Agree		1	4	5

Table 3.14: Confidential information has restricted access.

The majority of the respondents felt that confidential information has restricted access, as they couldn't access any confidential information when they tried to. There are a few respondents that felt this was not the case as they have lost some valuable information. The following respondents disagreed with the statement, one Commodity Manager, five Contract Superintendents and four Buyers. There was one Buyer that strongly disagreed.

The following statements 3.4.15, 3.4.16, 3.4.17 and 3.4.18 were made to determine competency of personnel.

3.4.15 Buyers are equipped to fulfill the buying function.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1			
Disagree		1	3	1
Agree	2	4	11	7
Strongly Agree	1		3	6

Table 3.15: Buyers are equipped to fulfill the buying function

Most of the buyers agreed and strongly agreed that they are equipped to fulfill the buying function only 1 buyer disagreed. Most of the other respondents also agreed and strongly agreed with this statement. There was one Commodity Manager who strongly disagreed and one Commodity Analyst, three Contract Superintendents and one Buyer that disagreed.

3.4.16 Analysts are provided with proper information to do risk analysis in procurement.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	4		1	1
Disagree		2	3	1
Agree		3	10	10
Strongly Agree			3	2

Table 3.16 Analysts are provided with proper information to do risk analysis in procurement

On this statement two Commodity Analysts did disagree and three did agree. The majority of Contract Superintendents and Buyers did agree and did strongly agree with this statement. The following respondents did strongly disagree, four Commodity Managers, one Contract Superintendent and one Buyer. There were three Contract Superintendents and one Buyer that disagree.

3.4.17 Contract Superintendents has the necessary empowerment to address procurement risk.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1		4	2
Agree	3	5	9	9
Strongly Agree			4	3

Table 3.17: Contract Superintendents has the necessary empowerment to address procurement risk

In response to this statement four Contract Superintendents disagreed, nine agreed and four strongly agreed. The majority of the respondents did agree and did strongly agree. There was one Commodity Manager, four Contract Superintendents and two Buyers that disagreed.

3.4.18 Commodity Managers are constantly managing procurement risk.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1		1	
Disagree		1	1	4
Agree	3	4	11	9
Strongly Agree			4	1

Table 3.18 Commodity Managers are constantly managing procurement risk.

There were three Commodity Managers that agreed with this statement and one that strongly disagreed. The majority of the other respondents did agree and did strongly agree. There was one Contract Superintendent that strongly disagreed. The following respondents disagreed with the statement, one Commodity Analyst, one Contract Superintendent and four Buyers.

Statements 3.4.19 and 3.4.20 were made to determine relationships between buyers and customers.

3.4.19 Information received from customers is accurate and valid.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	3	5	13	9
Agree	1		4	5
Strongly Agree				

Table 3.19: Information received from customers is accurate and valid

The majority of respondents disagreed with this statement. There were only a few that agreed: one Commodity Manager, four Contract Superintendents and five Buyers.

3.4.20 Orders are placed in time to provide service or goods to customers when required.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				1
Disagree	2	2	8	4
Agree	1	3	9	5
Strongly Agree	1			4

Table 3.20 Orders are placed in time to provide service or goods to customers when required.

The respondents had the following reaction: one Buyer strongly disagreed, two Commodity Managers, eight Contract Superintendents, two Commodity Analysts and four Buyers disagreed, one Commodity Managers, three Commodity Analysts, nine Contract Superintendents and five Buyers agreed and one Commodity Manager and four Buyers strongly agreed.

Statements 3.4.21, 3.4.22, 3.4.23, 3.4.24, 3.4.25, 3.4.26, 3.4.27, 3.4.28, 3.4.29 and 3.4.30 were made to determine if Contract Management is been done according to procedure and policies and if it is part of a Risk Management System.

3.4.21 Contract management is creating value to the business.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree				2
Agree	3	4	10	6
Strongly Agree	1	1	7	6

Table 3.21 Contract Management is creating value to the business

Most of the respondents did agree and did strongly agree; there was two Buyers that disagreed.

