



**AN EVALUATION OF OPERATIONAL RISK MANAGEMENT PRACTICES
WITHIN THE CLAY BRICK MANUFACTURING COMPANIES IN ZIMBABWE:
A CASE OF BETA BRICKS (PVT) LTD**

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BY

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DECLARATION

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

Signed.....

Date.....

Supervisors' Declaration - I, **R. MUDALA** do hereby confirm that the work reported in this dissertation was carried out by the candidate under my supervision as University supervisor. This dissertation has been submitted for review with my approval as University supervisor.

.....

Date.....

Signature - Supervisor

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I thank Mr Mudala for the unwavering support in assisting me in coming up with this project.

To my family I thank you for your encouragement, patience and support during the study.

ABSTRACT

The research study was an evaluation of operational risk management practices in Beta Bricks Private Limited considering the problems in the company. The research was motivated by the fact that the company has been experiencing reduced market share, high labour turnover particularly on low level employees, increased down time, high loss incidents, increased cost of production and high waste across its operations. The researcher noted that the problems the company was facing were in relation to the management of people, systems and processes which are key variables of operational risk management. Literature on the subject was reviewed which pointed out that the subject was well developed in the banking industry although it was applicable in the manufacturing sector. The research focused on how operational risk was managed in the company against best practices from establishment of context to monitoring and review of operational risks. Questionnaires were used to gather information from the company and the results were analysed.

The major findings were that there were gaps in operational risk management in the company. These gaps included lack of policies and procedures, non-involvement of lower level employees in the activity, the failure for board to provide oversight on operational risk management and lack of integration of operational risk in the company's performance. The researcher recommended the need for the company to lay a solid foundation which support operational risk management in order to enhance performance. The foundation included the support from the board in creating a framework for operational risk management, policies and procedures, and risk awareness across the organisation.

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LIST OF ABBREVIATIONS

ACCA	Association of Certified Chartered Accountants
BIS	Bank of International Settlement
BSC	Balanced Scorecard
CIMA	Chartered Institute of Management Accountants
IIA	Institute of Internal Auditors
ISO	International Standards Organisation
ORM	Operational Risk Management
PESTEL	Political, Economic, Social, Technological, Economic and Legal factors
SWOT	Strength, Weaknesses, Opportunities and Threats
SAZ	Standard Association of Zimbabwe

CHAPTER ONE

INTRODUCTION

1.1 Introduction

World over risk management has become an important aspect of business management in the wake of failed companies that include WorldCom and Enron (Brickey, 2003). Although risk management is developed in the banking and insurance sectors, it cut across all types of businesses as every business has an element of risk in it (The Economist Intelligence Unit, 2007). This has made it one of the fastest growing disciplines of modern business with its inclusion in prominent codes of corporate governance that includes King III Report and Sarbanes Oxley Act. As risk can only be eliminated by not venturing into business, risk management has become strategic activity entrenched as a board level concern (The Economist Intelligence Unit, 2007). The management process involves putting into place deliberate processes aimed at identifying, assessing, analysing and mitigating risk (International Standards Organisation [ISO 31000], 2008). The company's ability to manage risks inherent in the sector distinguishes itself from other players hence the need for companies to have good risk management practices (Pons, 2010).

The focus on the discipline of risk management has also changed from the traditional risks that include credit, market and foreign exchange to include risks associated with processes, people and systems (Operational Risk) (The Economist Intelligence Unit, 2007). This has been driven by the complexity of value chain of organisations and the demand by regulators and investors (Bustad and Bayer, 2012). The risk associated with failure of processes, people and systems, often referred to as operational risk is regarded as the cause of exposure to other types of risks (Milliman Research, 2008). Hence the focus of the research on evaluation of operational risk management practices in Beta Bricks.

1.2 Background to the study

Beta Bricks is the largest clay brick manufacturing company in Zimbabwe situated in Mt Hampden Harare (Beta Bricks Financial Statements, 2012). It is a subsidiary of Beta holdings which was found in 1953 as Alpha bricks (www.beta.co.zw accessed on 14/8/2013). In 1991 the company changed its name to Beta Bricks after it changed ownership to become a wholly owned indigenous company. The subsidiary has become the pace setter of the Beta groups of companies that include Beta Tiles, Beta logistics, Beta Coal and Beta Furniture (Beta Bricks Strategic Plan, 2012).

1.2.1 Beta Bricks organisational structure, vision and mission statement

The General Manager Finance, Human Resources Manager, Quality manager and the Risk Manager report directly to the Group Chief Executive officer and cover all subsidiaries as shown in Figure 1.1.

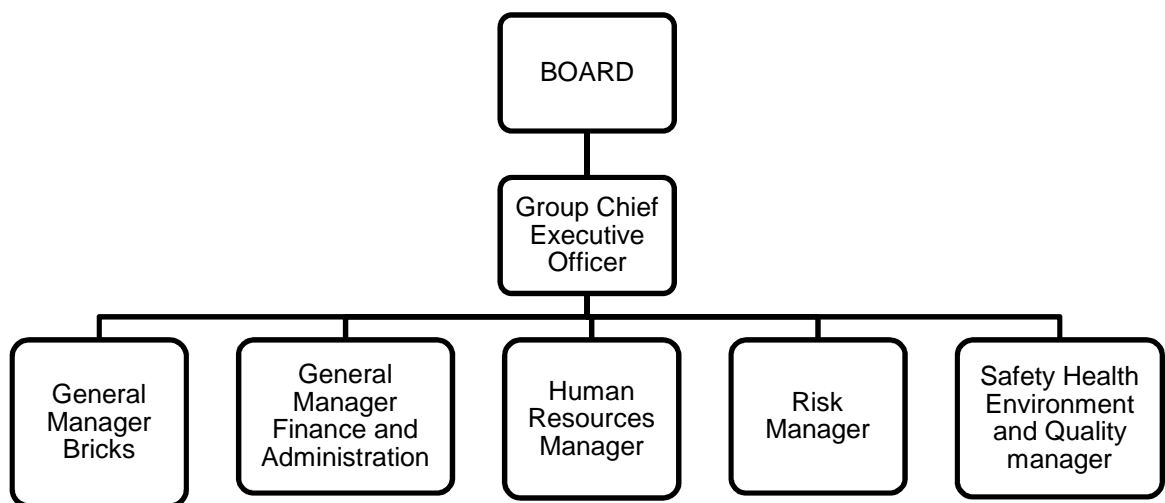


Figure 1.1: Beta Bricks organisational structure

Vision

To be the market leader in the supply of key infrastructural inputs in Zimbabwe and the region.

Mission

To offer the market world class products and value added services at affordable prices.

Values

Quality – To utilise state of the art technology to ensure our products are of the highest standard and are built to last.

Excellence - Employing a highly skilled workforce that is constantly trained to do better and be better.

Longevity - Maintaining relationships with our customers, suppliers, contractors, partners and other key stakeholders by upholding high levels of professionalism, integrity and honesty.

Community – Supporting and giving back to the communities around us through health, educational, financial and medical initiatives.

Integrity – Striving to do the right thing every day and in every situation is fundamental to our corporate culture (www.beta.co.zw accessed on 30/7/2013).

1.2.2 Beta Bricks products

Beta bricks produce fifteen types of clay bricks and two types of window sills out of a mixture of various types of clay and coal. The products are categorised into common bricks which are plastered and painted and the face bricks which have a decorative finish (Beta Bricks Strategic Plan, 2012). The bricks are used for foundations, commercial and domestic building structures, industrial structures, pavers, driveways and walkways. The bricks include Beta load bearing, Dark rustics, Plum rustics, Plum satin, Common brick, Blue rustics, Light wirebrush, Driveway, Blue heart, Dark wirebrush, Klinker, Light industrial, Blue wirebrush, Light rustic, Bark industrial and

Blue satin bricks. All these products are certified by the Standard Association of Zimbabwe (SAZ) (www.beta.co.zw accessed on 30/7/13).

1.2.3 Company situation analysis

SWOT analysis is a strategic management tool used in evaluating company's strength, weakness, opportunities and threats (Kotler, 2000). The tool assisted the researcher in understanding internal and external variables that impacted on Beta Bricks operations. Below is the SWOT analysis for Beta Bricks:

Table 1.1: Beta Bricks Pvt Ltd SWOT Analysis

<p>STRENGTH</p> <ul style="list-style-type: none"> • High production capacity • Synergies between subsidiaries Beta Coal, Beta Logistics and Beta Coal • Strong research and development. 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • Labour intensive operations • Ageing equipment • Distribution concentrated in Harare • Unutilised capacity • High cost structure
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • Extensive government infrastructural projects • Unavailability of non-standard clay bricks manufacturers in some of the southern African countries like Zambia, Malawi and Mozambique 	<p>THREATS</p> <ul style="list-style-type: none"> • Upcoming Chinese brick manufactures • Concrete bricks manufactures • Seasonality of production cycle - No production during rainy season • Stringent environmental legislation • High wage demands by labour unions • Local authorities allowing use of farm bricks • Cheaper substitute from South Africa

Beta Bricks strategic plan, (2012).

1.2.4 Beta Bricks production capacity

The company is the largest producer of clay bricks in Zimbabwe. In 2012 it achieved a record 100 million green bricks production which has never been produced by any company in Zimbabwe (Beta Bricks production record, 2012). However, the production is labour intensive with the production line employing a total of 900 people. The reliance on labour has resulted in high accidents during the period with a total of 3 serious accidents, 7 moderate accidents and 26 minor accidents being recorded (Beta Bricks accident register, 2012). The company has three production lines and all of them are operating below capacity as shown on Table 1.2.

Table 1.2: Beta Bricks production 2011-2012

PLANT	INSTALLED CAPACITY PER YEAR	PRODUCTION 2011	PRODUCTION 2012
Bogionni	15 million	3 million	4 million
Steele 50	30 Million	8 million	13 million
Steele 75	90 Million	54 million	86 million
Total	135million	65 Million	103 Million

Beta Bricks production record 2011-2013

Although there is overall increase in production all plants are operating below the installed capacity. This is not a desirable situation taking into consideration that fixed cost of production like rentals remain the same. Risk management contribute towards production by devising better method of utilising resources, proper screening of raw material and methodical production processes that reduce deviation from acceptable targets (Berg, 2010).

1.2.5 Beta Bricks selling prices

Although Beta Bricks is increasing production as shown on Table1.2 the benefits of economies of scale are not being transferred to the consumers shown by the high selling prices compared to the industry average shown in Table 1.3:

Table 1.3: Beta Bricks selling price against industry average price

PERIOD	BETA PRICE PER 1000 BRICKS	AVERAGE MARKET PRICE PER 1000 BRICKS
Jan 2011	\$110	\$90
June 2011	\$115	\$90
Dec 2011	\$115	\$90
Jan 2012	\$120	\$100
June 2012	\$140	\$120
Dec 2012	\$150	\$110

Beta Bricks Sales Report December 2012

1.2.6 Beta Bricks cost of production 2011-2012

Beta bricks production costs have been above the industry average with about two cents per brick for the past period indicating that it has a high cost build up. The management of risk along the value chain improves the management of resources across all activities which translate to lower production costs (Berg, 2010). The risk management activities which include reduction of waste across the production line, elimination of ghost employees and reduction of leakages along the value chain are associated with reduction of cost of production (Bustad & Bayer, 2012). The production costs from 2010 to 2012 are shown in Figure 1.2.

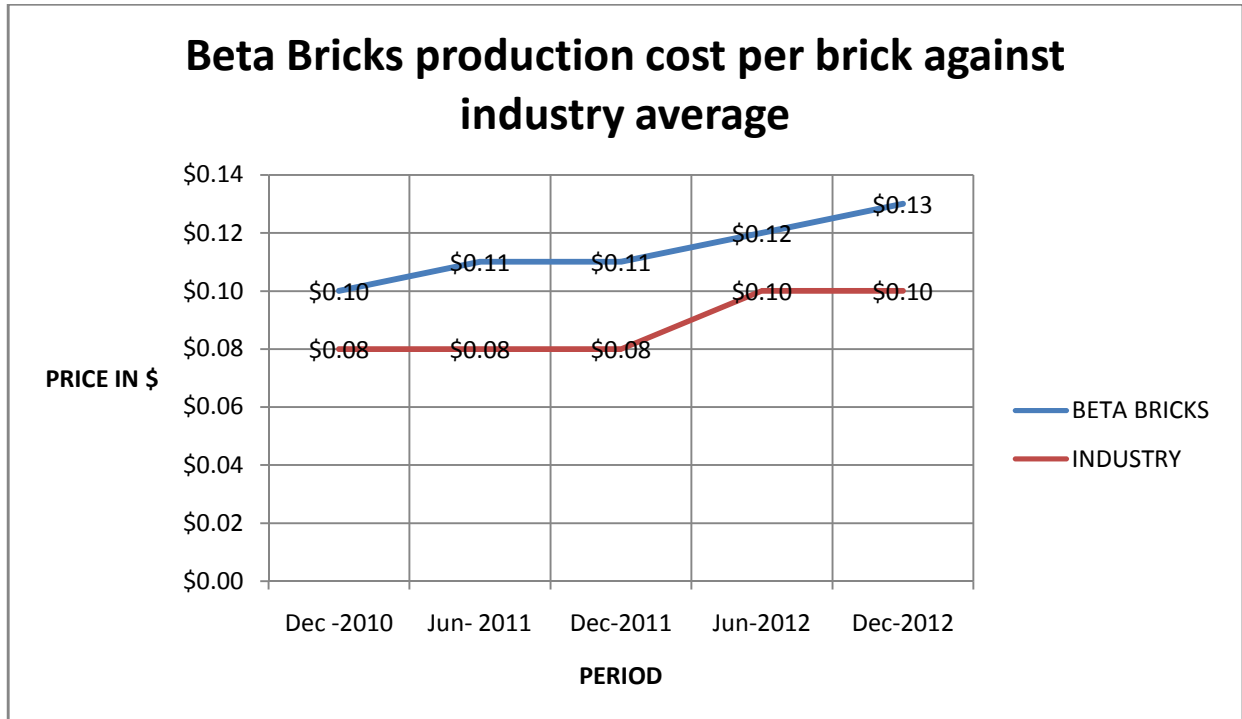


Figure 1.2: Beta Bricks production cost against industry average

1.2.7 Beta Bricks loss incidents

Beta bricks loss incidents record show that there is an increase in the number of incidents recorded. The cases on Table 1.4 are the recorded cases which were discovered during the period. It cannot be overruled that some of the cases are not being detected.

Table 1.4: Beta Bricks loss incidents 2011-12

PERIOD	INCIDENTS	VALUE
2011	11	\$17 000.00
2012	14	\$13 000.00

Risk and Loss Control register 2011-12

1.2.8 Production Waste

The increase in production between 2011 and 2012 also resulted in the increase of waste as shown on Table 1.5.

Table 1.5: Beta Bricks waste across the production line

PERIOD	EXTRUSION WASTE%	CLAMPING WASTE %	DISPATCH WASTE %	TOTAL WASTE %
2011	2	4	3	9
2012	3	5	7	15

Beta Bricks Quality Control waste record 2011-2012

The extrusion waste comes from the cutter where bricks with wrong dimension are removed from the production line. The clamping waste comes from the movement of dry bricks from the hackline to the kilns. The selections of good products during loading of vehicle give rise to dispatch waste (Beta Bricks Quality Control waste record, 2012). The dispatch waste comprises of chipped bricks, unfired products and deformed bricks. The management of risk across the production line contribute towards the reduction of overall waste.

1.2.9 Analysis of Beta Bricks down time

Mechanical breakdown, rain and wet clay have contributed more to the organisation's downtime with the effects of electricity cuts reduced during the period as shown in Table 1.6. An increase in contribution on these factor point to the inefficiencies or complexities in the activities which are drivers to supply chain risk (Bustad & Bayer, 2012).

Table 1.6: Shows an analysis of Beta Bricks down time

Factor	Contribution to down time	
	2011	2012
Electricity	22 %	3%
Labour shortages	11%	8%
Mechanical Breakdown	16%	23%
Rain and wet clay	51%	66%

Beta Bricks production record 2011-12

1.2.10 Beta Bricks labour turnover

There is high labour turnover concentrated on lower level employees because of the manual work involved in the manufacturing process (Beta Bricks Human Resources annual report, 2012).The company lost 20% of its lower level employees in 2012 an increase by 5% from 2011 as shown in Table 1.7.

Table 1.7: Beta Bricks employee turnover

CATEGORY	Percentage of employees who left the organisation per category	
	2011	2012
Senior Management	10%	0%
Middle Management	12%	5%
Lower level employees	15%	20%

Beta Bricks Human Resources annual reports 2011-12

1.2.11 Market Share 2009-2012

Beta Bricks was once a dominant player in the clay brick manufacturing industry with about 77% market share. Table 1.8 shows that Beta bricks has been losing market share to other competitors except Willdale Bricks. The market share has been shrinking from 77% in 2009 to 51% in 2012.

Table 1.8: Beta Bricks market share

COMPANY	% MARKET SHARE			
	2009	2010	2011	2012
Beta Bricks	77	71	62	51
Golden Bricks	3	7	9	11
S and M Bricks	6	8	11	15
McDonalds Bricks	5	6	6	8
Tiger Bricks	3	2	3	5
Willdale Bricks	4	3	3	2
Other	2	3	6	8

Beta bricks financial Report 2012.

1.2.12 Macro environment analysis

The external operating environment is also referred to as macro environment. It comprises of factors outside the control of an organisation (Kotler, 2000). An organisation must be aware of these key external factors so that it is better prepared to deal with them. PESTEL analysis is a tool that assists in determining the external environmental factors of an organisation. These factors include political, economic, social, technological, economic and legal factors (Hill & Jones, 2001).

1.2.12.1 Political Factors

The provision of houses to all has been the government top priority with the emergence of housing co-operatives around the country (Construction Industry Federation of Zimbabwe, 2011). This has provided a huge opportunity for Beta Bricks as this has provided an opportunity for low to middle income earners to own

houses. The government of National Unity also stabilised the political environment that saw investment flowing into the country which also contributed to the construction of infrastructure (Construction Industry Federation of Zimbabwe, 2011)

1.2.12.2 Economic Factors

High interest rates have subdued the growth of the construction industry which relies on mortgages. Construction projects are capital intensive projects that often start to yield after a considerable period. As such there is reliance on bank loans to finance the projects and because of high interest rates companies have been reluctant to use this expensive money. The subdued growth has impacted on the operations of Brick manufacturers (Construction Industry Federation of Zimbabwe, 2011).

1.2.12.3 Technological Factors

Technology in the clay bricks manufacturing sector has resulted in new environment friendly firing methods and reduction of labour in a once labour intensive industry. In other countries like the United States of America they no longer use clay to manufacture bricks and have resorted to the use of human waste in bricks manufacturing. Beta Bricks still use clay and fire the bricks with coal which is regarded as the old technology of producing bricks (Beta Bricks annual report, 2011). This has resulted in high cost of production.

1.2.12.4 Social Factors

The brick making industry in Zimbabwe is still regarded as labour intensive due to the absence of latest technology. The effect of HIV and Aid has posed a threat on the availability of healthy employees to perform the manual work. The heavy manual work includes transportation of fired and unfired bricks with wheelbarrows and clamping of dry bricks in kilns. Beta bricks sometimes records down time due to labour shortages as shown in Table 1.6 showing the extent of the effects of the social environment on its operations.

1.2.12.5 Ecological Factors

Clay bricks manufacturing is not friendly to the environment as it cannot be done without damaging the environment. The process involves digging vast stretches of

land in search for different types of clay. At the end the land is left with big pits which cannot be reclaimed within a short period. The process of brick manufacturing also involves the use of lots of water which may also pose a threat to the underground water sources. The current burning process involve the use of coal which produce smoke that pollute the air as such the Environmental Management Agency is always penalising the company for damaging the environment (Beta Bricks Environmental Management Plan, 2011)

1.2.12.6 Legal Factors

The indigenisation law has increased uncertainties in the future of many companies which has reduced the customer base for Beta Bricks. A total of 20% of Beta Bricks customers are corporates and the reduction of activity in these companies has impacted on the operations of Beta Bricks (Beta Bricks Financial report 2011).

1.2.13 Industry Analysis

Industry trends develop over a long period as a result of social trends and economic forces. Learning about this structure will provide insights for the business strategy development. Michael Porter's five forces is a widely used tool for analysing industry (Thompson and Strickland, 2003). The strength of the five forces determines the profit potential in the industry as they influence prices, cost and investment of a business. Stronger forces are often associated with more challenging business environment.

