RISK MANAGEMENT IN FINANCIAL INSTITUTIONS, THE CASE OF ZIMBABWEAN COMMERCIAL BANKS

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Dissertation submitted in partial fulfilment of the requirements for the degree of Master of Business Administration 2012

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Abstract

The purpose of this study is to explore the current risk management practices that are being followed and exercised by the banks, specifically, commercial banks in Zimbabwe.

Primary and secondary data sources were used to serve the purpose. The study sought to investigate the risk management policies being put in place by commercial banks. The research reviewed both theoretical and empirical theories underpinning risk management. Various types of risks are discussed with more emphasis on credit, market and operational risks.

The research combined both the qualitative and quantitative research approaches in order to take advantage of the strengths of the two approaches with a view to enhance reliability and validity of the findings. A survey was carried out using one systematic and structured questionnaire administered to management and staff of banks. This research utilized the survey design method since it allows for a collection of standardized information from a specific population. The questionnaire was used as a data collection instrument because of its applicability to the survey research design.

The study concluded that risk management has significant effect on bank performance, and vice versa. In general, the findings for both secondary data and primary data analyses are substantiating each other. Primary data analysis supports and strengthens the findings of secondary data analysis. Results reveal a significant difference in the application of risk management aspects among the commercial banks. The study recommends that banks should develop and maintain credit approval authority structure and grant approval authority to qualified and experienced individuals. Furthermore banks should work with business groups and individuals in creating risk awareness within the banks' risk taking capacity.

In addition, the banks are recommended to establish external credit rating agencies to obtain the true information of the clients and use modern credit evaluation techniques. Furthermore, the study recommends the development of data base management to manage portfolio data and setting an information technology system to enhance communication and obtaining accurate data in timely manner.

Declaration

I, Rawlet Mugodo, do hereby declare that this dissertation is the 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.

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Supervisor signature	Date

Acknowledgements

I would like to thank the following for their contributions and efforts; Maud Mugodo for the moral support and encouragement, the rest of the family for understanding my predicament and, libraries across the country that could allow me patronage even without registering as a member. Many thanks go to bank supervisors for allowing me access to their staff and lastly to all those who responded to the survey.

To Professor Hawkins, the technical guidance is appreciated. Valerie Mugodo and other family members, thanks for agreeing to read drafts of this dissertation.

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List of Abbreviations

ALCO	Asset and Liability Committee
CAPM	Capital Asset Pricing Model
CBZ	Commercial Bank of Zimbabwe
CCRO	Country Chief Risk Officer
CEO	Chief Executive Officer
ERM	Enterprise Risk Management
FBC	First Banking Corporation
G20	Group of 20
ICAAP	Internal Capital Adequacy Assessment Process
IRB	Internal Rating-Based Approach
IT	Information Technology
KRI	Key Risk Indicators
LCR	Liquidity Coverage Ratio
MBCA	Merchant Bank of Central Africa
MBS	Mortgage-Backed Securities
NMB	National Merchant Bank
NPL	Non-Performing Loan
NSFR	Net Stable Funding Ratio
P & G	Procter & Gamble
POSB	Post Office Savings Bank
PPG	Product Programme Guide
RAROC	Return on Risk Adjusted Capital
RARORAC	Risk Adjusted Return On Risk Adjusted Capital
RBZ	Reserve Bank of Zimbabwe
RMF	Risk Management Framework
RTGS	Real Time Gross Settlement system
S & P	Standard & Poor
SCB	Standard Chartered Bank

SPV	Special Purpose Vehicle
STP	Straight Through Processing
SWOT	Strengths Weaknesses Opportunities Threats
USA	United States of America
VaR	Value-at-Risk
ZABG	Zimbabwe Allied Banking Group

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

In financial terms, risk refers to the possibility of financial loss and it lies at the heart of every business (Hopkins, 2010). In most organizations, there is a tendency to focus on revenue and ignore the risks involved especially where employees have sales or trading targets to meet. It is therefore, important to balance risk and return. Risk management then allows risks to be understood and taken in a controlled fashion. It ensures that an appropriate reward is sought for the risk taken and ensures the risk is monitored through its life (Borodzicz, 2005). Risk must be taken within the organization's risk appetite and in line with the requirements of stakeholders. The level of risk is also aligned to the business strategy of the organization.