3.4.22 Contract Administration is done on time to avoid order or contract queries.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2	3	7	3
Agree	2	2	10	10
Strongly Agree				1

Table 3.22: Contract Administration is done on time to avoid order or contract queries

The following respondents said they disagreed with the statement: two Commodity Managers, three Commodity Analysts, seven Contract Superintendents and three Buyers. There were some respondents that agreed with this statement two Commodity Managers, two Commodity Analysts, ten Contract Superintendents and ten Buyers, only one Buyer strongly agreed.

3.4.23 Contracts are being utilised by customers and buyers.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1	1	5	3
Agree	3	4	9	8
Strongly Agree			3	3

Table 3.23 Contracts are being utilised by customers and buyers

Most of the respondents did agree and strongly agree with this statement. The following respondents did disagree: one Commodity Manager, one Commodity Analyst, five Contract Superintendents and three Buyers.

3.4.24 Contract variations are according to approval framework.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree		1	1	2
Agree	3	2	13	6
Strongly Agree	1	2	3	6

Table 3.24 Contract variations are according to approval framework

There were thirteen Contract Superintendents that agree with this statement, three that strongly agreed and one that disagreed. The majority of the other respondents did agree and did strongly agree. There were two Buyers and one Commodity Analyst that disagree.

3.4.25 Formal contract documentation is in place.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree			2	1
Agree	3	3	9	5
Strongly Agree	1	2	6	8

Table 3.25; Formal contract documentation is in place

The majority of the respondents did agree and did strongly agree with this statement. There were two Contract Superintendents and one Buyer that disagreed.

3.4.26 Contract terms and conditions are communicated to customers.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2		3	1
Agree	1	3	9	7
Strongly Agree	1	2	5	6

Table 3.26: Contract terms and conditions are communicated to customers

The Contract Superintendents had five that strongly agreed, nine that agreed and three that disagreed. The majority of other respondents did agree and did strongly agree. There were two Commodity Managers and one Buyer that disagreed.

3.4.27 Contract Management system is able to handle all types of contracts.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree	1		1	
Disagree	1	3	6	2
Agree	1	1	8	6
Strongly Agree	1	1	2	6

Table 3.27: Contract Management system is able to handle all types of contracts.

The Contract Superintendents had one that strongly disagreed, six disagreed, eight agreed and two strongly agreed. The Commodity Managers had one that strongly disagreed, one disagreed, one agreed and one strongly agreed.

3.4.28 Payments are made in accordance with contract prices, and conditions and quotes.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2	1	1	1
Agree	1	3	11	5
Strongly Agree	1	1	5	8

Table 3.28: Payments are made in accordance with contract prices, and conditions and quotes.

The majority of the respondents did agree and did strongly agree. The following disagreed: two Commodity Managers, one Commodity Analyst, one Contract Superintendent and one Buyer.

3.4.29 Suppliers are measured against delivery performance.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	3	1	5	1
Agree		4	12	10
Strongly Agree	1			3

Table 3.29: Suppliers are measured against delivery performance

The majority of the respondents did agree and did strongly agree. The following disagreed: three Commodity Managers, one Commodity Analyst, five Contract Superintendents and one Buyer.

3.4.30 Contract Increases are validated according to approved price adjustment clause.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1			1
Agree	2	5	16	11
Strongly Agree	1		1	2

Table 3.30: Contract Increases are validated according to approved price adjustment clause

The Contract Superintendents had sixteen that agreed and one that strongly agreed. The rest of the respondents agreed and strongly agreed. There were one Commodity Manager and one Buyer that disagreed.

Statements 3.4.31, 3.4.32, 3.4.33, 3.4.34, 3.4.35, 3.4.36, 3.4.37, 3.4.38, 3.4.39 and 3.4.40 were made to determine if there is a Risk Management system in place and how effective it is been used.