1.2.13.1 Threats of new entrants

Threats of new entrants are high in the sector emanating from the short supply of products by the current manufacturers. The sector experience perennial shortfalls of common and face bricks between January and May (Beta Bricks Financial Report, 2012). This is because there is no production between December and March every year(Beta Bricks Production record, 2012). As a result there has been an increase in number of new Chinese manufacturing companies getting into the sector.

1.2.13.2 Power of suppliers

Suppliers of key inputs such as coal have a high bargaining power as they are few in the industry. As a result they are dictating stringent conditions of supply such as cash on delivery (Beta Bricks Financial report, 2012). However Beta Bricks has avoided this through procuring the input from Beta Coal a strategic business unit of Beta Holdings that mine coal in Sengwa. Other suppliers of inputs have little bargaining power due to a wide base of suppliers and low potential buyers (Beta Bricks Strategic Plan, 2012).

1.2.13.3 Power of buyers

The perennial shortages experienced in the sector reduce the bargaining power of buyers. However the persistent liquidity challenges facing the economy are changing the landscape and the bargaining power is increasingly shifting towards buyers (Beta Bricks financial Report, 2012).

1.2.13.4 Threats of substitutes

The short supply by the current manufactures has resulted in an increase in threat by close substitutes. The once small sector of cement bricks manufacturing has grown capitalising on lack of production of clay bricks during December and March. There is also a growing increase in the use of prefabricated and wooden structures due to lax import regulation on building material (Beta Bricks Strategic Plan, 2012).

1.2.13.5 Rivalry between existing competitors

Rivalry between current manufacturers has intensified in pricing, advertisement and quality improvement. This has resulted in once big manufacturers like Willdale, McDonalds and Beta Bricks losing market share to small players that include SM Bricks, Golden and Mazowe Bricks (Beta Bricks Strategic Plan, 2012).

1.3 Research Problem

As organisations grow their operations becomes complex making them more vulnerable to disturbances (Bustad & Bayer, 2012). If companies do not manage these disturbances be it internal or external they may lead to inefficiencies along the value chain. Beta Bricks has been growing rapidly since 1991 when it was acquired

by the local shareholders. The company has transformed itself from an insignificant player in the market to be one of major producer of clay bricks (Beta Bricks Financial Report, 2011). However it seems the increase in size has resulted in inefficiencies in the value chain seen by the high cost of production, increase in labour turnover, high process waste, low capacity utilisation and constant machinery breakdown among other problems. Competition has crept in and has been reducing the market share of the company from 77% in 2009 to 51 % in 2012 (Ethos Research, 2012). These disturbances have resulted in inefficiencies that have pointed out to failure of people, systems and process which when not properly managed lead to financial losses, negative corporate image and loss of market share (Bustad & Bayer, 2012).It then became important to find out whether Beta Bricks current operational risk management practices were following best practices and were able to contribute towards the performance of the company. Therefore the research evaluatedoperational risk management practices in thecompany.

1.4 Research Objectives

- (1) To identify operational risk management practices at Beta Bricks.
- (2) To identify best practices in operational risk management that fit Beta Bricks operations.
- (3) To determine the extent to which the company's internal stakeholdersare effectively fulfilling their operational risk management functions in Beta Bricks.
- (4) To suggest recommendation to enhance the risk management practices

1.5 Research Questions

- (1) What are the operational risk management practices in place in Beta Bricks?
- (2) What are the best practices in operational risk management that suit Beta Bricks operations?

- (3) To what extent the company's internal stakeholders are fulfilling their operational risk management functions in Beta Bricks?
- (4) What can be done to improve operational risk management in Beta Bricks?

1.6 Research Proposition

In carrying out this research the researcher had the following proposition:

Beta Bricks has weak operational risk management practices.

1.7 Significance of the study

The study is based on Beta Bricks the largest clay brick manufacturer in Zimbabwe (Beta Bricks annual report, 2012). As such the study will assist existing small clay bricks manufacturers and entrepreneurs who want to venture into clay bricks manufacturing in benchmarking against the biggest producer. This will enable them to perfect their risk management practices and be able to compete with Beta Bricks. However, the study will also assist Beta Bricks in perfecting their risk management practices in line with the current trends in order to maintain its leadership position in the industry. The company will also be able to address the problems it is facing by strengthening its management of operational risks across its value chain. Operational risk management is also important to potential investors who want to invest in clay bricks manufacturing. The study will be able to assist them in realising the risks management approaches associated with this type of business and be able to assess where they may place their investments among the various players in the sector.

1.8 Scope of Research

The study will focus on investigating operational risk management practices in Beta Bricks from 2011 to 2012. The practices will cover the risk management structures in place, risk identification processes, risk assessments, mitigation and reporting across the value chain.

1.9 Dissertation Structure

Chapter One-This chapter covered the background of the study, research objectives and research question to be answered after the research. The researcher also justified the need to conduct this research and the limitation of the study in this chapter.

Chapter Two – The chapter reviews the work of other writers on operational risk management and how risk management field has evolved. The literature will be based on journals articles, books, websites and other official sources of published information.

Chapter Three – This chapter discusses the research design and the data collection methods. It will also suggest how the data collected is to be analysed and presented in order to obtain credible results.

Chapter Four – This chapter presents and discuss the research results.

Chapter Five –The chapter concludes the research outlining the suggested recommendations for improvement.

1.10 Chapter Summary

The chapter was centred on introducing the research project. It highlighted the background to the study and analysed the company and the clay brick manufacturing industry. The research objectives and the significance of the study were also discussed. The next chapter will review literature on operational risk management with emphasis on its applicability in the clay brick manufacturing industry.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on operational risk management and its link to the research problems identified in chapter one. The chapter starts with developments of risk management and its application in the manufacturing sector. It highlights the operational risk management process and the best practices associated with each stage of the process and its impact on organisations' operations. The discussion will also cite recent cases of corporate failures related to operational risk management.

2.2 Defining Risk

Holton (2004) defined risk as exposure to a proposition of which one is uncertain. The definition puts emphasis on uncertainty and exposure. Uncertainty occurs if one does not know whether a proposition is true or false or is oblivious to the proposition (Dionne, 2013). Although organisations are legal persons they are not self-aware thus are incapable of being at risk. However, organisations are mediums through which individuals take risk which results in them being exposed to risk (Holton, 2004).

2.3 Risk Management

It is a process aimed at mitigating the negative impact of external and internal disturbances in order to avoid interruptions in production, product quality and financial losses (Bustad & Bayer, 2013). Kaplan (1997) also defined risk management as the process that answers three questions: what can happen? How likely is that to happen? If it does happen, what are the consequences?

2.4 Brief overview on the history of risk management

Risk management dates back to 1730 when the first future contracts on the price of rice were established in Japan (Dionne, 2013). It was developed between 1961 and 1966 when Treynor, Sharpe, Linter and Mossin developed the Capital Asset Pricing Model commonly known as CAPM (Fama and French, 2004). Black, Scholes and Merton (1970) came up with option valuation formulas in 1973. The first risk management department was created in Merrill Lynch in 1987 and it was followed by

the publication of the Basel one report by the Basel Committee on Banking Supervision (BCBS) (Dionne, 2013). The report was meant to strengthen the stability of international banks and focused on capital adequacy. All along risk management was fragmented until 1992 when integrated risk management was introduced (Doherty,2000). In the same year risk matrices were also introduced. The first bankruptcies associated with misuse of derivatives were experienced between 1994 and 1995 in Procter and Gamble, Orange Country and the Barring Bank. These were examples of poor management of financial risk which was associated with derivatives. In 2001 the Enron saga surfaced which revealed accounting fraud (Li, 2010). This then led to the release of Basel II in 2004 which was premised on 3 pillars on capital requirements for credit, market and operational risks and the other two pillars on supervisory review and disclosures by banks (Dionne, 2013). The history shows that significant developments on risk management have been registered in the financial services sector although it is also applicable in the manufacturing sector (Bustad & Bayer, 2013). This has seen the majority of published research in operational risk concentrated in the banking sector (Acharyya, 2012).In the insurance sector the solvency II has recognised operational risk as the key risk (KPMG, 2012). Unlike in the banking sector, embracement of operational risk in the insurance sector was not triggered by organisational failures. Kowalska (2012) noted that it was as a result of dynamism of risk management and the need to adjust methods and toll of risk management to match individual needs of a company. The research was centred on operational risk management practices inBeta Bricks as operational risk losses directly affect the income statement (Ellis, Kristensen, Krivkovich and Singh, 2012).

2.5 Classification of risk

Risks maybe classified in various ways. Cortez (2010) classified risk into three main categories that are strategic, financial and operational risk.

Table 2.1: Risk Categories and Sub Categories

STRATEGIC/ BUSINESS RISK	FINANCIAL RISK	OPERATIONAL RISK
<ul style="list-style-type: none"> • Commercial • Reputation • Stakeholder • Technological 	<ul style="list-style-type: none"> • Credit • Insurance • Pension • Market 	<ul style="list-style-type: none"> • People • Systems and equipment • Legal and compliance • Security • Project • External events • Business process management

Table 2.1 Shows that operational risk arises from people, system, business processes, projects, compliance and security (Cortez, 2010).

2.6 Operational Risk

Operational risk management is defined as the risk of loss resulting from inadequate or failed internal processes, systems and people (Basel Committee on Banking Supervision, 2006). This risk has not received attention across industries until recently when it was noted that it played a bigger part in most of the failed companies (Milliman Research, 2013). Operational risks are generally within the control of an organisation through risk assessments and good risk management practices that include robust internal controls and encompassing insurance policies (CIMA, 2008).

2.6.1 Internal Processes

Internal business processes are the value creation activities of an organisation which follows the value chain (Thompson and Strickland, 2003). The processes start from inbound logistics to the after sales services. These processes are interdependent and operational risk is inherent in these processes (CIMA, 2008). A failure in one process is carried through other processes to the last process thereby exposing the organisation to operational risk across the value chain (Musa, 2012). A value chain

shows activities and functions a company performs internally in order to create value for its customers (Thompson and Strickland, 2003).

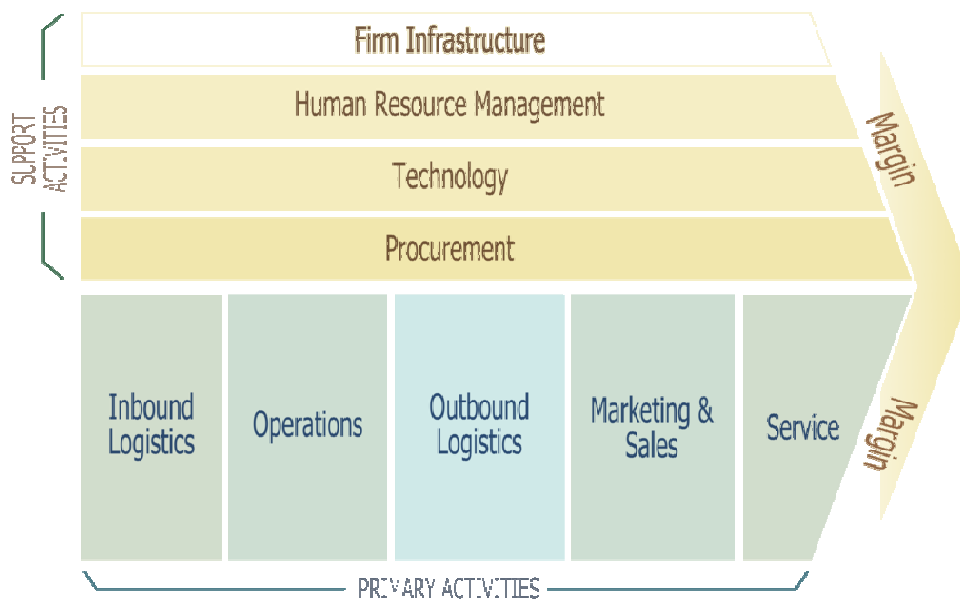


Figure 2.1: Value chain showing internal processes

A company's internal processes are in the primary and support activities as shown in Figure 2.1. The primary activities contribute towards the physical creation of the product/service, its sale and transfer to the buyer and its service after the sale (Thompson and Strickland, 2003). The value chain outlines the company activities to include inbound logistics, operations, outbound logistics, marketing and sales, service and support activities.

Inbound logistics involves the movement of raw materials to the organisation. The process may have risks that include delivery of wrong specification, stock outs, pilferages and fraud (CIMA, 2008). These losses before production turn to increase the production costs. On the other hand operations are activities associated with the transformation of inputs into the final product (Hill and Jones, 2001). Risks of poor recording, machinery breakdown, raw material wastage and occupational accidents are often associated with this stage (CIMA, 2008).

Outbound Logistics are activities associated with collecting, storing, and distribution the product/service to buyers (Thompson and Strickland, 2003). These processes are

associated with risks that include stock outs, pilferage, products returns and obsolescence (CIMA, 2008).

Marketing and sales are activities associated with purchases of products and services by end users and all the inducements used to make purchases (Hill and Jones, 2001). Product returns and wrong pricing are some of the operational risks that are found at this stage (CIMA, 2008). Service involve the provision of service to enhance or maintain the value of the product (Thompson and Strickland, 2003). In the clay brick manufacturing the provision of quantity estimation, availing of information on product uses and making customers have access to a database of reputable construction companies and architects are some of the services that maybe offered (Beta Bricks Strategic Plan, 2012). The support services compliment the primary activities and include procurement, technology, human resources and administration. All these activities are part of the definition of operational risk (Basel Committee on Banking Supervision, 2006). System failure, high staff turnover and poor infrastructure affect the support activities (CIMA, 2008).

2.6.2 Systems

Systems are a group of interrelated activities that work together to accomplish the organisational goals (Isam and Tedford, 2012). They comprise of subsystems that must work coherently in achieving company objectives. A degradation of a subsystem may lead to the failure of the whole system. The production system, procurement system, finance system, management information system, stock management system are some of the sub-systems in the clay brick manufacturing system. Internal control systems consist of control environment and control procedures (Coyle, 2004). The control environment shows the awareness and attitude of directors, management and employees towards internal controls of an organisation (Coyle, 2004). Whilst the control procedures are steps that individuals have to follow in carryout organisational activities. These steps are intended to safeguard the company assets, prevent and detect fraud and error, and strengthen the integrity of the accounting information (Institute of Internal Auditors (IIA), 2004). The risk department must assist departments in crafting and review of the systems and procedures to ensure that departments retain ownership (Acharyya, 2012). The

extent of internal control systems depends on the size of the organisation, what it can afford and whether benefits obtained justify the cost of the systems (Coyle,2004). Unsuitable architecture, failure of hardware, programming errors, lack of systems support and failure of systems to integrate are some of risks associated with systems (Wahler, 2002).

2.6.3 People

Central to all business processes are people who design processes, implement systems and put in place structures that lead to risk taking (Holton, 2004). These people have their own capabilities and limitations in carryout particular business activities (Howitt, Mainelli and Taylor, 2004). Organisations should be able to ensure that there is fit between people, machinery and the environment which they work in. This is achieved through good human resources management defined by Armstrong (2006) as the strategic and co-ordinated approach to management of people who individually and collectively contribute to achievement of organisation objectives. The recruitment policy, induction process and uniform application of code of conduct are some of the best practices in human resources management that increase production and the employee's adaptation to the organisational processes (Hayes and Nlinemeler, 2009). This in turn yields committed staff and helps employees perform tasks that meet standards thereby reducing rate of failure.

How much risk people create depends on uncertainties, capabilities, training, roles and responsibilities and the design of the organisation? (Howitt, Mainelli and Taylor, 2004). Fraud, errors and breaches of company rules and regulations are examples of operational risks that may be created by people (CIMA, 2008).

2.7 Why managing operational risk in manufacturing companies

Milliman research (2013) showed that operational risk is one of the major causes of organisational failure and destruction of shareholders value. Losses associated to it that include inefficient processes, represent a direct hit to the income statements. Although operational risk is defined in respect of people, processes and systems it was noted that there was need to extend it to all factors of production (Ellis, Kristensen, Krivkovich and Singh, 2012). Operational risk is regarded as the cause of exposure to other types of risks that include model risk, credit risk, market

risk, business risk and liquidity risk (Milliman Research, 2013). The report by KPMG Africa on fraud rated Zimbabwe as the country with the third highest reported fraud cases in Africa (KPMG, 2012). It then becomes important for Zimbabwean companies to put more consideration on the management of operational risk (KPMG, 2012). The Toyota car manufacturer recall of vehicles because of quality problems in 2009 and the British Petroleum oil spillage in Gulf are some of the catastrophic failures of operational risk management (National Commission Report on the BP Oil spillage, 2011). Although operational risk management can be used to identify and manage opportunities, most organisations turn to focus on threats as they pose more harm to achievement of objectives (Pons, 2010). In the process they lose opportunities that could have enhanced the business, hence the need to ensure proper management of operational risks.

2.8 Benefits of operational risk management

As operational risk management improves in an organisation and gain both the support and the confidence of management, it become increasingly valuable to the business. Perceived initially to support regulatory requirements, these efforts can be leveraged and aligned with business performance management (Coyle, 2004). To be successful, however, such alignment must be based on a clear vision of the potential benefits. COSO (2009) identified benefits of operational risk management to include;

- Providing greater awareness on organisations risks - When organisations are aware of operational risks affecting its operations, it turns to respond appropriately in managing them. This reduces chances of failure to meet organisational objectives,
- Assisting in proactive management of risks - Proactive management of risk is important as it is done before the occurrence of risk events which may result in losses. Operational risk management process assists in taking proactive action through its methodical process of risk identification, evaluation, treatment and monitoring,
- Assisting in making transparent decision making around risk, rewards and trade-offs, and

- Reducing operating costs, decreasing variability of financial results and enhancing reputation (KPMG, 2012).

2.9 Common challenges in operational risk management

Pricewaterhousecoopers (2008) noted that although operational risk assessments enabled organisations to enhance their business operational risk profile, there were common business challenges associated with the process that include;

- Viewing operational risk management as an initiative providing limited value to the organisation,
- Gathering large amounts of data that is difficult to understand,
- Failure to act on operational risk assessment results,
- Stifling innovation through overcontrolling of risk,
- Failure for organisations to have a shared approach to risk assessment, and
- Adding operational risk management on day to day responsibilities without being integrated into business process

In order for organisations to enjoy the benefits discussed above these challenges need to be addressed during the implementation of operational risk management.

2.10 Operational risk management framework

The risk management framework assists in integrating operational risk into the organisation's management system (ISO 31000, 2008). The framework assist in securing management commitment to the whole risk management process and align operational risk management processes to the organisations strategy as shown in Figure 2.2.

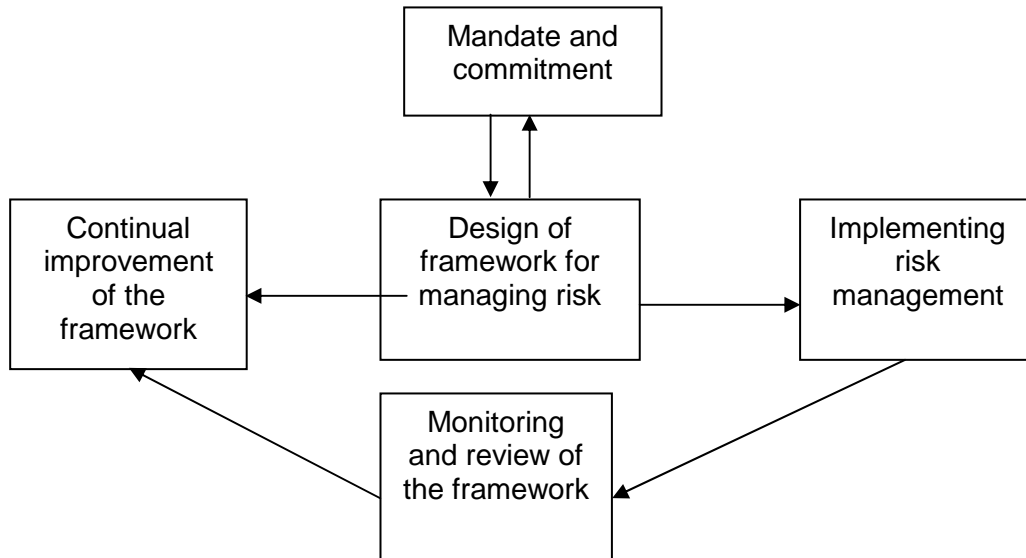


Figure 2.2: Operational Risk Management Framework

The design of a framework for managing risks is done through policies that spell out the organisations risk management objectives, criteria for measuring success or failure, accountability, resources, communication and reporting systems (ISO 31000, 2008). The implementation will define the time frames and put into practice the risk management policy after everyone involved is trained on the expectations. In order to ensure that risk management supports organisations performance, risk management performance is monitored and reviewed against set targets. Necessary adjustments are effected to adapt to the changing operating environment.