According to the Reserve bank of Zimbabwe's Risk management framework (2006), risk management units should be independent from the business and ideally, they should report to the Country Chief risk officer (CCRO) who is answerable to the board. Various risk committees exist in the bank and they all feed information to the board. For liquidity and balance sheet issues, the Asset and Liability Committee (ALCO) ensures sound controls. The Credit committee ensures that credit strategies are adhered to and that loans are within the approved credit limits. Exceptions (high risk issues) are escalated for further discussion at the senior managerial level before they feed into the board pack (Basel II Handbook, 2008). For this research, the major risks in financial institutions will be assessed namely, Market risk, Credit risk and Operational risk.

1.1 BACKGROUND TO THE STUDY

Banks in Zimbabwe are battling for survival due to poor economic performance, low capacity utilization by industry and depressed demand against a backdrop of low disposable incomes. The country's balance of payment is in deficit at a time when domestic credit demand is very high resulting in a vicious loop of reduced access to

liquidity slowing growth (Njanike 2009). According to Chagwiza (2012), the banks' loan to deposit rates leaves a lot to be desired. This is because banking industry is still struggling after the restoration of the economy and is not running its business operations at the full capacity (Hanke 2009). Some banks are struggling to meet the current minimum capital requirements set by the central bank and the thresholds have since been raised from USD12.5 million to USD100 million on a phased plan with full compliance expected by June 2014 (RBZ Mid Term Monetary Policy, July 2012).

Industries and businesses are now seeking offshore loans because local financial institutions are reluctant to offer long term facilities (RBZ Monetary Policy, 2011). Banks are under immense pressure due to management failures and other malpractices like paying themselves hefty bonuses and internal loans in the middle of serious financial problems and widespread suffering by their clients (Jeucken, and Bouma, 1999). The other challenges facing most banks include liquidity and credit defaults.

The Zimbabwean banking industry is grouped according to their main functions. Commercial banks carry out the business through network of branches, agencies and mobile facilities. The banks offer the current and deposit account facilities, and provide loans and overdrafts to needy business organizations and individuals. They also offer foreign exchange facilities including accepting foreign exchange deposits (Basil, 2002; Heffernan, 2005 and Somashekar, 2009). In addition they are involved in financial advice and clearing processes. Merchant banks provide wholesale banking services to complement the banking facilities extended by commercial banks. According to RBZ Monetary Policy (2011), merchant banks can provide corporate advisory services at a fee, and are involved in underwriting of securities and portfolio management.

At the time of the research, the following were of the operating commercial banks in Zimbabwe namely Barclays bank, Standard Chartered (SCB), Stanbic bank, Commercial bank of Zimbabwe (CBZ), ZB bank, Zimbabwe Allied Banking Group (ZABG), Trust bank, Royal bank, TN bank, Merchant bank of Central Africa (MBCA), National Merchant bank (NMB), Kingdom bank, Metropolitan bank, Post Office Savings bank

(POSB), Agribank, Ecobank, BancABC and First banking Corporation (FBC). Each bank has its own unique or similar problems.