3.4.31 The context of risk in procurement is understood.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1		3	2
Agree	3	5	13	10
Strongly Agree			1	2

Table 3.31: The context of risk in procurement is understood

The majority of the respondents strongly agreed and agreed that they understood the context of risk in procurement. There were one Commodity Manager, three Contract Superintendents and two Buyers that disagreed.

3.4.32 Procurement risks are clearly identified.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2	2	1	4
Agree	2	3	15	7
Strongly Agree			1	3

Table 3.32: Procurement risks are clearly identified.

The majority of the respondents strongly agreed and agreed that procurement risks are clearly identified. There were two Commodity Managers, two Commodity Analyst, one Contract Superintendent and four Buyers that disagreed.

3.4.33 Procurement risks are classified according to impact.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	3		2	2
Agree	1	5	15	9
Strongly Agree				3

Table 3.33: Procurement risks are classified according to impact

The majority of the respondents strongly agreed and agreed that procurement risks are classified according to impact. There were three Commodity Managers, two Contract Superintendents and two Buyers that disagreed.

3.4.34 Procurement risk control is done effectively on a continuous basis.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2	1	2	2
Agree	2	4	14	11
Strongly Agree			1	1

Table 3.34 Procurement risk control is done effectively on a continuous basis

The majority of the respondents strongly agreed and agreed that Procurement risk control is done effectively on a continuous basis.

There were two Commodity Managers, one Commodity Analyst, two Contract Superintendents and two Buyers that disagreed.

3.4.35 Proactive Risk Management System is in place.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	2	1	5	2
Agree	2	3	9	11
Strongly Agree		1	3	1

Table 3.35: Proactive Risk Management System is in place

The majority of the respondents strongly agreed and agreed that there is a Proactive Risk Management System in place. There were two Commodity Managers, one Commodity Analyst, five Contract Superintendents and two Buyers that disagreed.

3.4.36 Deviations are addressed by Management when they appear.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1	1		2
Agree	3	3	11	8
Strongly Agree			6	4

Table 3.36: Deviations are addressed by Management when they appear

The majority of the respondents strongly agreed and agreed that deviations are addressed by Management when they appear. There were two Commodity Manager, one Commodity Analyst and two Buyers that disagreed.

3.4.37 Corrective Actions are communicated and implemented.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1		4	3
Agree	2	4	8	5
Strongly Agree	1	1	5	6

Table 3.37: Corrective Actions are communicated and implemented

The majority of the respondents strongly agreed and agreed that Corrective Actions are communicated and implemented. There were one Commodity Manager, four Contract Superintendents and three Buyers that disagreed.

3.4.38 Preventative Actions are communicated and implemented.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree			1	
Disagree	1	3	5	3
Agree	3	2	6	7
Strongly Agree			5	4

Table 3.38: Preventative Actions are communicated and implemented

There were a lot of different reactions to this statement. There was one Contract Superintendent that strongly disagreed. The respondents that disagreed were one Commodity Manager, three Commodity Analysts, five Contract

Superintendents and three Buyers. The respondents that agreed were three Commodity Managers, two Commodity Analyst, six Contract Superintendents and seven Buyers. There were five Contract Superintendents and four Buyers that strongly agreed.

3.4.39 Risk Monitoring is continuous.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1		2	1
Agree	3	5	9	11
Strongly Agree			6	2

Table 3.39: Risk Monitoring is continuous

The majority of the respondents strongly agreed and agreed that Risk Monitoring is continuous. There were one Commodity Manager, two Contract Superintendents and one Buyer that disagreed.

3.4.40 New Risks are identified and addressed as they appear.

Level of agreement	Occupation			
	Commodity Manager	Commodity Analyst	Contract Superintendent	Buyer
Strongly Disagree				
Disagree	1		3	3
Agree	3	5	9	8
Strongly Agree			5	3

Table 3.40: New Risks are identified and addressed as they appear

The majority of the respondents strongly agreed and agreed that New Risks are identified and addressed as they appear. There were one Commodity Manager, three Contract Superintendents and three Buyers that disagreed.