There are a number of risk management frameworks. However, they fail to address the issues of risk identification and assessment (McGrath, 2007). The cognitive risk identification and measurement (CRIM) framework which was developed at Cranefield University tries to address these dilemmas through inclusion of the methods to be used during identification and assessment stages. The CRIM risk management framework is shown in Figure 2.3.

Cognitive risk identification and measurement framework (CRIM)

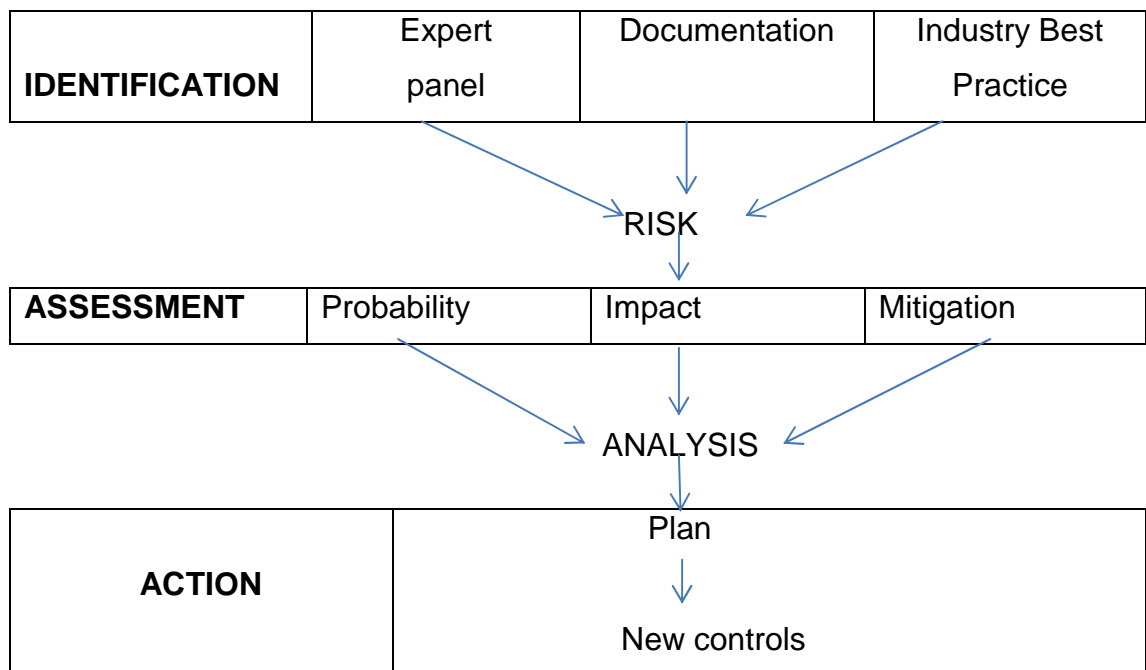


Figure 2.3: Cognitive risk identification and measurement framework (CRIM)

The CRIM framework identified the use of documents, best practices and interviews as some of the methods that can be used in risk identification. The assessments are done through establishing the probability of occurrence of the risk event and the impact on the organisation. Methods of mitigating the risk are developed and action plans defined as shown in Figure 2.3. The framework follows the same risk management process of risk identification, evaluation, analysis and control (McGrath, 2007).

2.11 Accountability and responsibility in managing operational risk

Defining responsibility is important for implementation of operational risk management activities (ISO 31000, 2008). Clear cut specification of roles and responsibilities of personnel regarding risk profile is an important part of implementing operational risk management framework(Oesterreichische National Bank, 2006). It does not only streamlines the risk management process, but also allows risk managers to better incorporate accountability into the work culture of the organization. Different levels within an organisation have different parts to play in ensuring the success of risk management programs (COSO, 2009).

2.11.1 Board of Directors

The board is responsible for the governance of risk within an organisation (King III, 2009). The board provides an oversight on the organisations risk management practices thus they should have sufficient knowledge to execute this important function (Coyle, 2004). The execution of this function may be done through an audit and risk management committee. In managing risk the board will be able to protect the value of shareholders investment. The director's duty in operational risk management includes taking measures to prevent losses through error, omission, fraud and dishonesty (Coyle, 2004). COSO (2009) noted that these duties may be achieved through:

- Discussing with management to establish mutual understanding on organisation risk appetite,
- Inquiring from management about risk management processes and assesses the effectiveness of the processes, and
- Constant board's appraisal on most significant risks and management responses.

The tools that include customer satisfaction surveys, product failure analysis, capacity constraint and competitive margin analysis, and vendor dependencies assist the board in overseeing operational risk (Chartered Accountants of Canada, 2012).

2.11.2 Management

The management is tasked with the day to day management of operational risk as part of the business management practice assisting with lower level employees in their departments (Acharyya, 2012). They are the risk owners of various risks that are resident in their departments. Thus they must promote risk awareness within their departments and also carry out regular risk reviews (ISO 31000, 2008).

2.11.3 Audit Department

The role of the audit department is to review the operational risk management policies and systems and check compliance to these standing instructions (ISO 31000, 2008). They provide assurance on the effectiveness of operational risk

management policies and processes. However, their reports may also be used to identify risks especially reports on risk based audits (CIMA, 2008). Institute of internal Auditors (IIA) (2004) highlighted that auditors were not supposed to make risk management decisions as it compromises their core duty of providing assurance.

2.11.4 Risk personnel

They are members of the risk management committee reporting to the board (ISO 31000, 2008). They oversee the risk management function and facilitate the integration of risk management in all business activities. As experts they also evaluate risk management methodologies and assist in promoting a risk awareness culture within the organisation (Acharyya, 2012). In many companies a senior executive with the title of Chief Risk Officer and reporting to the board, direct the risk management function (Nocco and Stulz, 2006).

2.12 Operational risk management

Operational risk management consists of deliberate and coordinated activities aimed at directing and controlling an organisation with regards to operational risk (ISO 3100, 2008). In order to be effective there is need to have in place operational risk management infrastructure that includes policies, business processes, people, management reports, methodologies and systems.

2.12.1 Operational risk management policy

The first step towards management of operational risk is defining a risk management policy which will be approved by the board (Bank of International Settlement, 2011). A risk management policy statement will strengthen the risk management framework and shows the desire of top management in supporting risk management initiatives (ISO 31000, 2008). This policy statement may be included in the risk management manual and signed by the risk committee and chairman. The policy will include (BSI, 2011):

- The management's commitment in managing operational risk and avail resources,
- Links between organisational objectives and the risk management policy,

- Accountability and responsibilities in managing operational risk, and
- Risk management performance measurement and report.

The board approves the policy as it provides oversight on risk management. The policy statement provides guidance and direction on management of operational risk (Bank of International Settlement (BIS), 2011).

2.12.2 Defining the operational risk criteria

The risk criterion is the basis on which risk is evaluated and it is based on organisational objectives and materiality (ISO 31000, 2008). The risk criteria may be derived from the laws as in the case of Environmental Management Agency's acceptable levels of pollutants discharged in the atmosphere. The board may also set its own criteria benchmarking on industry trend. Unlike total quality management that does not provide room for failure, risk management accepts failures if the cost of treating the risk is higher than the cost of exposure (KMPG, 2001). The board will define the risk appetite which shows how much risk the organisation is willing to accept taking into account the risk and returns attributes (BIS, 2011). Risk appetite will be influenced by the size and type of organisation, its capacity for risk and its ability to exploit opportunities and withstand setbacks (CIMA, 2008). The risk tolerance levels may also be a function of organisational culture or explicit delegation of authority in the case of formal organisations. The involvement of all staff at each stage is important for the success of the whole process. It allows staff to question, challenge established systems, report problems, admit mistakes and ask for assistance (Hussain, 2000).

2.13 Risk Assessment

Risk assessment is the overall process of risk identification, analysis and evaluation (ISO 31000, 2008). It provides an understanding of risks, their causes, consequences and likelihood. It is an input to decisions about:

- (a) Choices between options with different risks;
- (b) Priorities for risk treatment options;
- (c) Selection of most appropriate risk treatment strategy; and
- (d) Undertaking an activity

(e) Risk treatment and it follows the processes shown in Figure 2.4.

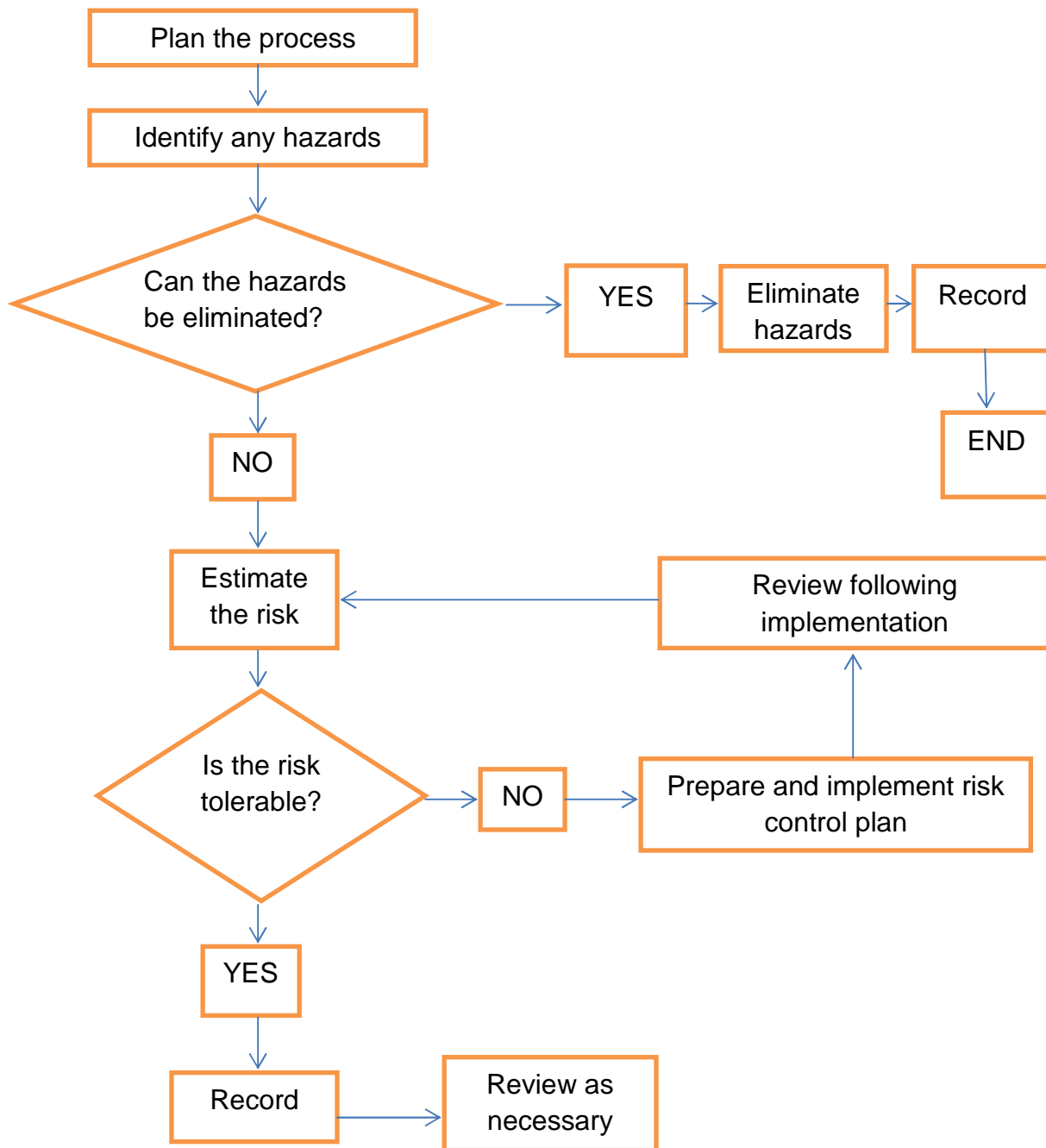


Figure 2.4: Risk Assessment Process

Figure 2.4 shows that the risk assessment process is a continuous process that is aimed in ensuring that the organisation adapts to the changing operating environment (University of Leeds, 2012).

There are various methods used in assessing risks. The following are some of the methodologies identified by Kowalska (2012):

Table 2.2: Risk Assessment Methods

RESEARCH SEQUENCE	RESEARCH METHOD	EFFECT
Valuation of risk	Questionnaire research Statistics methods	Individual assessment of particular threats
Risk selection	Analysis of the weakest cell	Indication of significant risks
Categorisation of risk	Risk metrics	Determination of risk categories for each of investigated threats
Determination of admissibility limits	Indicator analysis	Indication of admissibility limits of risk within the range of particular threats
Structure of risk model	Sectional method	Report describing where and how much the company is exposed to risk

Kowalska, I. (2012).

2.13.1 Risk Identification

Operational risk maybe internal or external to a business and is usually generated by people, processes and technology (CIMA, 2008). Identification of these risks is one of the important activities in risk management. If not properly done risk treatment measures put in place by management may not be effective (CIMA, 2008). Risk identification is a deliberate process instituted by organisations to detect all risks an organisation is exposed to (ISO 31000, 2008). The process may involve the use of brainstorming sessions, surveys, interviews and documentary reviews (Anantharaman and Berenji, 2011).

2.13.1.1 Brainstorming Sessions

The technique involves the grouping together of employees from various levels within an organisation to discuss barriers that are hindering the achievement of company objectives. Brainstorming sessions are the commonly used technique because of their ability to identify a large number of risks within a short time (CIMA, 2008).

2.13.1.2 Risk based audits

Operational risks are largely based on procedures and processes. Risk based audits can be used as means of identifying risks (CIMA, 2008). However, International Standards Organisation (2008) argues that the role of audit in risk management is to provide assurance on the effectiveness of risk management processes not to be actually involved in the process.

2.13.1.3 Analysis of critical dependencies

This technique involves analysis of critical dependencies in people, processes, systems and external structures (CIMA, 2008). This is most important in identifying operational risk associated with business interruption, system failures and loss of suppliers of critical raw material (CIMA, 2008).

2.13.1.4 Physical Inspection

Physical inspections may also be used in identifying operational risks (CIMA, 2008). The process involves checking availability of physical gadgets that mitigate risk. An example would be the availability of physical security devices that reduce intrusion into cash offices, the availability serviceable safety devices on machinery to reduce accidents and the wearing of protective clothing that protect employee performing risky activities.

2.13.1.5 Incidents / accidents investigations

The technique involves instituting enquiries on all accidents and incidents recorded (CIMA, 2008). The intention of the investigations will be to obtain background information which is important in identifying the causes of the incident. Beside risk identification it also assists in putting in place adequate risk treatment measures that

reduce recurrence and also increase resilience capabilities of an organisation (Falasca, Zobel and Cook, 2008). The ultimate goal would be for the organisation to be able to return to the original state or preferably to a better level, after an accident has occurred (Cousins, Lemming and Lawson, 2008). Investigations may be instituted on abnormal waste, fraud cases, accidents or near misses.

Breaches of key indicators change of business external and internal losses also add value to the risk identification process. ISO 31000 (2008) encourages the involvement of all employees in any activity in the identification process. This will ensure that the process covers all the risks. The identification process is the most important activity as organisations can only manage risks they are aware of. This activity must be done regularly so that the organisation is up to date with the changing operating environment(ISO 31000, 2008).

2.13.2 Risk Analysis

Risk analysis is the process of determining consequences and their likelihood for identified risk events, taking into consideration the available controls and their effectiveness (ISO 31000, 2008). Analysis can be qualitative, semi-qualitative, quantitative or a combination of these depending on circumstances and level of the organisation on the capability maturity model. Regardless of the method used the processes must include all stakeholders (ISO 31000, 2008).This inclusive approach in risk assessment was supported by the Committee of Sponsoring Organisations of the Treadway Commission (COSO) (2009) as it assists in arriving at accurate results. The accuracy of risk analysis is important to ensure that the entity prioritise risk in accordance with their magnitude (CIMA, 2008). How the risks are to be analysed has to be defined on the first stage of risk management of establishing the context (Bank of International Settlement, 2011).

2.13.2.1 Measuring or quantifying operational risk

In the banking sector, the basic indicator and standard formula approaches are used to quantify operational risk (Basel Committee of Banking Supervision, 2004). The formulas are not applicable to the manufacturing sector as they are intended to determine capital to be set aside for operational risk. Kowalska (2012) noted that it

was not a requirement for risk threatening an entity to be measured. Thus the management of a given risk is possible without any necessity to assign to the risk a determined value of probability. Operational risk management focus is not simply a more accurate measurement of risk but a reduction of operational losses and the overall cost of operational risk. Andersen and Schroder (2010) noted that although the assessment of risk should be measured and exposures quantified, the use of numbers should never overshadow judgement. Thus the use of qualitative data during operational risk analysis is very important.

2.13.2.2 Quantitative Analysis

Estimate realistic values for consequences and their likelihood and produce value of risk. Full quantitative may not be possible due to non-availability of relevant information (ISO 31000, 2008).

2.13.2.3 Semi-Quantitative Analysis

Use numerical rating scales for likelihood and consequence and combine them with a formula. The scales used maybe linear or logarithmic (Jorion, 2003).

2.13.2.4 Qualitative Analysis

Define consequence, likelihood and risk by words such as high, medium, low. It combines consequences and likelihood and evaluate against qualitative criteria (ISO 31000, 2008). In qualitative analysis there should be clear definition of all terms used and the basis for criteria adopted. The application of impact and likelihood matrix is one of the simplest ways of measuring risk (CIMA, 2008). It results in overall risk rating that aid in prioritising significant risks.

2.13.2.5 Factors to consider in determining impact

Operational risk impact is centred on three activities that affect business (CIMA, 2008). These include:

- (a) Property exposure - physical property belonging to or entrusted to the business
- (b) Personnel Exposure – Relate to risks faced by all those who work for and with the business including customers , suppliers and contractors and,

(c) Financial exposures- they relate to all aspects of the company's ability to trade.

The impact also depends on who is managing or controlling the underlying process. Thus more knowledgeable and greater competence among employees usually means lower risk (Dickinson, 2001).

2.13.2.6 Factors to consider in determining likelihood

The use of historical data assists in determining the likelihood and severity of an event occurring (Pons, 2010). The frequency of events is analysed and assigned weights and description as indicated in Table 2.4. However, CIMA (2008) argues that unless the risk occurs, it is not possible to be certain of the impact thus the severity may be underestimated. This then means that the methods are subjective and will not yield same results when done by different people. To ensure consistency organisations have to define the likelihood for each category as indicated in Table 2.3.

Table 2.3: Determination of likelihood

Frequency Event per year	Description	Likelihood
1	Annual Occurrence	Almost certain
1/3	Has occurred several times in your career	Likely
1/10	Might occur once in your Career	Possible
1/30	Event does occur somewhere from time to time	Unlikely
1/100	Heard of something like this happening elsewhere	Rare
1/1000	Have never heard of this happening	Very rare
1/10000	Theoretically possible but not expected to occur	Almost incredible

Pons, 2010 (p 25)

2.13.3 Operational risk evaluation

When the various risk factors have been determined the corporate exposures derived should be aggregated and mapped for oversight (Andersen and Schroder, 2010). Risk maps are simple and widely used tools for aggregating and presenting exposures. The exposures are plotted on a grid in terms of impact and likelihood as in Table 2.4. The outcomes are compared with performance indicators expressed in corporate objectives (Andersen and Schroder, 2010).

Table 2.4: Impact and likelihood matrix

IMPACT	Catastrophic (5)					
	Significant (4)					
	Moderate (3)					
	Minor (2)					
	Insignificant (1)					
		Negligible (1)	Rare (2)	Unlikely (3)	Possible (4)	Probable (5)
		LIKELIHOOD				

CIMA, 2008(p 6)

The overall rating is shown in the colour coding and will determine the action to be taken by management based on the operational risk criteria as shown in Table 2.5.