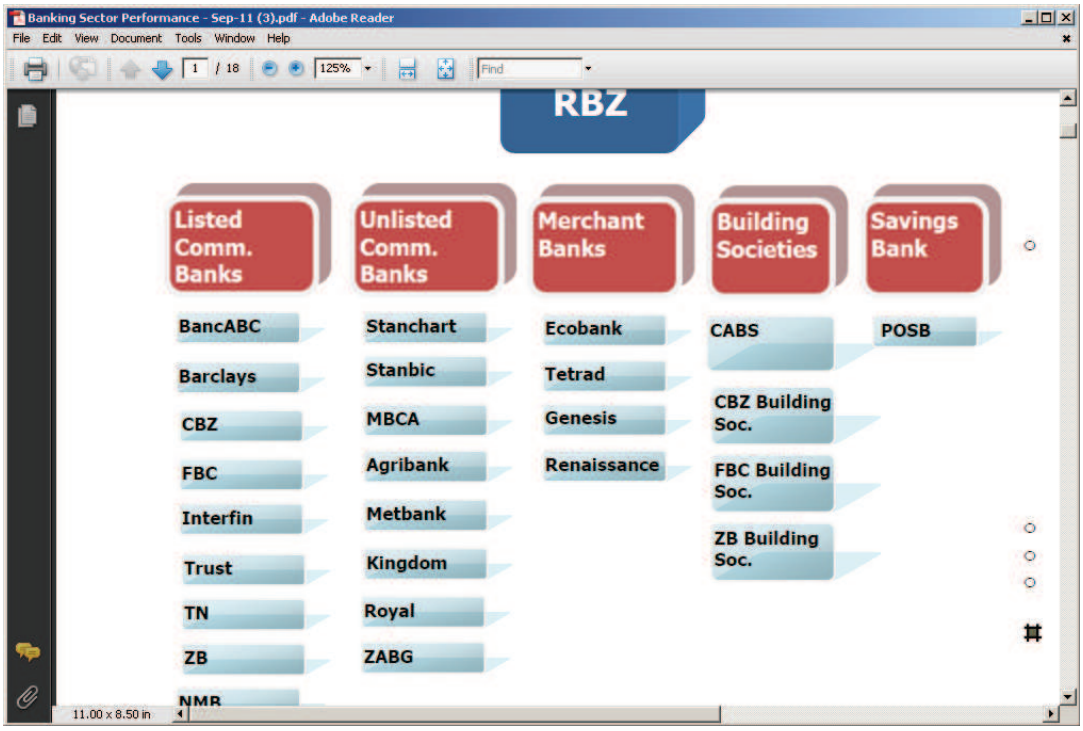

Figure 1.1 (Source: BancABC 2011 Zimbabwe bank survey journal)

The structure of Zimbabwe banks as at 30th June 2011 is shown above. It is however, important to note that some changes have since taken place with Renaissance bank now called Capital bank, Royal bank surrendered its banking license and Genesis bank had to be under curatorship due to under capitalization. Interfin bank closed its doors in June 2012 and CABS now has a commercial banking license.

Bank failures have not only taken place in Zimbabwe alone. According to Gil-Diaz (2008), countries such as Mexico, Venezuela, Spain, Kenya, United Kingdom, Sweden and Norway have also experienced similar disasters. The reasons for the collapses differ but various organizations that include regulators (for not enforcing market rules), rating agencies (for misleading nations), and corporate governance oversight have been blamed

in the process. Some have been put under curatorship and others have been forced to liquidate. Banks with low profitability levels and small net interest margins end up with low capital resulting in increased chances of bank failures (Herrero, 2003). Using the Venezuela Banking Crisis, Herrero (2003), argues that some of the reasons for Bank Latino's failure were inappropriate lending practices where the same collateral was used to access multiple loan facilities and the bank allowed a high concentration of loans in one sector. According to De Juan (2004), the banking failures in Spain were mainly caused by poor credit risk management and their loan portfolio was concentrated within the group, to which the bank itself belonged.

Somashekar (2009) blames Zimbabwe bank failures more on structural problems within the economy such as the chronic liquidity crunch that has dogged the sector since the advent of multicurrency, while Njanike (2009) sees this as symptomatic of poor corporate governance.

The failure to effectively manage credit risk has created problems in the country's banking sector. In the past ten years the Zimbabwe's financial sector experienced a very challenging financial crises characterized by bank closures and liquidation in what became known as the Zimbabwean Banking Crisis (Chagwiza, 2012). In the period 2003 and 2004 many banks were forced to close while others had to go under curatorship due to unsound risk management practices (Njanike 2009). Commenting on the same subject, Hanke (2008), listed the affected banks as the United Merchant Bank, Trust Banking Corporation, Time bank, Intermarket Banking Corporation, Royal bank, Barbican Bank Limited and the Universal Merchant Bank.

Chagwiza (2012) believes that the main cause of the 2003 and 2004 banking crisis in Zimbabwe was due to some credit risk practices that allowed high levels of insider loans, lending for speculative reasons and high concentration of credit in unproductive sectors. According to an RBZ Press Statement (July 2012), Royal Bank surrendered its operating license due to chronic liquidity challenges. Relative to the balance sheet size, the bank had a huge negative liquidity gap of $3.03 million in the critical 0-7 day time band as at

14 June 2012. In addition, the bank had outstanding RTGS payments amounting to $1,314,582. Genesis bank **on the other hand,** had a negative capital of US$3,2 million, had liquidity problems, had a small deposit base and persistent loses (ibid). Chagwiza (2012) notes that mismanagement was also part of the problem that led to the collapse of the bank. In addition, the banks have been accused of mishandling depositors' funds, enriching themselves at the expense of their clients and running down their institutions through mismanagement, poor corporate governance and greed (Njanike, 2009). According to the RBZ Monetary Policy Statement (July 2012), ReNaissance Merchant Bank (RMB), Genesis and Interfin were victims of gross mismanagement.