3.5 CONCLUSIONS

The aim of this empirical research chapter was to determine if Risk Management is done in Procurement. To come to a conclusion it was necessary to look at all the questions in the questionnaires.

Conclusions and recommendations will be discussed in Chapter 4.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

4.1 INTRODUCTION

In this chapter research is completed, therefore this chapter will:

- provide conclusions of the research;
- make recommendations concerning the research.

The aim of this study was to determine if there was a proper framework in place to mitigate risk in procurement. To achieve this aim the following objectives were set and met:

- Firstly, an overview risk management and procurement was provided and the purpose of the research was established. This was done in chapter 1 by means of a problem statement questioning the controls in procurement to minimize financial losses in companies. Research methods and basic concepts were explained and clarified.
- Secondly, a literature study was done in chapter 2, discussing the whole risk management system and how procurement fit in with risk management. The whole Risk Management system was integrated with procurement to develop a framework for risk mitigation.
- Thirdly, in chapter three the results of the empirical research were reflected in order to determine if risk management did take place in the procurement environment. Responses to the questionnaires were interpreted and possible success factors that were regarded as important were identified.

4.2 CONCLUSIONS

The following conclusions regarding the research can be drawn:

- Conclusions with regards to the importance of a framework for risk mitigation in procurement from the literature study.
- Conclusions with regards to the survey.

4.2.1 Conclusions with regards to the importance of a framework for risk mitigation in procurement from the literature study.

The following are regarded as the main conclusions with respect to research objective 1:

- Risk Management in Procurement is a proactive and not a reactive function (cf.2.1).
- Risk forms a part of our everyday life and must be managed as such (cf.2.1).
- Procurement exposes an organisation to risk and therefore there must be a proper system in place to mitigate procurement risks (cf.2.1).
- There are formal Risk Management Systems which can be used to develop a framework for risk mitigation in a procurement environment (cf.2.2).
- Determining the risk context is the starting point in the whole risk management process (cf.2.2.1).
- Risk identification is the next important step; ensure all risks are identified to avoid losses for the organisation (cf.2.2.2).
- These risks must be analysed and classified in accordance of importance to ensure these risks are managed (cf.2.2.3).
- Risk mitigation must form an integral part of the organisation's strategy and alignment (cf.2.2.4).
- The organisation must determine what their appetite towards risk is for risks to be managed accordingly (cf.2.2.5).

- Risk response is used to determine how an organisation will deal with risks (cf.2.2.6).
- When all this is in place, these risks need to be monitored and controlled to ensure risk management becomes a proactive process, new risks need to be identified continuously (cf.2.2.7).
- Procurement is a major cost driver in any organisation; if this is not done correctly the organisation will suffer huge financial losses (cf.2.3).
- Procurement has a number of phases it goes through, some of these phases are common to most organisations, and risk needs to be managed in each phase (cf.2.3.1).
- Procurement has a very wide range of inherent risks and opportunities (cf.2.3.2).
- Procurement has three main risk areas that need to be managed, these areas are: strategic risk, operational risk and process risk (cf.2.4).
- Effective integration of risk management in procurement has three major benefits: smarter procurement decisions, better identification and management of risks and better procurement relationships (cf.2.5).
- The AS/NZS4360 standard requires ongoing communication and consultation as well as continual ongoing monitoring and review in the risk management process for procurement (cf.2.6).
- Procurement risk context relates to understanding the environment in which procurement is undertaken, relating to the organisation, stakeholders, strategy and the associated importance of risk management for that specific transaction (cf.2.6.1).
- Procurement risk context defines the basic parameters within which risk must be managed, and sets the scope for the rest of the risk management process (cf.2.6.1).
- No event is a risk for an organisation in its particular context unless it has an impact on the organisation's objectives (cf.2.6.1).
- Procurement risk identification is a very important step in the risk management process (cf.2.6.2).
- Procurement professionals should seek to identify potential risks associated with procurement on a continual basis (cf.2.6.2).