Table 2.5: Overall operational risk rating

Colour key	Risk/ opportunity	Who should be informed	Action required
	Very High Risk Loss	Directors	Senior management to design deliberate treatment action plan and specified responsibility
	Medium risk loss	Top Management	Attention to senior management needed to develop specific response or monitoring procedures, and the specification of management responsibility
	Low risk loss	Immediate Supervisor	Manage with routine procedures, no specific extra resources required
	Low	Work team	Business as usual. Manage with routine procedures or specific monitoring
	Low opportunities	Immediate supervisor	Manage with routine procedures or specific monitoring
	Medium Opportunity	Top Management	Attention of senior management needed and management responsibility specified
	High opportunity	Directors	Detailed planning required at senior level to prepare for and capture the opportunity

Pons. 2010 (p 22).

Many types of operational risk are subjective and qualitative rather than objectively identifiable and measurable (Pons, 2010). These include litigation risk, loss of key employees and loss of reputation. Thus the qualitative approach will enable easy analysis and evaluation. The approach prevent overload and enables concentration in key risks (Andersen and Schroder, 2010). The evaluation will then lead to risk responses (Pons 2010).

2.13.4 Risk Responses

Risk evaluation is used to make decisions about the significance of the risk to the organisation and whether it should be accepted or treated (CIMA, 2008). When the severity of risk has been determined, the risk may be accepted, shared, transferred, reduced or avoided by the organisation (CIMA, 2008). Hussain (2000) noted that

organisations need to select risk control measures based on set parameters which are consistent with organisational objectives. The parameters should be able to assist in identifying risk control options, prioritise them and make control decisions. Hopkins (2012) suggested that companies should have internal rating which suggests actions the company can take on operational risks.

The decision to accept or transfer risk depends on:-

- (a) Scale of potential loss- The greater the potential loss the greater will managers prefer risk transfers than retention.
- (b) The degree of competence available in an organisation in managing the specific set of risks (Dickinson, 2001), and
- (c) The perception of stakeholders (ISO 31000, 2008)

Appropriate and timely involvement of stakeholders ensures that the processes remains relevant and up to date (ISO 31000, 2008). Although it allows the interest of stakeholders to be taken into account in determining risk criteria it results in creation of a strong culture and awareness among stakeholders (The Economist Intelligence Unit, 2007).

2.13.4.1 Risk Transfer

It involves shifting the ownership of the identified risk to a third party (Development of Health and Human Services, 2006). Insurance is the most commonly used method of risk transfer and it applies to a number of operational risks (CIMA, 2008). Of late insurance has been used together with business continuity management. It involves paying a premium to the insurance company to cover the risks. In the event of the occurrence of the risk, the insurance company will be able to restore the company to its original state.

Divestment and outsourcing are some of mechanisms of risk transfer of commercial activity itself and not just the risks embedded in these activities (Dickinson, 2001). Outsourcing is the transfer of a business activity or function to a third party (Pricewaterhousecoopers, 2008). Other than transfer of risk, it results in cost savings

and freeing of resources especially when the service provider has the ideal capabilities of performing the task(Dickinson, 2001).

2.13.4.2 Risk Avoidance

It involves changing the project to eliminate the threat of identified risks (Development of Health and Human Services, 2006). It is not always certain that risk may be avoided as some risks are inherent to the key business process for example production waste.

2.13.4.3 Risk Acceptance

Risk acceptance is acknowledging that risk is part of the project and accepting the consequences of its occurrence (Development of Health and Human Services, 2006). Materiality is important in determining whether a risk may be accepted or not and it varies from one organisation to another.

2.13.4.4 Contingency Planning

Contingency plans define action to be taken in response to the risk triggers in the hopes of reducing potential impact of the risk in the project (Development of Health and Human Services, 2006). It outlines the organisations objectives, responsibility and detailed steps of what is to be done in response risk events (Zsidsin, Melnyk and Ragatz, 2005).

2.13.4.5 Risk Mitigation

Risk treatment is the process of modifying risk in order to reduce its impact on organisation's activities (ISO 31000, 2008) The process involves determining various options available to an organisation and selecting the most desirable option considering the resources available. The process should also be cost effective for the organisation to derive value. It entails the following;

- Identification of various risk treatment options;
- Selecting the most appropriate risk treatment option;
- Implementing the risk treatment option; and
- Checking residual value against tolerable targets.

Operational risk mitigation strategies include segregation of duties, review of internal controls, installing of back-ups, use of more than one supplier on key inputs, staff training or implementation of fraud prevention policies and procedures (International Bank for reconstruction, 2010).

2.13.5 Monitoring and review

Organisations need to have operational risks monitoring mechanism to ensure that the risk management process is in line with the risks the organisation is facing IRM (2002). It involves regular checks aimed at ensuring that controls remain effective, risk assessment improves through gathering of information, changes in the operating environment are detected and new risks are identified (ISO 31000, 2008). The monitoring and review process must be standard throughout the organisation (Speier, Whipple, Closs and Voss, 2011). Hopkin (2012) and Dani (2008) noted that the allocation of responsibilities, documentation and good records management should be part of the monitoring system. When properly done the monitoring system will ensure that operational risk management is effective and continues to support organisational performance (ISO 31000, 2008).

2.13.6 Risk Reporting

Operational risk reporting is the process of communicating risk information to the relevant users. IRM (2002) and Hopkin (2012) support the reporting and communication of operational risks internally and externally. They concurred that the process will result in functional areas being aware of material operational risks associated with their activities. Millian Research (2013) highlighted the benefits of operational risk reporting which may either be internal or external.

Internal Benefits

- Enhance awareness of risk
- Enables timely informed decisions
- Results in clearly defined procedures

External Benefits

- Increase reputation compared to competitors

- Improve disclosure to external stakeholders
- Reduce exposure through timely management of incidents

This is all important in managing operational risk across different sectors of the economy including clay brick production operations. Risk reporting shows how well the company's operational risk is understood and managed. Organisations where risk is well understood and managed are able to attract investments which are important for expansion or closing of financial gaps (Nacco and Stulz, 2006). However, the reports have to be standard so that they cater for the diverse information needs in the organisation (Wahler, 2002). Well-defined Management Information Systems (MIS) or Executive Information Systems (EIS) is the most appropriate way of ensuring that standard reports are produced within an organisation (Lester, 2000). The key operational risk indicators will make up the Executive Information System due to their diagnostic and potentially predictive nature (Karow, 2000). Exception reporting is another practice that has proved useful in operational risk reporting. It is where cascading thresholds for each risk indicator is developed above which information flow upwards through the organisation's reporting hierarchy (Wahler, 2002).

2.13.7 Integrating operational risk management, strategy and performance

Embedding operational risk management into strategy ensures that an organisation takes necessary steps in managing risk in all business processes. Risk management should be part of all organisational processes and not separate from them (ISO 31000, 2008). Pure concentration on process efficiency is not sufficient as a corporate performance measure (Wahler, 2002). Financial performance measures do not provide information on past actions, action to be taken today and day after to create future financial value (Kaplan and Norton, 1996). This can be achieved through the use of Balanced Scorecard (BSC) which uses operational risk variables as inputs (Wolter, 2001). It was developed by Norton and Kaplan and it hinges on four perspectives that are financial, customer, internal business processes and learning and growth (Kaplan and Norton, 1996). These four perspectives are cascaded from the corporate BSC to individual employee's scorecards. Operational risk is inherent in the four perspectives and cascading them to various business units

and individuals, serve to distribute operational risk management objectives across the organisation (Wahler, 2002). This makes it the most appropriate operational risk performance measurement tool.

2.13.7.1 Financial Perspective

The perspective looks at the voice of shareholders and their expectation from the business. This perspective revolves around management of cost and growing of revenue. When costs are properly managed the savings are seen in the pricing of products compared with competitors. Every individual in an organisation has a role to play in managing operating cost and the BSC ensures that they are measured and rewarded based on the outcome of their roles (Wahler, 2002). Operational risk management also results in cost savings which translate to profitability (Pricewaterhousecoopers, 2008).

2.13.7.2 Customers

The perspective focuses on the need to meet or exceed customers' expectations. It includes growing market share and customers satisfaction which translates to growth in revenue. The operational risk management activities are also intended to create value for customers through elimination of risks along the value chain (CIMA, 2008).

2.13.7.3 Internal Business Processes

All organisations efforts are centred on the efficiencies of internal business processes which are systems used to deliver value to customers (Hussan, 2000). The efficiencies include improved turnaround, high capacity utilisation and robust quality systems.

2.13.7.4 Learning and growth

Organisation's sustainability is built upon the capability to develop and retain competent staff (Hussan, 2000). This perspective is the anchor of operational risk management as internal processes and systems rely on people.

All the four perspective captures the key components of operational risk management that are people, systems and processes (Wolter, 2001). As such when

incentive structures are attached to the BSC, it enhances the credibility of operational risk management strategies (Hussan, 2000)

2.14 Chapter Summary

The chapter discussed best practices associated with operational risk management. In the discussion it was noted that operational risk is not a new phenomenon but it has been made popular by the recent failures of companies and banks across the world. The next chapter will look at the various methods adopted by the researcher in conducting this research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter outlines how the research was conducted in order to answer the research questions. It covered the target population, sampling procedures adopted, data collection instrument used and how the data was analysed to arrive at the findings.

3.2 Research Design

A research design outlines how the data is to be collected, measured and analysed (Birn, 2000). It is a logical structure of inquiry put in place before data collection in order to reduce ambiguity of evidence collected (Fowler, 1993). Data for any design can be collected with any data collection method (Birn, 2000). There is often confusion between design and the different data collection methods (Glasow, 2005). A design is different from the method by which data are collected and include experiments, case study, longitudinal and cross sectional design (De Vaus, 2001).

3.2.1 Surveys

The researcher opted for a survey which is the most popular strategy in business and management research (Saunders et al., 2003). In surveys, a sample is drawn from the population for ease of studying the population. Inferences on the population behaviour are then made based on findings from the sample (Ferber, 1974). The selection of the sample is crucial to ensure representativeness so that the sample findings are applicable to the population (Fowler, 1993). A sample of 80 was drawn from a population that consisted of 900 employees. Instead of studying the whole population which was going to take long and also to be costly, the researcher studied a sample of 90 employees and inferences were then drawn to represent the population. Saunders et al. (2007) concurred that a survey allowed collection of large amount of data in an economical way and also within a short space of time. In order to narrow the study, the researcher focused on one player in the sector in order to get in depth understanding. This allowed the researcher to unveil what was happening, why it was happening and how it could be dealt with (Fraenkel and

Wallen, 1996). This study was based on a case study which focused on Beta Bricks. Experimental design could not be used as there were no variables that were changed or hold constant. Experiments usually are ideal in researches done in controlled environment (Kuhfield, 2003).

3.3 Research Philosophy

These are approaches that can be pursued in carrying out a research project (Patton, 2002). The approach assists in defining the methods of data collection and analysis known as research design. Saunders et al., (2003) categorised the research philosophy into positivism and phenomenological.

3.3.1 Positivism

It is usually associated with scientific research where theory is deduced from data collected. Saunders et al (2003) outlined its main distinguishing features as:

- Testing of theory through observation
- Explanation of relationships between variables
- Use quantitative data
- Use controls to test hypothesis and
- Use highly structured methodology

Positivism approach follows a sequential process (Robson, 2002). The process involves

- Deduction of a hypothesis
- Defining how the variable are to be measures.
- Testing of hypothesis
- Analysing the outcomes
- Use of the findings in modifying the theory

This approach has its own limitations which include inflexibility, weak to understand social processes and the failure to discover the meanings attached to social phenomena. This is because the paradigm has inclination towards quantitative data which only result in describing what is happening rather than why it is happening.

Unlike the phenomenological approach which enable one to explain why something is happening. This is the reason the researcher could not use the approach in this research although the philosophy empathises on highly structured methodology and quantifiable observations that results in statistical analysis (Denscombe, 1998).

3.3.2 Phenomenology

This approach to research is based on the need of the researcher to understand what is happening and why it is happening (Saunders et al., 1997). This approach was adopted by the researcher as the research was aimed at ascertaining what operational risk management practices are in place in Beta Bricks considering the operational problems the company was facing.

3.4 Research Strategy

Research strategy outlines how the researcher will ensure that the research questions are answered (Saunders et al., 2003). It includes the sources of data, constraints faced in collecting it and justification of selecting a particular route (Kirvin, 1999).

3.5 Population and sampling techniques

3.5.1 Target population

Target population comprises of all elements that can be used to gather data for the research (Bogdan and Biklen, 1992). Although it is ideal to use a census as all elements of the population will contribute towards the research, it might not be feasible due to inaccessibility and cost of accessing every element of the population. In this research the population comprised of all 900 employees of Beta Bricks.

The research sampling framework consisted of senior managers, supervisors and low level employees in various departments. A sampling framework is a list of all population elements from which a sample is chosen (Saunders et al., 1997).

3.5.2 Sampling Techniques

These are methods employed by the researcher in order to come up with a sample that captures the characteristics of the population (Barylett, Kotrlik and Higgins, 2001). Sampling is the selection of items under study from the population with the

intention to draw conclusion about the population (Cooper and Schindler, 2003). Ideally all elements of the population must be included in the research in order to get results that depict the population behaviour. However, the issues of accessibility, time and costs associated with such exercise result in the researcher opting to study a sample. The sampling techniques can be divided into probability and non-probability sampling (Saunders et al., 1997). The researcher used quota sampling, a non-probability sampling technique.

3.5.2.1 Non-probability sampling techniques

These techniques allow the researcher to have control over the sample. They include quota, judgemental, snow ball and convenience sampling (Birn, 2000). The elements of a sample are not chosen randomly (Wegner, 1995).

Quota sampling involves dividing the population into groups and allocating quotas for each group in the sample. The method is less costly and is quick to implement (Robson, 2002). This sampling technique was used in this research. The population was divided into departments and quotas allocated for each department to ensure contribution by every department as shown in Figure 3.1.

Table 3.1: Departmental quotas

Functional Areas	Elements
Production	16
Finance	16
Human Resources	16
Sales	16
Quality Control	16
Total	80

3.5.2.2 Sample Size

The size of the sample is important in order to draw accurate inferences about the population (Saunders et al., 1997). The sample size is the number of elements in the sample (Saunders et al., 2003). In this research the sample size of 80 respondents was used out of a population of 900 employees.

3.6 Data collection methods

Data can be internal or external to an organisation (Saunders et al., 2003). Internal sources are within an organisation whilst external sources of data are outside the organisation. Internal sources include sales information, financial information, audit papers and management reports. On the other hand external sources include industry bulletins, stock exchange and regulators. The same data can also be classified as primary and secondary data. The data collection methods are influenced by the nature of the data whether it is primary or secondary (Fowler, 1993).

3.6.1 Secondary Data

This is data that is readily available collected for other purposes other than the current use (Patzner, 1996). The secondary sources of the data may be internal in the form of sales information and management reports or external for example Zimbabwe statistics information on import and export of particular industries. Secondary data speed up the process of research and reduce costs as the information is readily available (Birn, 2000). However, the information may not completely fit the research as it was collected for other purposes. In order to reduce the limitations associated with the use of secondary data, the researcher used the secondary data from production log books, management reports and registers.

3.6.2 Primary Data

Primary data is data collected specifically for the project under study. The data is not readily available. There are various ways of collecting primary data. Fisher et al. (2007) classified the research instruments broadly under structured and unstructured forms of research.

3.6.2.1 Unstructured

The use of unstructured research instruments lead to unanticipated answers and as there are no boundaries to what the researcher wants in terms of responses (Saunders et al.,2003). In this regard the researcher will only be interested in the frequencies in which the responses are featuring among the responses (Fisher et al., 2007).

3.6.2.2 Structured

On the other hand the structured responses enable the researcher to provide pre coded responses to select from (Robson, 2002). This limits the variability of responses as respondents are guided and ensures consistency in responses (Saunders et al., 2003). Questionnaires, interviews, observations can be used in each of these broad categories from exploratory research to surveys (Fisher et al., 2007). The application of the research instruments is shown in Table 3.2.

Table 3.2: Application of research instrument in structured and unstructured research

Research	Exploratory Research		Survey
	(Unstructured)	→	(Structured)
Interviews	In-depth and open	Critical incidents	Interviewer keeps to a script and there are answer options
Panels	Focus groups		Delphi technique
Questionnaire	Lots of white space on the page		Tick boxes
Observation	Keeping a Research diary	Checklist and categories	Completing an observation schedule Activity sampling
Documentary	Rhetorical Analysis		Statistical analysis of themes

Fisher, Buglear, Lowry, Alistair, and Carole, (2007).(p 159)

The researcher used both the structured and unstructured questions in the questionnaire. The structured questions were meant to limit the responses from

respondents whilst the unstructured questions were aimed at assisting the researcher in making recommendations.

3.6.3 Questionnaires

It is a technique of data collection in which the same set of questions is administered to the respondents (Fowler, 1993). The definition includes both structured and unstructured questionnaires. The questionnaire can be self-administered or administered by the interviewer (Saunders et al., 2003). The choice of administering a questionnaire is determined by the character of the respondent, sample size, reach, number of questions, type of questions and the importance of answers not distorted (Fowler, 1993). The researcher used questionnaire over and above the secondary information from the company records and reports. A total of eighty questionnaires were served. The questionnaires were served personally to the identified respondents.

3.6.3.1 Contents of questionnaire

A covering letter explains the purpose of the research to the respondents (Fisher et al., 2007). An introduction of the questionnaire is also included to give more information to the respondents in order to increase the response rate (Saunders et al., 2003). The questionnaire starts with the general information which may be used for cross tabulation. The body includes both open ended, structured and semi structured questions relevant in answering the research questions (Fisher et al., 2007).

The researcher opted for a structured questionnaire delivered to the respondents. The essence of using the questionnaire was to give respondents time to answer the questions and provide their honest responses. The questionnaire was delivered to the respondents in order to maintain control over responses.

3.6.3.2 Pretesting

Pretesting is crucial before administering the questionnaire in order to find out the time required to complete questionnaire, the clarity of questions or (Bell, 1999). This will result in respondents finding it easy to answer the questions (Saunders et al,

2003). The researcher noted the importance of pretesting and ten questionnaires were pre-tested and corrections effected before the eighty questionnaires were issued to the respondents. This gave the opportunity to the researcher to effect the necessary corrections. The respondents who participated in the pretesting exercise were not part of the final research.

3.7 Reliability and validity of research instrument

A reliable instrument is the one that gives consistent results when administered to different respondents (Bellenger and Greenburg, 1978). This was considered during the pretesting stage. However, the researcher did not use the Cronbach's alpha to test reliability. The Cronbach's alpha is the popular statistics which determines the average correlation of items in a survey instrument to gauge reliability (Cronbach, 1951). On the other hand validity of a research instrument is the ability of the instrument to measure what it is supposed to measure. The use of the questionnaire enabled the respondents to give their honest responses. The problems that were investigated were topical issues in the organisation and anonymity of respondents was important in order to get honest responses. The researcher also enhanced reliability and validity of the research instrument through:

- (a) Taking time to explain to respondents before they complete the questionnaire
- (b) Maintaining anonymity of the respondents
- (c) Administering the same questions to the respondents
- (d) Pretesting the questionnaire to check consistency of responses.

3.8 Quality of Data

Not all data supplied on the research instrument is of good quality. The quality of data has to be checked for errors or incompleteness before processing as it has an effects on the outcome of the research (Saunders et al., 2003). Descriptive statistics like the mean, median and standard deviation, measures of normalities like skewness, kurtosis or measure of association like correlation may be used to assess the quality of data collected. The assessment will enable the management of outliers. An outlier is a value that is completely different from all other values (Needham at al., 2009). It can be managed by removing it or adjusting it so that it

does not affect the result of the research. The pilot testing results were assessed and the structure of the research instrument improved in order to reduce errors. The use of structured questions also restricted responses thereby managing the occurrence of outliers. On collection of the questionnaire, the researcher checked whether all the questions had been completed. All the questions were completed except for three respondents who were asked to complete skipped questions.

3.9 Research Limitation

There was no motivation for respondents to complete the questionnaire thus some of the respondents did not return the questionnaire beside numerous follow ups. The respondents completed the questionnaires without seeking clarification thus they may have rushed to complete and return without giving much thought to their answers. Some of the respondents left some of the open ended questions answered and had to complete whilst the researcher was waiting. This could have affected their responses to the questions. However this had no significant effect as only a few questionnaires had the problem and most of the open ended questions were meant to assist in arriving at recommendations.

3.10 Ethical Consideration

The study was conducted through various employees of Beta Holdings in order to meet the objectives of the study. As a result the issue of confidentiality was important so that the employees will be protected from victimisation. Although the study may be helpful to Beta Bricks the information collected may cause disharmony among the employees hence the need to ensure that the data collected was properly handled.