Banks continue to fail despite the calls to increase risk awareness in financial institutions and several questions remain unanswered. At issue is whether bankers, regulators, systems or models are to blame. It is against this background that the research seeks to take a closer look at how risk management is being performed in the country.

1.2 RESEARCH PROBLEM

Uncertainty and risk are everywhere in the country's banking sector and lead to consequences that may have adverse economic effects. As such, there is need to ingrain a risk culture across business units. A proactive rather than a reactive approach (as in Renaissance Holdings case) is required if the Central bank is to be fully on top of the situation.

It must be noted that the Basel model is being implemented on an on-going basis but there is need to quicken the pace because already, Basel II has already been overtaken by events. Basel III is on the table for implementation over the next seven years. Given these requirements and the inconsistent risk management as evidenced by the continuous bank failures, the question remains whether risk management is receiving the attention that it deserves in Zimbabwe. Zimbabwean banks were partly isolated from global financial crises of 2008 as unique problems bedevilled the country.

The big question is whether Zimbabwean banks have changed the way they perceive risk. According to the Minister of Finance as quoted in the Zimbabwe Independent newspaper (2011), some banks are being managed like tuck-shops. This was with reference to the Renaissance Holdings failure. Risk management is increasingly becoming the backbone of any organization and hence the need to ascertain the level of commitment on this subject to Zimbabwean banks.

1.3 RESEARCH OBJECTIVES

The purpose of this thesis is to determine the extent of risk management in commercial banks. The research seeks to achieve the following objectives:

1) Assess risk awareness and understanding in Zimbabwe financial institutions.
2) Establish why banks continue to fail when risk management guidelines exist.
3) Establish the risk models in use and determine the frequency of risk monitoring.
4) Suggest the possible best practices in bank risk management

1.4 RESEARCH QUESTIONS

To answer the research question the following sub questions should be answered.

1) Is there risk awareness and understanding in Zimbabwe financial institutions?
2) Why are Zimbabwean banks continuing to fail when risk management guidelines exist?
3) What are the risk models in use and the frequency of risk monitoring?
4) Are there possible best practices in bank risk management?

1.5 PROPOSITION

Banks continue to fail because Risk management is not receiving enough attention. Risk management models currently in use in Zimbabwe are no longer appropriate to the changed structure and conditions in the financial sector.

More often than not, risk management, especially the monitoring aspect is weak. In other words, risk monitoring reports are reviewed the following day, and not as things happen. To make matters worse, some risk triggers are only monitored once a month as if risk occurs only on specific reporting dates. There is a lot to be done if further bank failures are to be averted.

1.6 JUSTIFICATION

The aim of this study is to evaluate the existence of a risk culture in Zimbabwean commercial banks and to assess an understanding of the major risks. The report will act as an eye opener to participating banks and hopefully, they will invest more in training to bridge the risk knowledge gap. More speed will be required in implementing policies that regulate bank risks and profitability will be enhanced as revenue leaks are minimized.

An appreciation of risk management enables stakeholders to re-visit the corporate governance structure thereby improving the much needed oversight on banks. The research aims to raise awareness that risk exists in day to day business and that no bank is too big to fail.

1.7 SCOPE OF RESEARCH

The research is covering all commercial banks in Harare central business district. Risk management employees are targeted to provide responses. Conclusions are drawn from the responses given and not necessarily from all banks' input.

1.8 LIMITATIONS

The researcher is aware that some institutions may not fully cooperate and all responses might not be received. Due to some data sensitivity and also due to confidentiality forms signed by bank employees, not all information on risk management might be released to

outsiders. Time is also a restricting factor as some respondents might want to provide feedback during their own time which does not suit the time of the research.

1.9 SUMMARY

The chapter provides the introduction and background of the study, problem statement, objectives of the study, research questions, justification of the research, definition of key terms, the scope of the research, assumptions and limitations of the study.