- The following procurement areas should be focused on when identifying procurement risks: procurement strategic planning, sales and operation planning, procurement risk management, supply interruption and Sarbanes-Oxley Act Compliance and Controls (cf.2.6.2).
- Procurement risk identification is a dynamic process in which it is essential that risks that have been identified are evaluated and monitored and new risks highlighted (cf.2.6.2).
- Procurement risks needs to be assessed; this entails analysing and evaluating procurement risks (cf.2.6.3).
- A general process for assessing procurement risks can be; to establish loss potential, identifying potential losses, understanding the likelihood of potential losses and assigning significance of losses and appraising overall risk (cf.2.6.3).
- Procurement risks can be treated in the following ways; risk avoidance, risk assumption, risk elimination, risk reduction and risk transfer (cf.2.6.4).
- Procurement risk avoidance means that the chance of loss has been eliminated. In practice this means switching suppliers, using alternative materials or ceasing some operations (cf.2.6.4.1).
- Procurement risk assumption means that the consequences of the loss will be borne by the party exposed to the chance of loss (cf.2.6.4.2).
- Procurement risk elimination is introducing standards, procedures and actions necessary to eliminate the risk (cf.2.6.4.3).
- Procurement risk reduction is aimed at reducing the likelihood of occurrence of loss and the severity of the loss should it occur (cf.2.6.4.4).
- Procurement risk transfer involves transferring the risk to others; this can be done in a couple ways, for example, through contract clauses or through negotiation (2.6.4.5).
- Procurement Risk Management is a continuing process, procurement professionals should monitor risk and the effectiveness of treatments on an ongoing basis (cf.2.7).

- Procurement professionals must retain the sources of risk at “front of mind”, this is necessary to ensure alignment of objectives is established, maintained and communicated (cf.2.8).

4.2.2. Conclusions from the survey with regards to establish if risk mitigation is been done in procurement.

The following are regarded as the main conclusions with respect to research objective 2 (conclusions were only made on the decisions of the majority of the respondents it was not discussed in detail as per example: occupation):

- A good sample of all age groups in procurement was used; fourteen respondents between the age of 20 and 30, eleven respondents between the age of 31 and 40, twelve respondents between the age of 41 and 50 and three respondents over 50 (cf.3.3.1).
- The Procurement industry is an industry that is mostly dominated by females, the results from the survey indicated that twenty-five of the respondents were female and fifteen were male (cf.3.3.2).
- The following procurement occupations were used for the survey, Commodity Managers, Commodity Analyst, Contract Superintendents and Buyers. There are only one Commodity Manager and one Commodity Analyst per team (cf.3.3.3).
- Procurement professionals are only appointed from C-Upper Grades up, the following grades completed the survey, C-Upper, D-Lower and D-Upper (cf.3.3.4).

The following statements were made to determine if buying is done according to procedures and to customers requests and to determine if competitive buying is taking place.

- The majority of respondents did agree that tender procedures are in accordance to company values and strategies (cf.3.4.1).

- The majority of respondents did disagree that invalid tender are accepted during adjudication, there was eight respondents that felt invalid tenders are being accepted (cf.3.4.2).
- The majority of respondents did feel contracts are established for repeat purposes, there was however four respondents that didn't agree with this (cf.3.4.3).
- The majority of respondents did disagree with the statement; Orders do not take advantage of discounts, there were some respondents that did agree with statement (cf.3.4.4).
- The majority of respondents did agree with this statement; Orders are placed according to quotes from vendors, some didn't agree with this statement (cf.3.4.5).
- The majority of respondents did agree that orders are placed in line with customer requests; there were respondents that didn't agree with this statement (cf.3.4.6).
- The conclusion that is made from the above is that the majority of respondents did feel buying is done according to procedure and that customers request are fulfilled, they also feel that competitive buying is taking place, there is however respondents that don't agree with this and feel that there is no adherence to buying procedures, customers requests and competitive buying.