3.11 Chapter Summary

The chapter outlined the procedures adopted in the research and considered concepts and literature about the sampling techniques, research methods and instrument. The next chapter will present and discuss the research findings.

CHAPTER FOUR

RESEARCH RESULTS AND DISCUSSION

4.1 Introduction

The findings of the research are analysed and presented in this chapter. The findings are discussed in relation to the literature reviewed in chapter two.

4.2 Response Rate

Eighty questionnaires were distributed to respondents and sixty nine were received translating to 86% response rate. Saunders at al. (2003) noted that any response rate of 50% and above is ideal for a research to be valid.

4.3 General Discussion

Figure 4.1 shows the distribution of respondents by department and level of management.

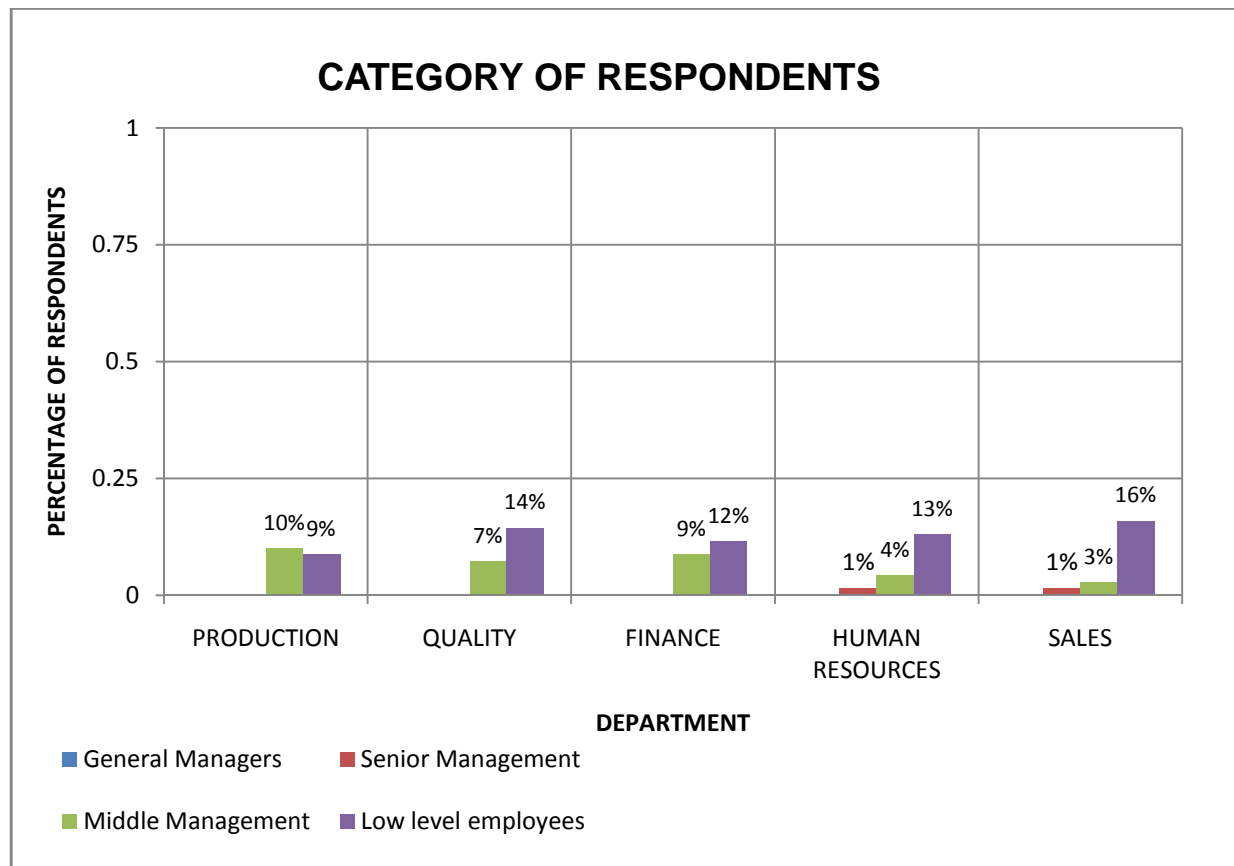


Figure 4.1: Category of respondents

The middle and lower level employees are the ones directly involved in the execution of operational risk management activities (Acharyya, 2014). The Figure 4.1 shows that 97% of the respondents were of lower level and middle management. This means that the research involved more employees who were directly responsible in the execution of operational risk activities thereby increasing credibility of the research results. All departments were involved in the research with human resources contributing 18% of respondents which was the lowest. The general managers were not represented.

4.4 Operational risk management infrastructure

The management of operational risk depends on the availability of infrastructure to support the activities. Table 4.1 shows that not all operational risk management infrastructures are in place. Policy statements ensure that there is common understanding within an organisation on the way operational risk is to be managed (Bank of International Settlement (BIS), 2011)

Table 4.1: Operational risk management infrastructure in Beta Bricks

	YES	SOME	NO
Policy statements	0%	1%	99%
Methodologies for managing operational risk	13%	37%	50%
Operational risk reporting templates	0%	0%	100%
Operational risk registers	16%	26%	58%
Operational risk management manuals	20%	28%	52%
Systems and data on operational risk	11%	74%	15%
People and structures on managing operational risk	87%	6%	7%

In the absence of the policy as shown in Table 4.1 it means there is no cohesion between the various departments in managing operational risk. The organisation has people and structures for managing operational risk which will make it easier to develop the rest of the infrastructure.

4.5 Employees' involvement in setting operational risk management infrastructure

Over 50% of the respondents indicated that there are some of the risk management infrastructures in place as shown in Table 4.1. These are systems, data on operational risk, people, structures and methodologies for managing operational risk. However Figure 4.2 shows that there is little involvement of lower level employees in establishing the infrastructure.



Figure 4.2: Category of employees involved in setting operational risk management infrastructure.

Figure 4.2 shows that only senior and middle management are involved in setting operational risk management infrastructure. The lower level employees have a role to play in risk management and should be involved from the first stage of establishing the context up to monitoring and review (ISO 31000, 2008). This ensures that there is

buy in across the whole organisation. Lower level employees execute operational risk management activities that include implementation of recommendations, reporting any new risk and recording operational risk activities (Acharyya, 2012). The non-involvement of other staff of the organisations means that there is no commonly shared vision on operational risk management within the organisation. This becomes noticeable in the poor performance of the organisation’s activities that requires collaboration. The involvement of all employees in management of risk was also supported by Hussain (2000).

4.6 Internal business processes

4.6.1 Documentation of internal business processes within various workstations.

Operational risk includes failure of internal business process which are documented in internal procededures. The research results shows that 75% of the department have no documented internal business procedures. Lack of documented procedures means that there is no standard way of carrying out business activities.

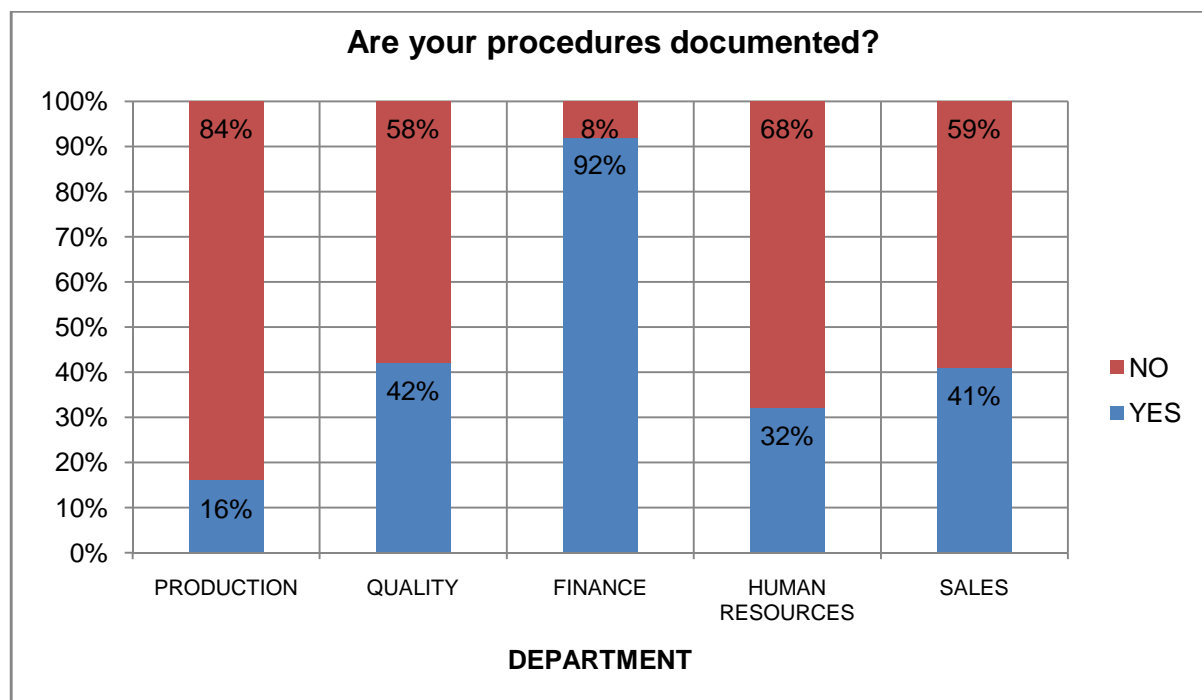


Figure 4.3: Documentation of internal business processes

Figure 4.3 shows that only the finance had most of its activities documented thereby reducing the risk of deviations from standards. The rest of the departments have less than 50% of their activities with documented procedures. This supports the high waste rates and increasing cost of production being experienced by production as it is the department with most of its activities not documented (Beta Bricks Management report, 2012). The non documentation of internal business processes increases the probability of failure of the activities (IIA, 2004).

4.6.2 Compilation and review of internal business procedures

Figure 4.4 shows that the organisation has left the compilation of the internal procedures to the Risk department rather than involving all the relevant departmental staff. This may lead to lack of buy-in from the lower level employees who are tasked with the implementation of the procedures.

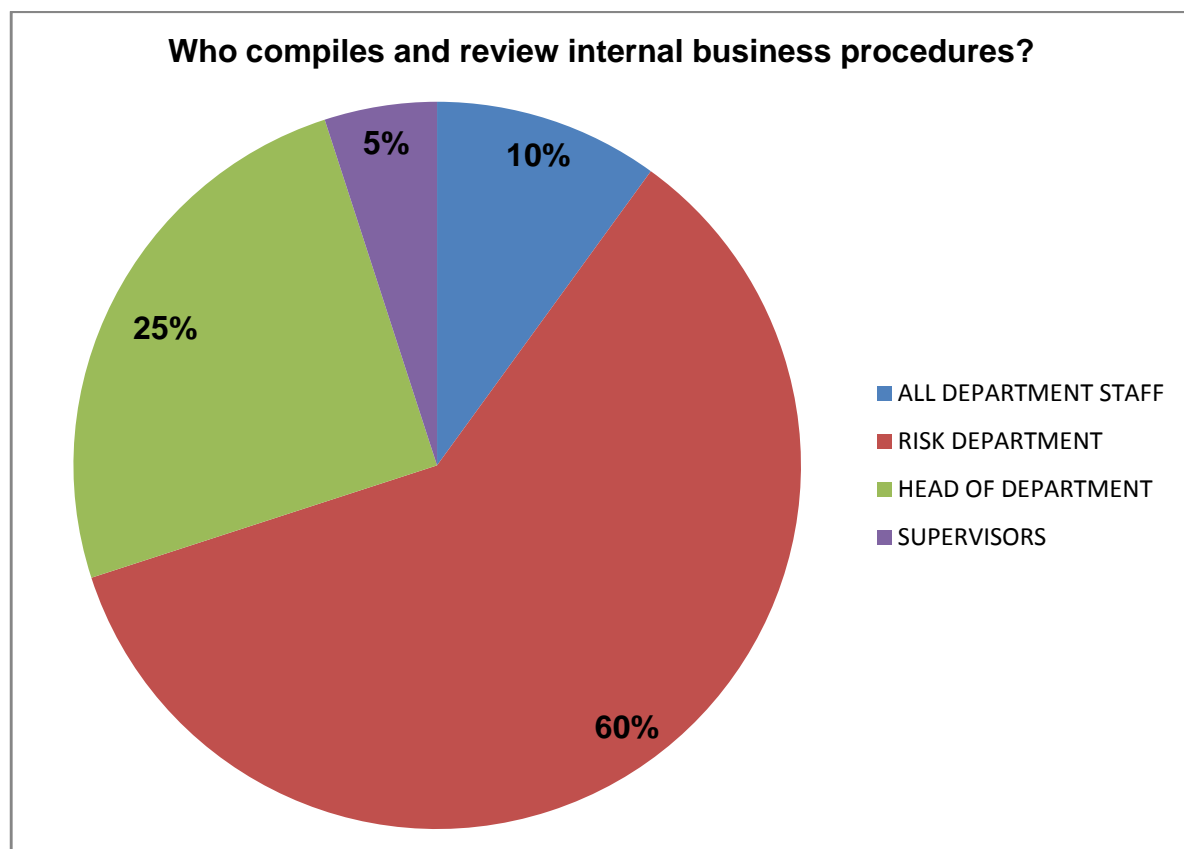


Figure 4.4: Compilation and review of internal business procedures

The ideal situation is for risk department to assist departments in the crafting and review of the internal procedures to ensure that departments retain ownership of the activities (Acharyya, 2012).

4.7 Management of people

4.7.1 Recruitment and induction of staff

Table 4.2 shows that employees are employed through the recruitment policy thereby increasing chances of employing staff that fit into the organisation. However, respondents concurred that the employees are not going through a formal induction process which is important in imparting the organisations norms and values.

Table 4.2: Recruitment and induction of employees

	Yes	No	Don't Know
Organisation staff is employed in accordance with the recruitment policy?	93%	0%	7%
Employees go through a formal induction processes?	18%	82%	0%

Induction process increases production and the employee's adaptation process that yields committed staff (Hayes and Nlinemeler, 2009). This also helps employees perform tasks that meet standards thereby reducing rate of failure.

4.7.2 Definition of Duties and Responsibilities

The extent to which employees create risks depends on their roles and responsibilities (Howitt, Mainelli and Taylor, 2004). Hence there is need for their duties to be clearly outlined.

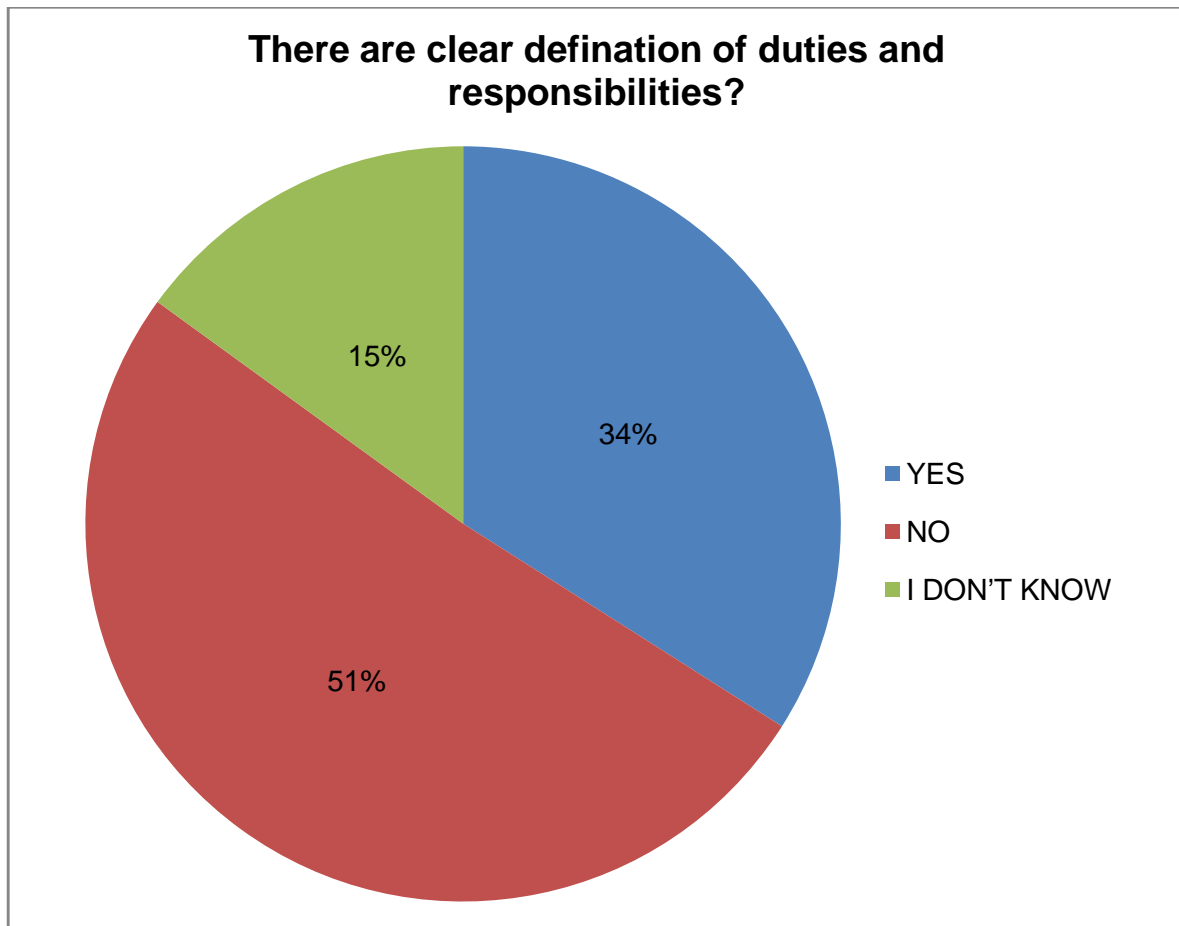


Figure 4.5: Duties and Responsibilities

The research result in Figure 4.5 shows that there are no clear duties and responsibilities of employees. Oesterreichische National Bank (2006) noted that this weakens accountability in management of operational risks as no one will be specifically responsible for the activities. As such risks may not be monitored and reported which result in them exceeding thresholds.

4.7.3 Fair application of the employment code of conduct

The code of conduct is a human resources tool that governs the behaviour of employees in carrying out the organisations activities. As such it is an important tool in operational risk management for controlling failure of people (Hayes and Nlinemeler, 2009). However, fair application ensures that the code of conduct acts as corrective tool across the organisation. Figure 4.6 shows that the code of conduct is not being applied fairly among all employees. The employees think that same breaches of company rules perpetrated by different employees were being treated

differently. This selective application increased breaches of company rules and regulations that results in operational risks.

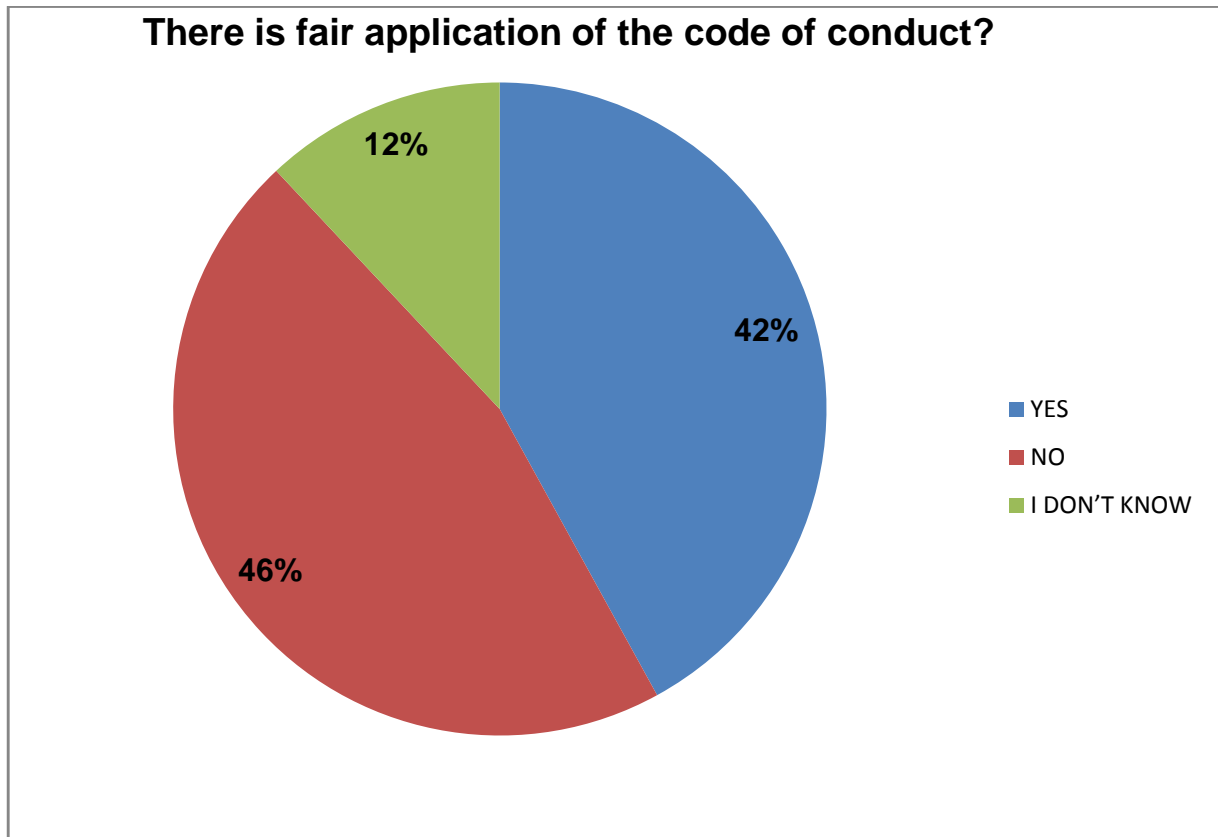


Figure 4.6: Application of code of conduct

4.8 Management of Systems

4.8.1 Contingency Plans

Figure 4.7 shows that 54% of the company activities have no alternative systems to ensure continuity when an incident occurs. This means that the organisation is absorbing maximum losses associated with systems failures. Contingency plans reduce effects of materialisation of operational risks (Zsidsin, Melnyk and Ragatz, 2005).

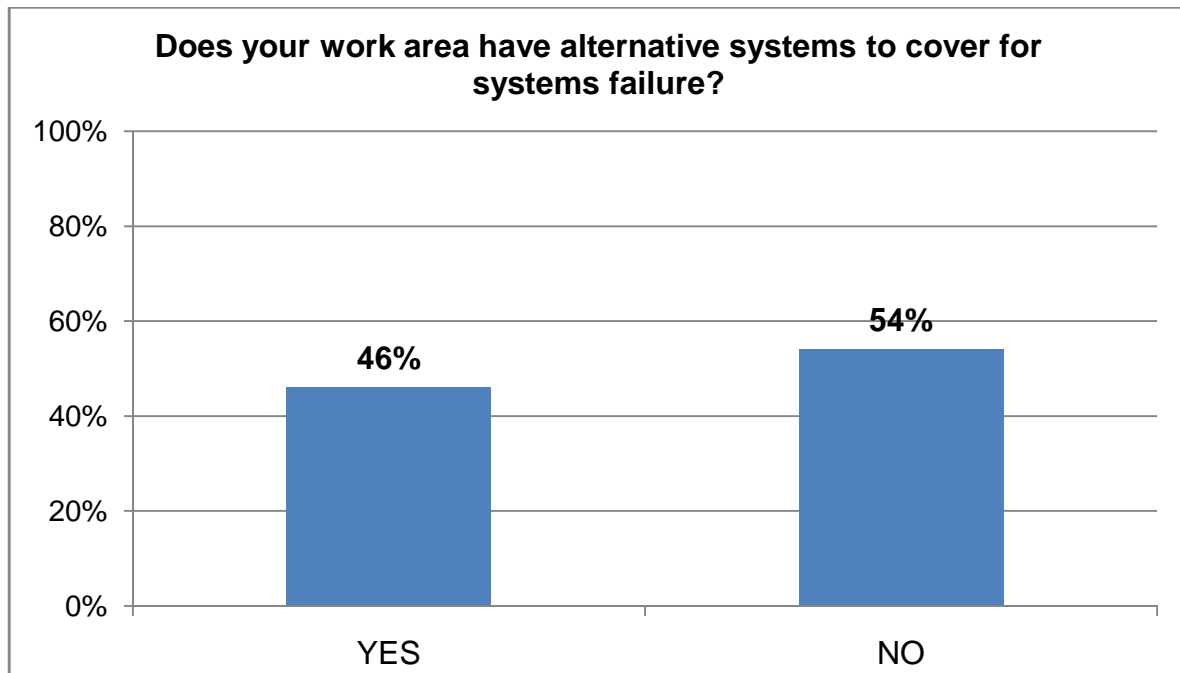


Figure 4.7: Contingency Planning

4.8.2 Auditing of Systems

Good operational risk management requires Audit to provide assurance on effectiveness of organisations' systems (ISO 31000, 2008).

Table 4.3: Auditing of Systems for effectiveness

DEPARTMENT	RESPONSES	
	YES	NO
Production	3%	97%
Quality	9%	91%
Finance	98%	2%
Human Resources	12%	88%
Sales	6%	94%

Table 4.3 shows that the Audit is concentrating on providing assurance on finance systems leaving production, quality, human resources and sales. As such gaps

might exist in the systems that may affect the organisation's objective of operating within acceptable operational risks levels.

4.9 Operational risk management duties and responsibilities

4.9.1 Board Oversight

Research result in Figure 4.8 shows that the board of directors have no oversight over the management of operational risk. This is in contrast with good corporate governance a practice that requires company directors to protect the value of shareholders through governance of risk (King III, 2009). The oversight may be executed through a risk committee that is evaluated by the board on an annual basis (National Code on Corporate Governance for Zimbabwe, 2011).

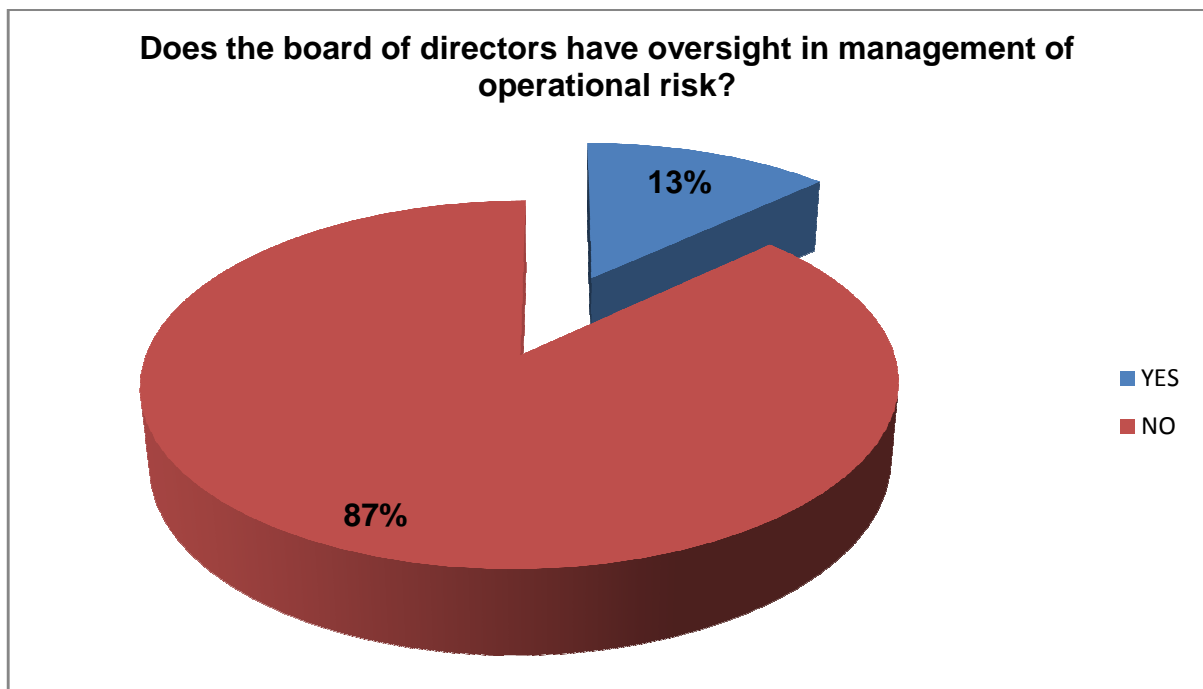


Figure 4.8: Oversight on operational risk management

Oversight is achieved through setting of risk limits, determination of nature and extent of risk the company is willing to take, approving risk policies and plans, monitoring implementation of risk plans and receiving assurance on effectiveness of risk management process (King III, 2009). Dickson (2001) indicated that risk management must be a top down process and the senior management must set the

parameters and structures for implementation. This then requires direct involvement of the board.

4.9.2 Assurance on operational risk management activities

Table 4.4 shows the extent to which Audit is providing assurance on operational risk management activities across departments.

Table 4.4: Assurance on operational risk management

DEPARTMENT	ASSURANCE	
	YES	NO
Production	0%	100%
Quality	2%	98%
Finance	92%	8%
Human Resources	4%	96%
Sales	3%	97%

The research results in Table 4.4 indicate that audit is concentrating in providing assurance on management of operational risk in the finance department. Their reports especially on risk based audits which are used in risk identification are adding value only in the finance department (CIMA, 2008).

The organisation's activities are interconnected and adding value in one section may not enhance the performance of the whole organisation. A failure in one section may be carried out through other sections thereby exposing the organisation to operational risks across the value chain.

4.9.3 Risk department involvement in assisting departments in managing operational risk.

The risk department is the champion of risk that should ensure that operational risk management is integrated in all organisations' activities (Acharyya, 2012). As experts they must be able to provide assistance to various departments so that they manage their risks.

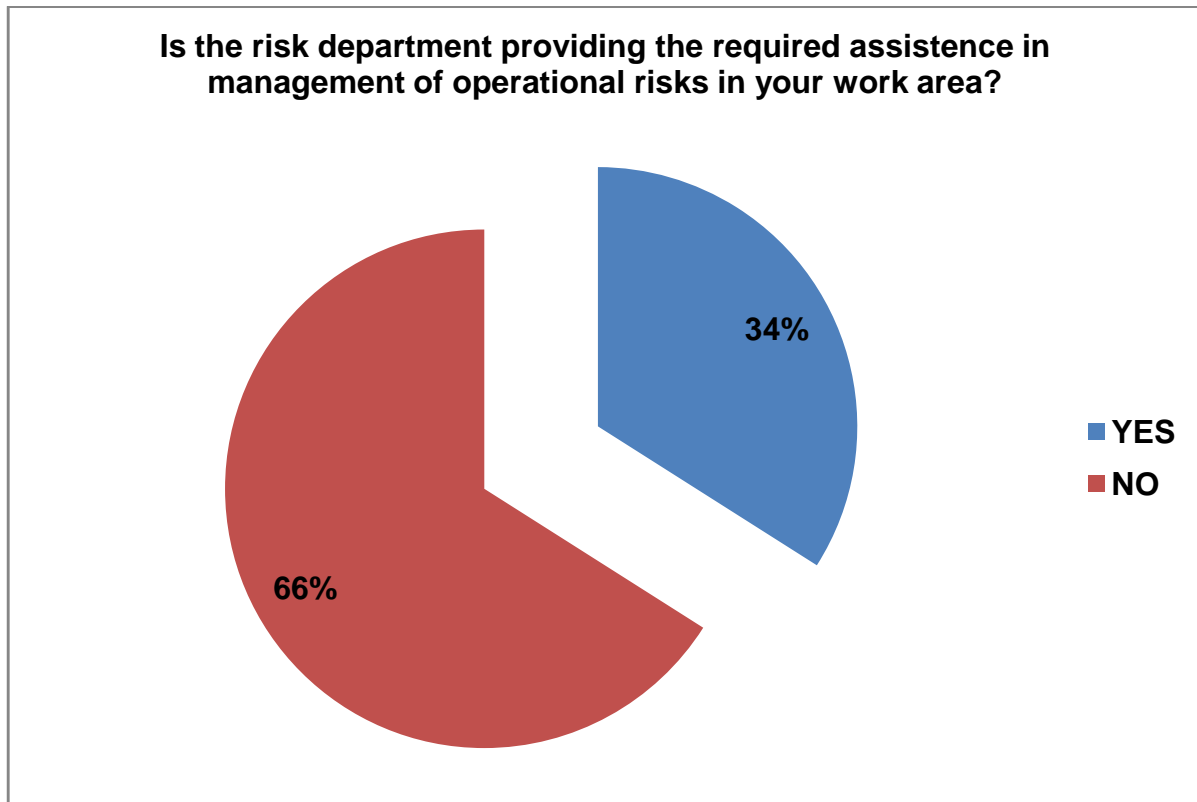


Figure 4.9: Assistance provided by risk department

Figure 4.9 shows that the risk department is not performing its core function of providing expert advice to various employees on management of operational risk. This is against the recommendations made by Acharyya, (2012).The failure by the risk department to perform this function results in departments implementing uncoordinated and non-standard processes.

4.10 Risk Identification

4.10.1 Risk Identification process

Table 4.5: Positions/departments that carry out operational risk identification

	RESPONSES
Risk Department	29%
Head of department	21%
Supervisor	8%
I don't know	42%
Total	100%

Table 4.5 indicate that 42% of employees are not aware of people who carry out identification of risks in their work areas. Other respondents identified the risk department whilst 21% of the respondents concurred that it is done by the head of department. Only 8% indicated that the risk identification process is done by supervisors. The results above are contrary to Committee of Sponsoring Organisations of the Treadway Commission (COSO) (2009) recommendations which require the process to involve all employees regardless of their level in the organisation. The result means that there are no guidelines on identification of risks.

4.10.2 The frequency of risk identification activities

Figure 4.10 shows that 74% of employees indicated that the risk identification process is being done as an annual activity. Only 12% indicated that risk identification is being done as and when the need arises. It is interesting to note that the majority of respondents are against best practice that requires the exercise of risk identification to be a regular exercise so that the organisation is up to date with the changing operating environment (King III, 2009).

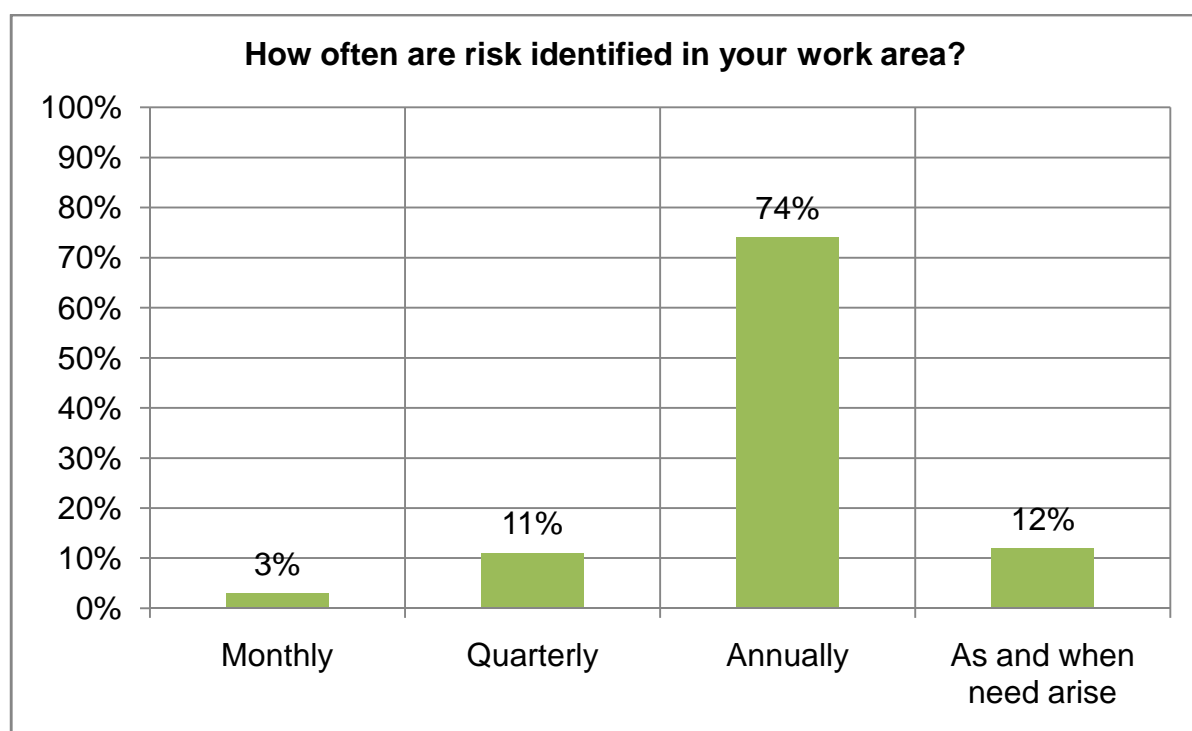


Figure 4.10: Frequency of operational risk identification

4.10.3 Standard methods of identifying operational risks.

The principles of King III (2009) requires the board to set operational risks strategies and policies that include defining risk appetite and methods of identifying risks. Figure 4.11 shows that 95% of the respondents agreed that the organisation does not have standard approaches for identifying operational risks.

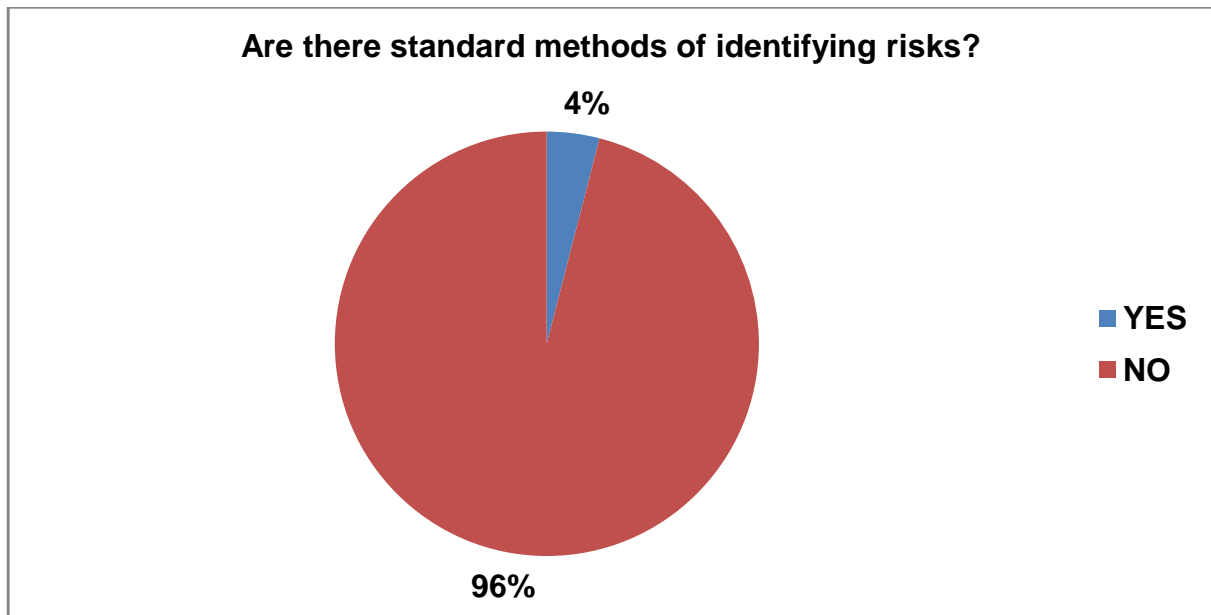


Figure 4.11: Standard methodologies for identifying operational risks

The prescription of standard methodologies for identifying operational risks was also supported in a research conducted by Pritiviti Risk and Business Consulting (2010). The research findings above are also against the recommendations of Adhitya, Srinivasan and Karimi (2009) that organisations should have structured methods of risk identification which will assist in detecting new risks in the organisation.

4.11 Risk Analysis

4.11.1 Positions/departments involved in risk analysis

Table 4.6 shows positions and departments involved in risk analysis at Beta Bricks.

Table 4.6: Who does risk analysis in your department?

	RESPONSES
Risk Department	25%
Head of Department	24%
Supervisor	5%
I don't know	46%
Everyone in the department	0%
Total	100%

As depicted by Table 4.6, 46% of the respondents agreed that they are not aware of employees or departments carrying out analysis of operational risks in their working areas. However, some of respondents were aware that operational risks in their working areas were being evaluated by the Risk department (25%) and 24% by the head of department. Although some of the risk analysis is being done by the risk department, head of department and supervisors, the analysis may not be complete without the input of the people who are directly involved in the activities, the general staff. This inclusive approach in risk assessment was supported by Committee of Sponsoring Organisations of the Treadway Commission (COSO) (2009) as it assists in arriving at accurate results. The accuracy of risk assessment is important in ensuring that the entity rank and prioritise risk in accordance with their magnitude (CIMA, 2008). The fact that the majority of respondents indicated that they were not aware of people/ department who were carrying out the risk assessment is a sign of lack of unclear policies which are important towards successful management of operational risks (Bank of International Settlement, 2011).