The following statements were made to determine the validity of information obtained from systems, if approvals framework are correct on system and to determine if the correct people access the correct information.

- Masterfile information regarding vendor info is correct. There was a mixed response on this statement, some respondents did agree and some didn't agree (cf.3.4.7).
- Purchases are authorised according to approval framework. The majority of respondents did agree, only one did disagree with the statement (cf.3.4.8).

- Amendments to purchase orders are approved by authorised personnel. The majority of respondents did agree with this statement, there were a few respondents that disagreed (cf.3.4.9).
- Segregation of duties is adequately addressed. There was a mixed response to this statement, some respondents did agree and some did disagree (cf.3.4.10).
- KPI's are directly related to job criteria. There was a mixed response to this statement, some respondents did agree and some did disagree (cf.3.4.11).
- Management reports provide adequate information in terms of deviations. Management had two respondents that did agree with this statement and two that didn't agree (cf.3.4.12).
- Validity of information obtained from systems can be relied upon. There was a mixed response to this statement, some respondents did agree and some did disagree (cf.3.4.13).
- Confidential information has restricted access. The majority of the respondents felt that confidential information has restricted access, as they couldn't access any confidential information when they tried to. There are a few respondents that felt this was not the case as they have lost some valuable information (cf.3.4.14)
- The conclusions made from the above is that the majority of respondents felt information from the system is valid, and can be trusted, approval frameworks are set up correctly and that the correct people has access to confidential information. There were some respondents that didn't agree at all with these statements.

The following statements were made to determine competency of personnel.

- Buyers are equipped to fulfill the buying function. Most of the buyers agreed and strongly agreed that they are equipped to fulfill the buying function only one buyer disagreed. Most of the other respondents also agreed and strongly agreed with this statement (cf.3.4.15).

- Analysts are provided with proper information to do risk analysis in procurement. On this statement two Commodity Analysts did disagree and three did agree, most of the other respondents also agreed and strongly agreed with this statement (cf.3.4.16).
- Contract superintendents have the necessary empowerment to address procurement risk. In response to this statement four Contract Superintendents disagreed, nine agreed and four strongly agreed, the majority of the respondents did agree and did strongly agree (cf.3.4.17).
- Commodity Managers are constantly managing procurement risk. There were three Commodity Managers that agreed with this statement and one that strongly disagreed, the majority of the other respondents did agree and did strongly agree (cf.3.4.18).
- The conclusions made from the above statements are that some people feel they are competent to do their jobs and some don't feel they are competent at all. And it also reflects what the team members think of each others competency.

The following statements were made to determine relationships between buyers and customers.

- Information received from customers is accurate and valid. The majority of respondents disagreed with this statement; there were only a few that agreed (cf.3.4.19).
- Orders are placed in time to provide service or goods to customers when required. There were some mixed feelings about this statement, some respondents did agree and some respondents did disagree (cf.3.4.20).
- The conclusion made from the above statements is that some respondents felt there is a good relationship between buyers and customers and some felt this was not the case.

The following statements were made to determine if Contract Management is been done according to procedure and policies and if it is part of a Risk Management System.

- Contract Management is creating value to the business. Most of the respondents did agree and did strongly agree (cf.3.4.21).
- Contract Administration is done on time to avoid order or contract queries. Most of the respondents did agree and did strongly agree (cf.3.4.22).
- Contracts are being utilised by customers and buyers. Most of the respondents did agree and strongly agree with this statement (cf.3.4.23).
- Contract variations are according to approval framework. There were thirteen Contract Superintendents that agree with this statement, three that strongly agreed and one that disagreed. The majority of the other respondents did agree and did strongly (cf.3.4.24).
- Formal contract documentation is in place. The majority of the respondents did agree and did strongly agree with this statement (cf.3.4.25).
- Contract terms and conditions are communicated to customers. The Contract Superintendents had five that strongly agreed, nine that agreed and three that disagreed. The majority of other respondents did agree and did strongly agree (cf.3.4.26).
- Contract management systems are able to handle all types of contracts. There was a mixed response to this statement, some respondents did agree and some did disagree (cf.3.4.27).
- Payments are made in accordance with contract prices and conditions and quotes. The majority of the respondents did agree and did strongly agree (cf.3.4.28).
- Suppliers are measured against delivery performance. The majority of the respondents did agree and did strongly agree (cf.3.4.29).
- Contract Increase is validated according to approved price adjustment clause. The Contract Superintendents had sixteen that agreed and one that strongly agreed. The rest of the respondents agreed and strongly agreed (cf.3.4.30).
- The following conclusions were made some respondents did agree that contract management has been done in accordance to procedure and