4.11.2 How often are risks assessed in your work area?

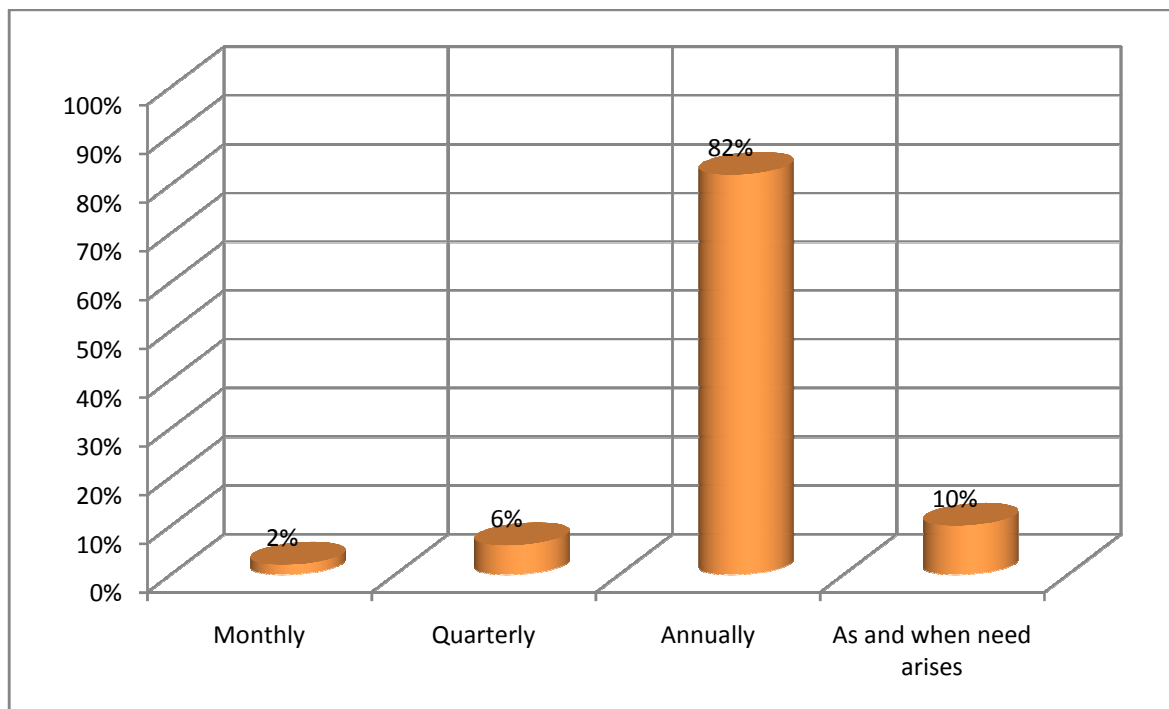


Figure 4.12: Frequency of risk assessments

Figure 4.12 shows that the majority of respondents (82%) agreed that risks are being assessed annually. This is contrary to COSO (2010) that argues that risks must be continuously assessed in order to capture changes in environment. This was also supported by University of Leeds (2012) in their guide to risk assessment that calls on risks to be assessed as and when the need arise.

4.12 Operational risk responses

4.12.1 Crafting of operational risk responses

Figure 4.13 shows that 82% of the respondents were not involved in crafting of operational risk responses. Only 18% were involved in the activity. The research results are in conflict with ISO 31000 (2008) which advocate for appropriate and timely involvement of stakeholders and decision makers to ensure that the risk management processes remain relevant and up to date.

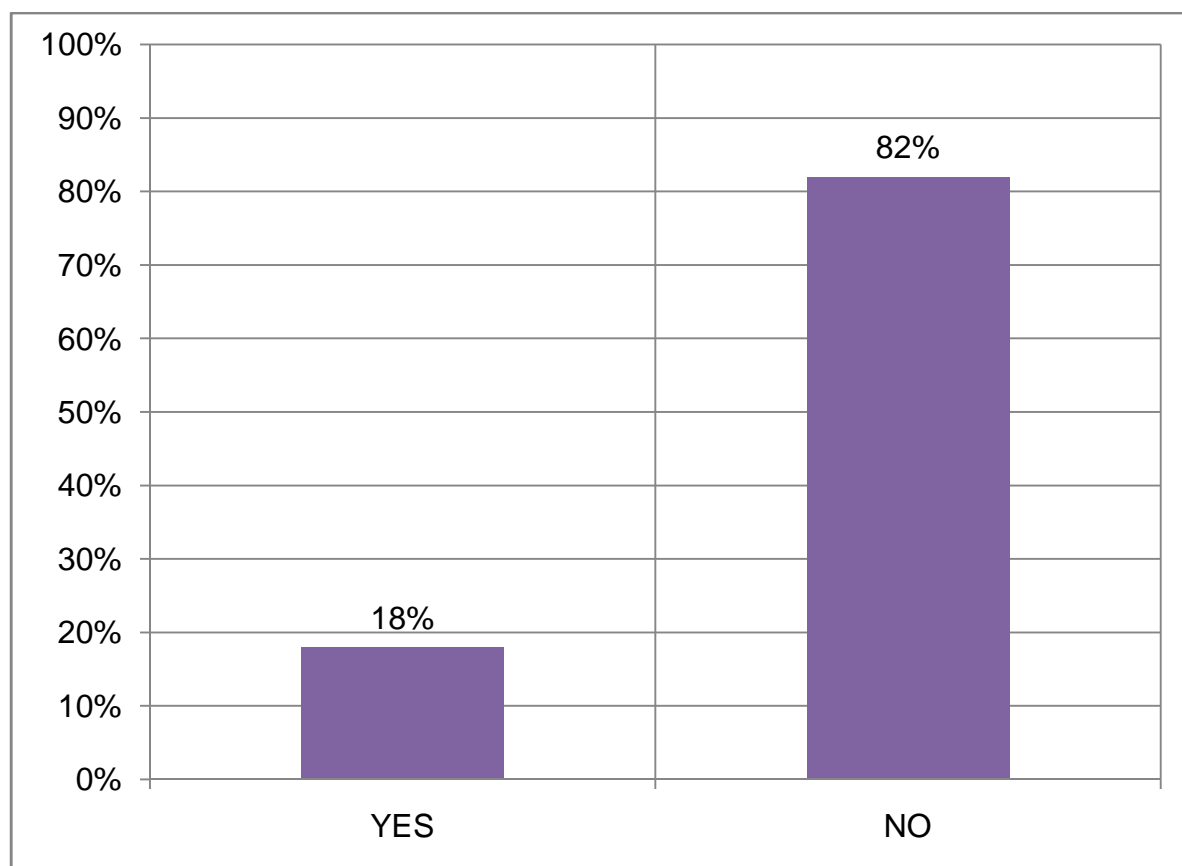


Figure 4.13: Involvement of employees in crafting of risk responses

The Economist Intelligence Unit (2007) also noted that besides ensuring representation, involvement creates a strong culture and awareness in the

organisation that is important for the success of operational risk management. The organisation's employees are among the stakeholders that need be involved in the crafting of the risk responses.

4.12.2 Criteria for selecting risk control measures

Hopkins (2012) suggested that companies should have internal ratings that suggest actions the company can take on operational risks.

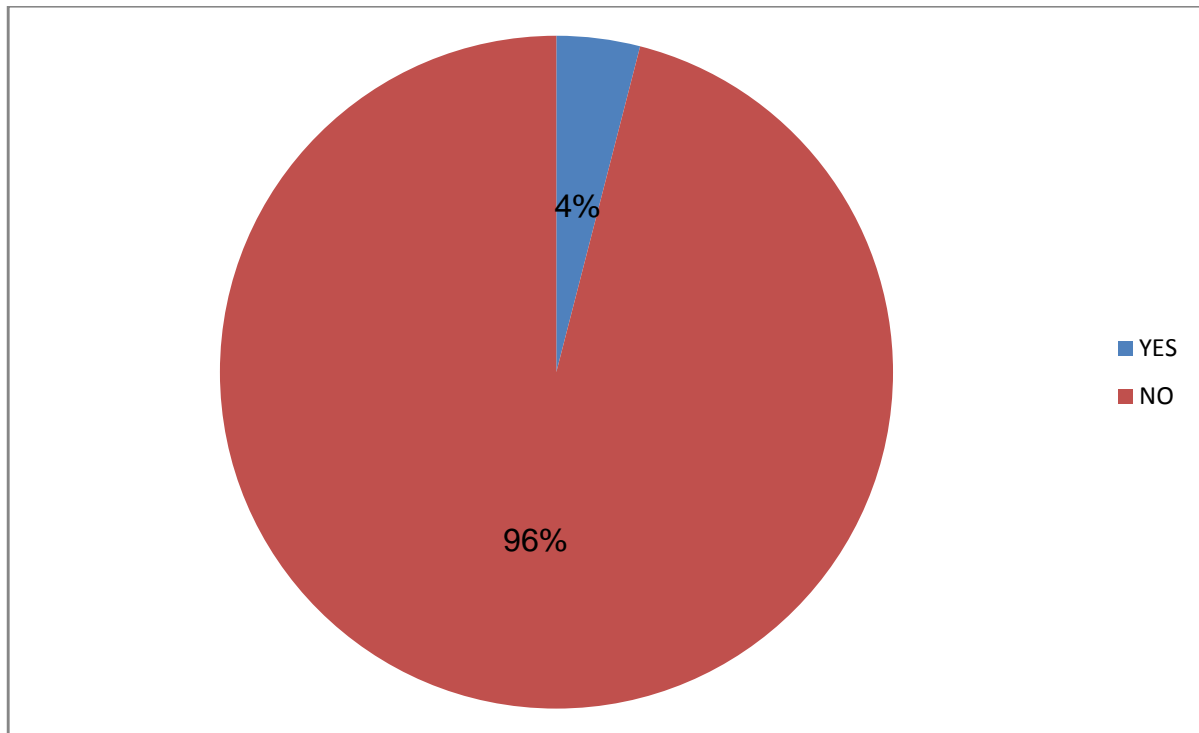


Figure 4.14: Availability of criterion for drafting risk responses

Results shown on Figure 4.14 indicate that 96% of the respondents concurred that Beta Bricks does not have a defined criteria for drafting risk responses. This is not in line with Hussain (2000) who noted the need for organisations to select risk control measures based on set parameters which are consistent with organisational objectives. The parameters should be able to assist in identifying risk control options, prioritise them and make control decisions.

4.13 Operational risk monitoring and review

4.13.1 Are there mechanisms for monitoring operational risks in your work area?

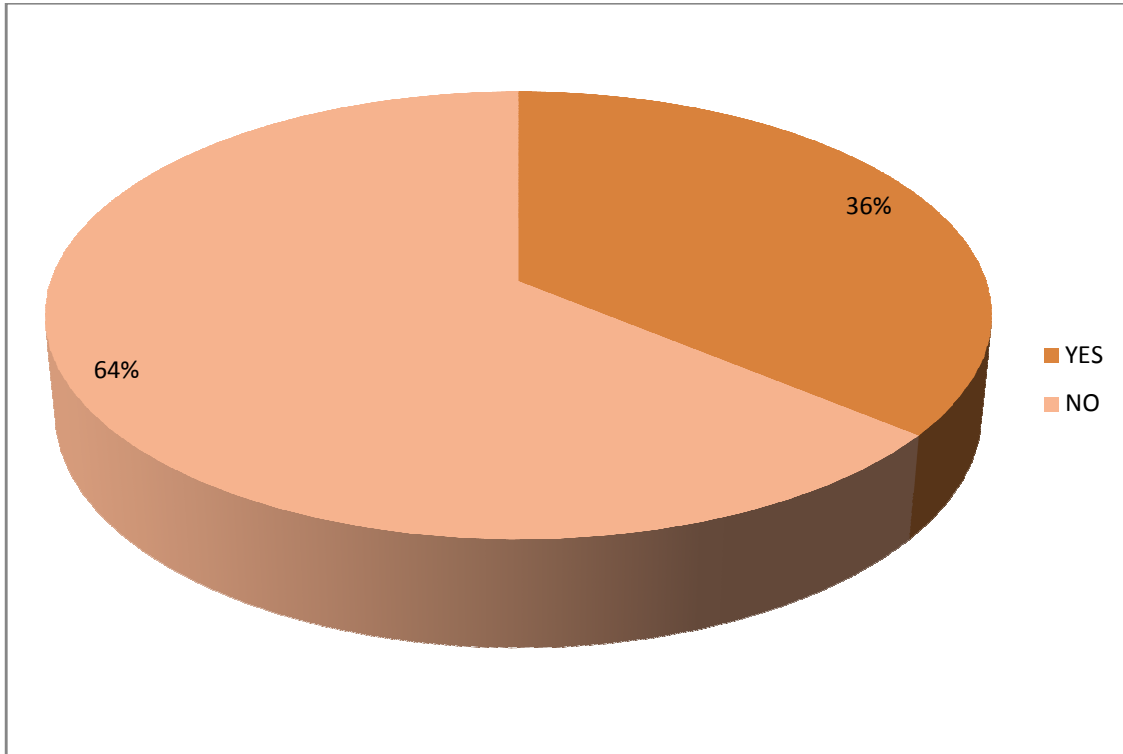


Figure 4.15: Mechanisms for monitoring operational risks

Figure 4.15 shows that 64% of the respondents strongly agree that the organisation does not have mechanisms for monitoring operational risks. This is not in line with IRM (2002) which noted the importance of putting in place risks monitoring mechanism to ensure that the risk management process is in line with the risks the organisation is facing. Speier, Whipple, Closs and Voss, (2011) also supported the need for organisation to have standard monitoring systems that are applicable throughout the organisation. Hopkin (2012) and Dani (2008) echoed the same sentiments citing allocation of responsibilities, documentation and goods records management as part of the monitoring system.

4.14 Risk Reporting

4.14.1 Is operational risk reporting done for your work area?

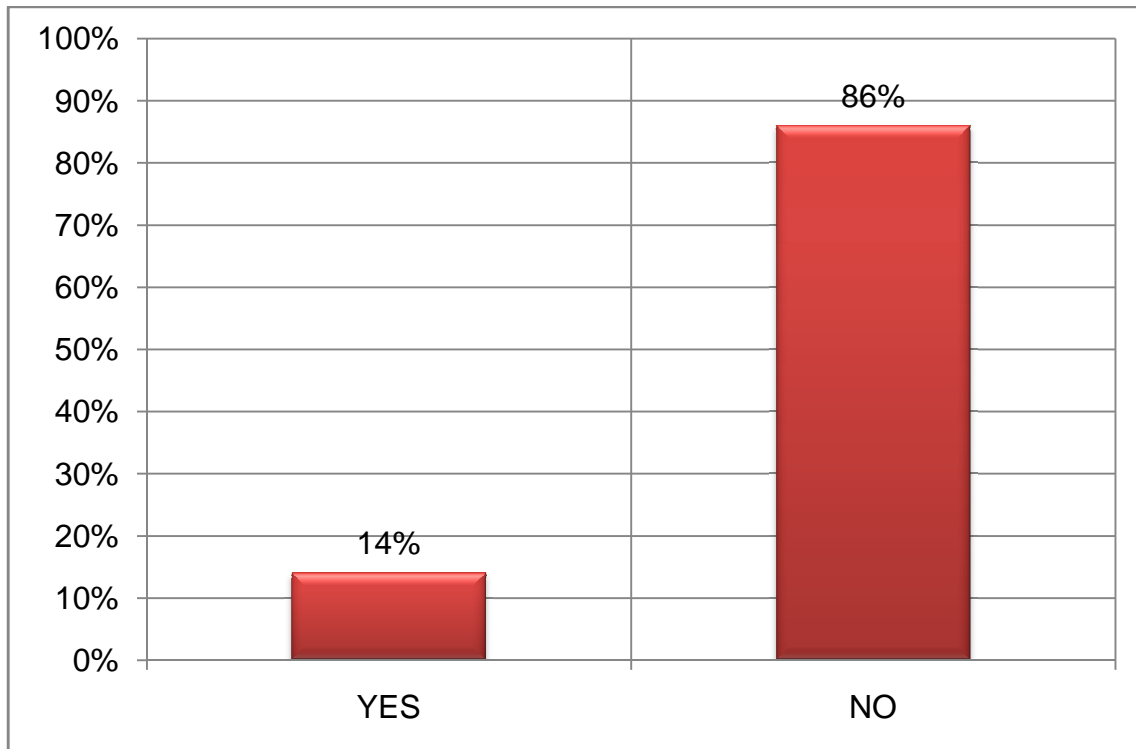


Figure 4.16: Reporting of operational risks

The research result shows that operational risks are not being reported in the organisation which was agreed by 86% of the respondents. This is against suggestions by IRM (2002) and Hopkin (2012) of reporting and communicating operational risks internally and externally. The two argue that the reporting of risks create awareness as units and individual will be aware of risks they are responsible for and how to monitor their progress in terms of key performance indicators. Millian Research (2013) also supported the reporting of risk in order to enhance organisational reputation.

4.14.2 Are there standard operational risk reporting templates?

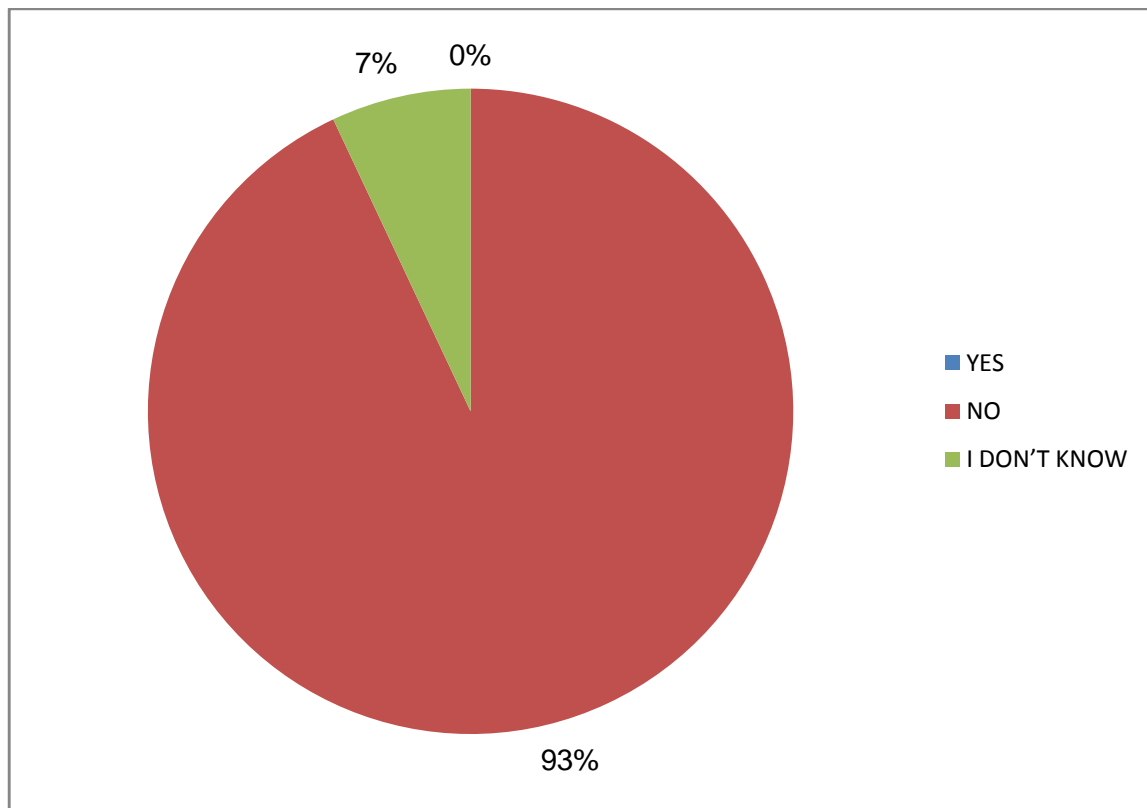


Figure 4.17: Standard operational risk reporting

Figure 4.17 shows that the organisation does not have standard operational risk reports. The research results are not in line with Lester (2000) who advocated for the use of a well-designed management information system or executive information system that provide pre-defined reports to satisfy the diverse information needs in the organisation. The aim of having standard report is to give information relevant to managers to support decision making (Wahler, 2002).