policy and it is part of a risk management system, and some of the respondents didn't agree.

Statements were made to determine if there is a Risk Management system in place and how effective it is been used.

- The context of risk in procurement is understood. The majority of the respondents strongly agreed and agreed that they understood the context of risk in procurement, some disagreed (cf.3.4.31).
- Procurement risks are clearly identified. The majority of the respondents strongly agreed and agreed that procurement risks are clearly identified (cf.3.4.32).
- Procurement risks are classified according to impact. The majority of the respondents strongly agreed and agreed that procurement risks are classified according to impact (cf.3.4.33).
- Procurement risk control is done effectively on a continuous basis. The majority of respondents did agree with this statement but some did disagree (cf.3.4.34).
- Proactive Risk Management is in place. The majority of the respondents strongly agreed and agreed that there is a Proactive Risk Management System in place (cf.3.4.35).
- Deviations are addressed by Management when they appear. The majority of the respondents strongly agreed and agreed that deviations are addressed by Management when they appear (cf.3.4.36).
- Corrective Actions are communicated and implemented. The majority of the respondents strongly agreed and agreed that Corrective Actions are communicated and implemented (cf.3.4.37).
- Preventative Actions are communicated and implemented. There were a lot of different reactions to this statement, some of the respondents did agree and some did disagree (cf.3.4.38).
- Risk Monitoring is continuous. The majority of the respondents strongly agreed and agreed that Risk Monitoring is continuous (cf.3.4.39).

- New Risks are identified and addressed as they appear. The majority of the respondents strongly agreed and agreed that New Risks are identified and addressed as they appear (cf.3.4.40).
- The conclusions that were made on the above statements are that some of the respondents did agree there is a Risk Management System in place and it is effective and some of the respondents did disagree.

4.3 RECOMMENDATIONS

4.3.1 Recommendations for development of a framework to mitigate risk within a procurement environment.

- Procurement Risk Management must be done proactively.
- Procurement Risk Context must be identified correctly from the beginning of the process.
- The whole Risk Management Process must be followed to ensure that financial losses are kept to the minimum for the organisation.
- Procurement Professionals must be trained properly to ensure that they are competent to fulfill their tasks, they must also be trained in the Risk Management Process.
- Ensure that the information obtained from systems is valid and can be relied on to make informative decisions.
- Have a clear process vision, and well-designed and defined procurement objectives.
- Personnel must be in the right positions and structure must be in place to support the procurement process.
- KPI's must be designed to fit in with job descriptions, must be able to measure performance against KPI's.
- Technology must be in place to support systems that are being used.
- The following must be in place to ensure effective contract management; Contract Management Strategies and Policies, Contracts Management Processes, Contracts Management Organisation and People, Contracts Management Information for Decision-Making, Contracts Management

Information Methodologies and Contracts Management Systems and data.

- Procurement Risk Management must be done according to a framework and it must be done continuously and the effectiveness must be measured.
- Procurement strategic plan must be aligned with the organisation.
- Procurement Risk Management must be an integrated process.
- Effective management, measurement, and control of suppliers, contracts, and overall expenditures by commodity is an ongoing serious risk area and management must control.
- Defining information for decision-making requirements and supporting systems and data capability needs to support critical procurement processes, and the provision of these capabilities should also be addressed as part of the overall procurement strategic plans.
- Make sure the following internal controls are in place; prevent, detect and monitor.
- The Sarbanes-Oxley Act strives to make management accountable for the establishment of sound risk prevention, detection, and monitoring controls over all of the transactions in the organisation that might have significant impacts on the financial reports.