4.14.3 Loss incidents are investigated and reports circulated to various departments

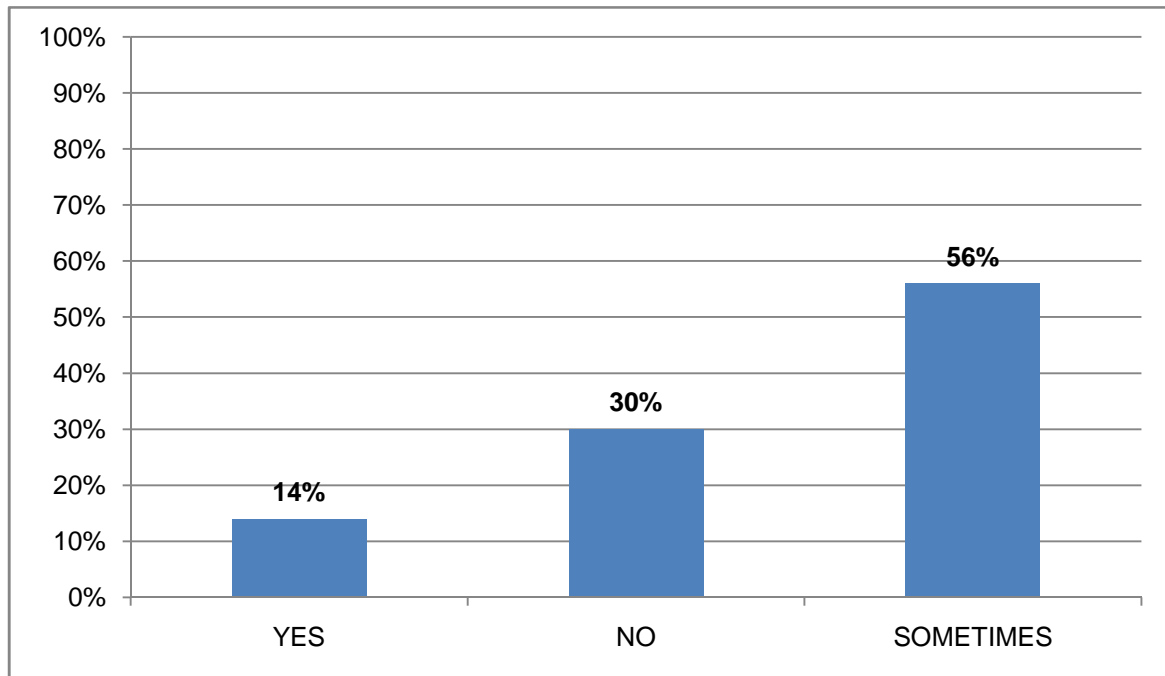


Figure 4.18: Investigation of loss incidents

Figure 4.18 shows that 58% of the respondents indicated that there is no consistency in the investigation of loss incidents. Cousins, Lemming and Lawson, (2008) highlighted the need to ensure that incidents are investigated. They underscored the need for organisations to be able to return to the original state, or preferable to a better level, after an incident has occurred. In order to be at a better position, the organisation would have learnt from the previous incidents which can only be achieved through investigation of loss incidents or near misses and come up with strategies for improvement. Falasca, Zobel and Cook (2008) also supported the investigation of incidents and stressed that the strategies for improvement increase resilience capabilities of an organisation which may not be the case in Beta Bricks.

4.15 Operational risk performance measurement

4.15.1 Does the organisation have a standard performance measurement tool?

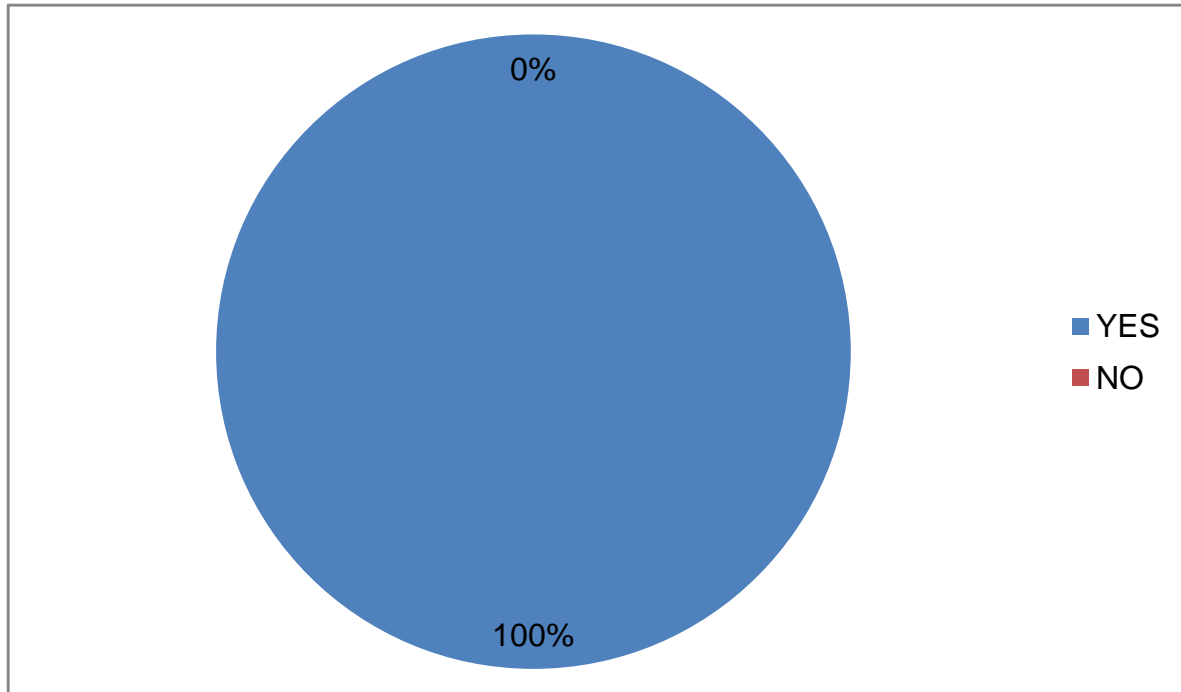


Figure 4.19: Performance measurement tool

Figure 4.19 shows that the respondents unanimously agreed that the organisation has a standard performance measurement tool in the form of a balanced scorecard. This is in line with Wolter (2001) who advocated for the use of balanced scorecard as operational risk corporate performance measure. Wolter (2001) noted that the critical success factors such as innovation, customer orientation, efficient processes and employee expertise which are part of operational risk variables were an input of balanced scorecard. Kaplan and Norton (1996) stressed that although financial performance is the final point of reference, financial performance measures don't tell the whole story about past actions and they fail to provide adequate guidance of the actions be to taken today and the day after to create future financial value. The concept of balanced scorecard provided remedy to this traditional bias making it the most appropriate tool to measure operational risk performance (Kaplan and Norton, 1996).

4.15.2 Does the performance management tool measure employees operational risk performance?

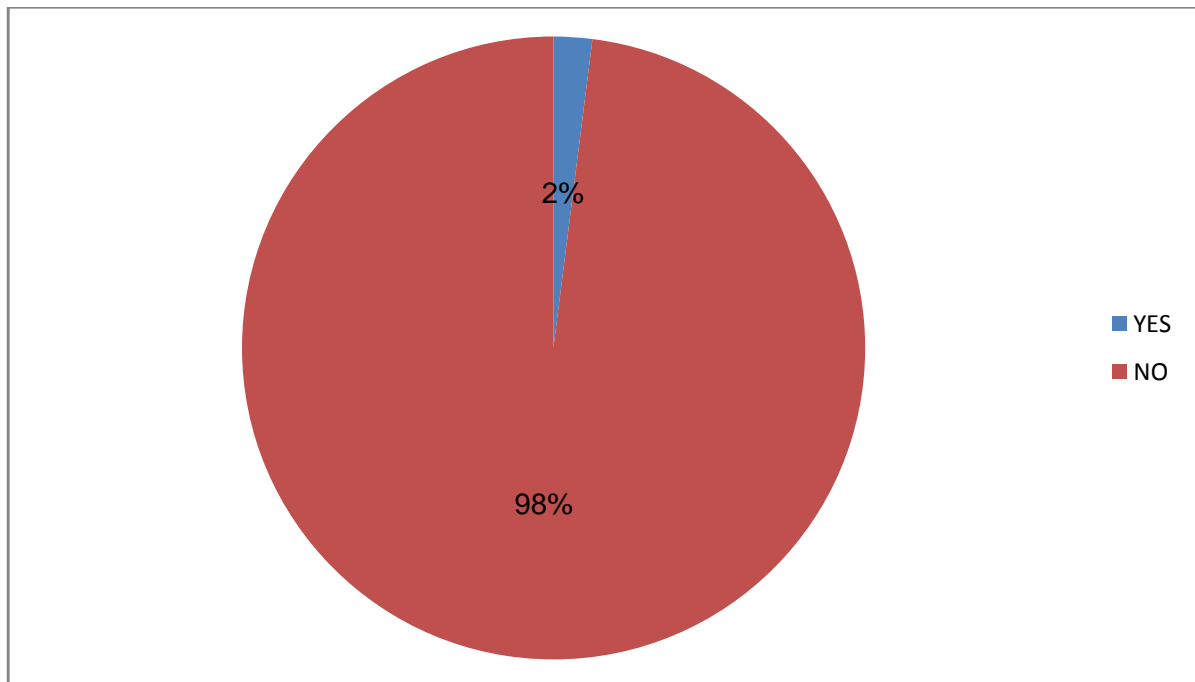


Figure 4.20: Measuring operational risk performance

Although the organisation has a standard performance appraisal system as shown in Figure 4.19, Figure 4.20 shows that the system does not cover operational risk performance. This is contrary to Hussan (2000) who argues that operational risk performance measurements coupled with appropriate incentive structures is decisive for credibility of operational risk management strategy. This also led to the organisation accepting negative audit findings, suspending entitlements to bonuses until full compliance with operational risk issues and generally turning towards long term pay structure Wahler (2002).

4.16 Chapter Summary

The chapter presented the research findings categorised into major variables of operational risk management. The findings were discussed in reference to literature gathered in chapter three in order to identify gaps which will be addressed in chapter five.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter outlines the major conclusions from the research and recommendations for improvement.

5.2 Conclusion

In view of the literature reviewed in Chapter two and research findings presented in Chapter four, the following conclusions were made;

- i. The research showed that Beta Bricks does not have a complete infrastructure that supports operational risk management. Although it has some methodologies for operational risk management that include, people, structures and data for managing operational risk no value is being derived from the risk management process in place.
- ii. The board of Beta Bricks is not exercising its role of oversight on operational risk management. The success of operational risk management hinges on the support from the executive management that provides resources and guidance.
- iii. The organisation's operational risk management activities concentrate on finance department from documentation of procedures, auditing of systems and provision of assurance on effectiveness of risk management. This then increases risk in other departments that include quality, production, human resources, sales and logistics.
- iv. There are disparities in the management of people in the organisation. Although the employees are recruited through the recruitment policy, they don't pass through the induction process where they are introduced to the organisational risk culture. The unfair application of the code of conduct results in employees deliberately failing to carry out risk

management activities. As a result this affects the implementation of the operational risk activities.

- v. The operational risk management activities are being done by the senior managers, supervisors and the risk department leaving the rest of the employees in the dark. It then makes it difficult for them to assess risks associated with their working environments.
- vi. Operational risk is not part of Beta Bricks performance measurement although the company uses the balanced scorecard which can easily incorporate operational risk management. As a result there is no motivation for employees to carry out operational risk management activities.

5.3 Validation of Research Proposition

The research proposition that Beta Bricks has weak operational risk management practices was made at the initial stage of the research. The research findings confirm that the operational risk practices are weak and need to be improved.

5.4 Recommendations

The following recommendations are pertinent to ensure that Beta Bricks uphold best practices in operational risk management:

5.4.1 Support from Executive and Board

The first step towards adoption of best practices in operational risk management is gaining support from the board. It is recommended that the risk department engage the company secretary to ensure that the board support operational risk management initiatives. The company secretary will ensure that the board members receive appropriate training.

5.4.2 Establishing the context of operational risk management

The risk department needs to spearhead the process of establishing the risk management infrastructure which includes the policy and manual. This will ensure

that there is standard formal process for operational risk assessment throughout the organisation

5.4.3 Creating a strong culture and awareness across the organisation

Beta Bricks need to create a strong culture and awareness on operational risk throughout the organisation. This may be achieved through involvement of every employee in the organisation regardless of the position. The involvement of employees can be done through the workers committee.

5.4.4 Strengthen the management of employees

The company should strengthen the management of its employees through consistent induction of new employees, training on operational risk, clearly defined duties and responsibilities and fair application of the code of conduct. People are the most important element of operational risk management thus the management of employees is important to the success of operational risk activities.

5.4.5 Strengthening the role of risk department

The study recommends Beta Bricks risk department to take an active role in assisting departments in managing of operational risk. This can be done through assisting departments in drafting and reviewing of operating manual.

5.4.6 Incorporating risk is performance measurement

Beta Bricks ought to incorporate operational risk management in the Balanced Scorecard. This will ensure that employees' performance in risk management is tied to rewardsthereby motivating employees to participate in operational risk management activities.

5.5 Evaluation of the recommendations using Johnson and Scholes model

The Johnson and Scholes suitability, feasibility and acceptability model is a selection criterion for determining optimum strategic choices (ACCA, 2010). The model was applied to determine the suitability, feasibility and acceptability of the recommendations made on section 5.3.

Suitability

The recommendations are intended to ensure that the Beta Bricks reduces losses associated with operational risk. A reduction of losses will provide Beta bricks with an opportunity to reduce its prices to match competitors. This will make the firms products competitive locally and regionally. The firm has structures in place that include the board, company secretary and the risk department to support the implementation of the recommendations.

Feasibility

Beta Bricks is still the biggest producer of clay bricks although its market share is decreasing as shown in Table 1.8. The company still has the resources to support the implementation of the recommendations which include training, resourcing the risk department, hiring of consultant to implement the balanced scorecard and drafting of job descriptions, policies and manuals. The company has other facets of the framework that include machinery and markets in terms of extensive government projects.

Acceptability

The initiatives recommended will be accepted by all the stakeholders as there are associated with more benefits than losses. They don't require extensive investments but results in increased profitability without necessarily increasing production. This will be welcome by the shareholders as it will increase their return on investment. Beta Bricks employees are paid production bonuses based on products dispatched to customers. The success of the recommendations will mean that the bonuses will also increase. Creditors and lenders will also accept the recommendations as it improves the risk profile of the company.

5.6 Area of further study

There is need for further research on the impact of operational risk management practices on company's performance or its competitiveness. As operational risk management is advanced in the banking sector it might be interesting to carry out the same research in the Zimbabwean banking sector.

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APPENDIX 1: LETTER TO RESPONDENTS

17 December 2013

Dear Respondent,

**RE: QUESTIONNAIRE ON EVALUATION OF OPERATIONAL RISK
MANAGEMENT PRACTICES WITHIN THE CLAY BRICK MANUFACTURING
COMPANIES IN ZIMBABWE: A CASE OF BETA BRICKS (PVT) LTD**

I am a student at Graduate School of Management, University of Zimbabwe studying Masters of Business Administration (MBA). The program requires students in the third year to conduct a research in order to complete the studies. I am conducting a research on the above topic which requires me to collect data from Beta Bricks employees through the questionnaire. I am authorised to collect this information. See attached latter from Human Resources. The collected information will be used solely on this research and kept confidential. No names of individuals or particular banks will be mentioned in the final report. You may request for the final report which will be availed after marking.

Please supply me with an honest response so that the ultimate report reflects what is really happening. You can contact me on +263 772 469 849 or nyambow@gmail.com.

Thank you for completing the questionnaire.

Yours faithfully,

Walter Nyambo

MBA Student Reg R081947D

APPENDIX 2: QUESTIONNAIRE FOR BETA BRICKS EMPLOYEES

SECTION A : GENERAL QUESTIONS

1. Which category do you belong to? **Please tick one box (√) one box only**

CATEGORY	Mark with an X
General Manager	
Senior Management	
Middle management	
Low level employee	

2. How long have you been employed at Beta Bricks? **Please tick one box (√) one box only.**

- Less than 1 year
- 1 - 3 years
- 3- 5 years
- Over 5 years

3. Which department do you work for?

SECTION B- OPERATIONAL RISK MANAGEMENT POLICIES AND FRAMEWORK

4. What operational risk management infrastructure is in place in your organisation? **Please tick one box (√) one box only**

	YES	SOME	NO
Policy statements on operational risk			
Methodologies for managing operational risks			
Operational risk reporting templates			
Operational risk registers			
Operational risk management manuals			
Systems and data on operational risk			
People and structures on managing operational risk			

5. Where you involved in establishing the available operational risk management infrastructure **Please tick one box (√)**

YES

NO

SECTION C- INTERNAL BUSINESS PROCESSES

6. Does your work area have documented internal control procedures? **Please tick one box (✓)**
 YES NO

7. Who are involved in the drafting and review of internal procedures?

	Tick applicable (You may tick more than one box)
All department Staff	
Risk Department	
Head of Department	
Supervisor	

SECTION D - PEOPLE

8. Does your organisation have a recruitment policy? **Please tick one box (✓)**
 YES NO

9. Do all employees go through a formal induction process?
 YES NO

10. Does the organisation have a code of conduct that governs the conduct of all employees?
 YES NO

11. The duties and responsibilities of employees are clearly defined?
 YES NO

12. Is the code of conduct applied fairly across all categories of employees?
 YES I DON'T KNOW NO

SECTION E -SYSTEMS

13. Does your work area have alternative systems to cover for system failure?
 YES NO

14. Are there employees assigned to be in charge of the systems?

YES

NO

15. Are the systems audited for effectiveness?

YES

NO

SECTION F - DUTIES AND RESPONSIBILIY - OPERATIONAL RISK MANAGEMENT

16. Does the board of directors have oversight on management of operational risk?

YES

NO

17. Does the audit provide assurance on operational risk management activities in your work area?

YES

NO

18. Is the risk department providing the required assistance in managing operational risks in your work area?

YES

NO

SECTION G - RISK IDENTIFICATION

19. Who does risk identification process in your department?

	Tick applicable (You may tick more than one box)
Risk Department	<input type="checkbox"/>
Head of Department	<input type="checkbox"/>
Supervisor	<input type="checkbox"/>
I don't know	<input type="checkbox"/>
Other (specify).....	<input type="checkbox"/>

20. How often are risk identified in your work area

Annually

Quarterly

monthly

As and when the need arise

21. Does your organisation have prescribed methods of identifying operational risks?

YES

NO

SECTION H - RISK ASSESSMENT

22. Who does the risk evaluation process in your department? **Please tick one box (√)**

HOD	Supervisors	Everyone in the department	Risk department

23. How often are the risk assessments done in your department? **Please tick one box (√)**

Monthly	Quarterly	Annually	As and when need arise

24. Are new projects assessed for risk before implementation?

YES

NO

SECTION I - RISK REPONSES

25. Are you involved in crafting of the operational risk responses for your work area?

YES

NO

26. Is there a defined criterion for drafting risk responses?

YES

NO

SECTION J - OPERATIONAL RISK MONITORING AND REVIEW

27. Are there mechanisms for monitoring operational risks in your work area? **Please tick one box (√)**

YES

NO

SECTION H - RISK REPORTING

28. Are operational risks in your work area reported?

YES

NO

I DON'T KNOW

29. Are there standard operational risk reporting templates? **Please tick applicable one** (✓)
YES NO

30. Incidents are investigated and reports circulated to various departments?
YES SOMETIMES NO

SECTION I - PERFORMANCE MEASUREMENT

31. Does the organisation have a standard performance measurement tool?
YES NO

32. Does the performance management tool also cover operational risk performance? **Please tick one box (✓) one box only**
YES NO

END

APPENDIX 3: LETTER OF APPROVAL

Brickfield Rd, Mt. Hampden
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E-mail: betasales@beta.co.zw
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2 August 2013

To Whom It May Concern

**APPLICATION BY WALTER NYAMBO R081947D TO CARRY OUT
REASEARCH ON BETA BRICKS**

This letter serves to notify you that WALTER NYAMBO was allowed to carry out his research on BETA Bricks PVT (Ltd). The information collected is to be used for academic purposes only.

For and on behalf of BETA BRICKS (PVT) LTD

Angela Gambarara
Human Resources Manager



Directors:

A. F. Nkhu (Chairman), G.T. Manhambaro* (Group C.E.O), A.N. Pasigonodya, F.T. Kembo