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ANNEXURE

NR.

RISK MITIGATION IN PROCUREMENT

INSTRUCTIONS

THE PURPOSE OF THIS QUESTIONNAIRE IS TO GAIN INFORMATION ABOUT THE RISK MITIGATION PROCESS IN THE PROCUREMENT ENVIRONMENT. THINK ABOUT YOUR EXPERIENCES IN THIS COMPANY AND CONTINUE TO COMPLETE THE QUESTIONNAIRE.

1. Kindly indicate your response on each question by checking off with a cross (X) one of the alternatives provided. Do not leave any questions out.
2. There is no time limit, but you are requested to complete the questionnaire in one uninterrupted session.
3. Take note that your participation in this survey remains **anonymous**. No form of identification (name, industry number etc) needs to be provided.
4. There are no wrong or right answers. Only your honest opinions are required.
5. Do not reveal your answers to another person or discuss it with them.

BIOGRAPHICAL DATA

KINDLY COMPLETE THE FOLLOWING SECTION BY TICKING OFF THE APPROPRIATE BOXES:

1. AGE:

20 to 30 years	31 to 40 years	41 to 50 years	50 plus
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2. GENDER:

Male

☐

Female

☐

3. OCCUPATION

Commodity Manager

☐

Contract Superintendent

☐

Commodity Analyst

☐

Buyer

☐

4. PATTERSON GRADE

D Upper

☐

D Lower

☐

C Upper

☐

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

	Item	1	2	3	4
1	Tender procedure is in accordance to company values and strategy				
2	Invalid tenders are accepted during adjudication				
3	Contracts are established for repeat purposes				
4	Orders do not take advantage of discounts				
5	Orders are placed according to quotes from vendors				
6	Orders are placed in line with customers requests				
7	Masterfile information regarding vendor info are correct				
8	Purchases are authorised according to approval framework				
9	Amendments to purchase orders are approved by Authorised personnel				
10	Segregation of duties are adequately addressed				

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

	Item	1	2	3	4
11	KPI's are directly related to the job criteria				
12	Management reports provide adequate information in terms of deviations				
13	Validity of information obtained from systems can be relied upon				
14	Confidential information has restricted access				
15	Buyers are equipped to fulfill the buying function				
16	Analysts are provided with proper information to do risk analysis in procurement				
17	Contract superintendents has the necessary empowerment To address procurement risk				
18	Commodity Managers are constantly managing procurement risk				
19	Information received from customers are accurate and valid				
20	Orders are placed in time to provide service or goods to customers when required				

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

	Item	1	2	3	4
21	Contract management is creating value to the business				
22	Contract Administration is done on time to avoid order or Contract queries				
23	Contracts are being utilised by customers and buyers				
24	Contract variations are according to approval framework				
25	Formal contract documentation is in place				
26	Contract terms and conditions are communicated to customers				
27	Contract Management system is able to handle all types of contracts				
28	Payments are made in accordance with contract prices And conditions and quotes				
29	Suppliers are measured against delivery performance				
30	Contract Increase are validated according to approved price adjustment clause				

1	2	3	4
Strongly disagree	Disagree	Agree	Strongly agree

	Item	1	2	3	4
31	The context of risk in procurement is understood				
32	Procurement risk are clearly identified				
33	Procurement risks are classified according to impact				
34	Procurement risk control is done effectively on a continuous basis				
35	Proactive Risk Management System is in place				
36	Deviations are addressed by Management when they appear				
37	Corrective Actions are communicated and implemented				
38	Preventative Actions are communicated and implemented				
39	Risk Monitoring is continuous				
40	New Risk are identified and addressed as they appear				