1.10 STRUCTURE OF THE REST OF THE DISSERTATION

This section gives a structure of every chapter within this paper. The paper consists of five chapters. Chapter one introduces the topic, covers the background of the study, the problem statement, objectives of the study, significance and limitation of the study. Chapter two presents literature review. The methodology employed, target population and sampling, data used in the research, and research proposition are stated in chapter three. Chapter four is for data analysis and interpretation. It also reports the results from the collected data. Lastly the paper presents the conclusions of the results and the recommendations suggested by the researcher in chapter five.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

Literature review is a body of text that aims to review the critical points of current knowledge including substantive findings as well as theoretical contributions to a particular topic (Stoner, 2002). This literature review synthesizes the current literatures that are germane to risk management. The purpose is to highlight the issues useful to the successful completion of this study. The focus of the research literature review is exclusively on bank risk management. As the realisation of risk management is a complex and multifaceted phenomenon, the literature review will gauge the level of distress that banks experienced. The rest of this section offers a selective overview of the existing literature linking specific aspects of bank business models with risk.

2.1 RISK MANAGEMENT

Globalization and deregulation in financial markets, combined with increased sophistication in financial technology, have introduced more complexities into the activities of banks (Stiroh, 2004). This means that banks should increase their risk profiles and focus more on the identification and measurement of risks before they happen. According to Robert (2002), risk management is defined as a two-step process that determines what risks exist in an investment and the risk mitigating factors are crafted on a case by case basis to suit the investment option. Young and Tippins (2000), describe risk management as a process that involves identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability or the impact of the unfortunate events. As noted by Brown (2010), risk is inherent in any walk of life in general and in financial

sectors in particular. Banks are exposed to various types of financial and non-financial risks. Ellul, and Yerramilli (2010), identify three main categories of risks which are credit risk, market risk and operational risk and these will be further explained later in the chapter.

Because of the vast diversity in the risks that banking institutions take, there is no single prescribed risk management system that works for all (Erkens *et.al,* 2009). It is emphasised that each banking institution should tailor its risk management program to its needs and circumstances (ibid).

2.2 TYPOLOGY OF RISK EXPOSURES

According to Basil (2002), financial risks are mainly divided into credit risk, liquidity risk, market risk, legal and regulatory risk, operational risk, and human factor risk.

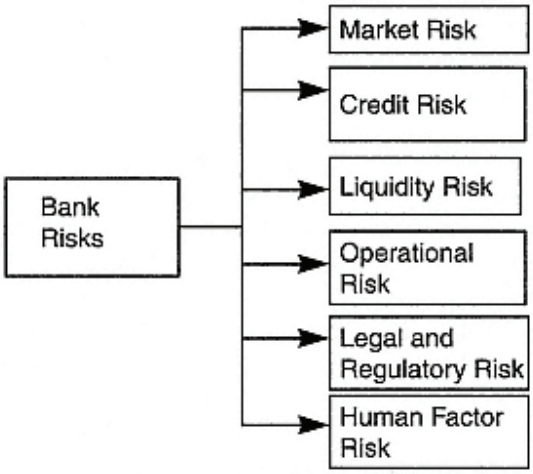

Figure 2.1

Typology of Risks Faced by banks

Source: Basil, J., (2002) *Risk Management in Banking, 2nd edition.* John Wiley & Sons Ltd, West Sussex

Risk management underscores the fact that the survival of a bank depends heavily on its capabilities to anticipate and prepare for the change rather than just waiting for the

change and react to it (Kendall 2004). Conley, (2002) points out that the objective of risk management is not to prohibit or prevent risk taking activity, but to ensure that the risks are consciously taken with full knowledge, clear purpose and understanding so that it can be measured and mitigated. It is important to note that the functions of risk management should actually be bank specific dictated by the size and quality of balance sheet, complexity of functions, technical/ professional manpower and the status of management information system (MIS) in place in that bank. As such, there is no one-size-fits-all risk management module for all the banks to be made applicable uniformly (European Central Bank, 2009).

According to De Jonghe (2010), even though a centralized department may be made responsible for monitoring risk, risk control should actually take place at the functional departments as it is generally fragmented across Credit, Market and Operational risks. Integration of systems that includes both transactions processing as well as risk systems is critical for implementation.

2.2.1 Credit Risk

Diamond and Rajan, (2001) describe credit risk as the ancient hazard of suffering loss because of not being able to extract the promised return from a business partner and it also includes counterparty and country risk. Various examples exist: sovereign risk on issue of bonds and debt default such as the Russian economic crisis of 1998, or the Argentinean debt crisis in 2002 (De Jonghe 2010). Few banks only lend to one sector but actively diversify their portfolio. A modern bank shows how it makes arrangements for the projected level of domestic bad debt. See Figure 2.2 below:

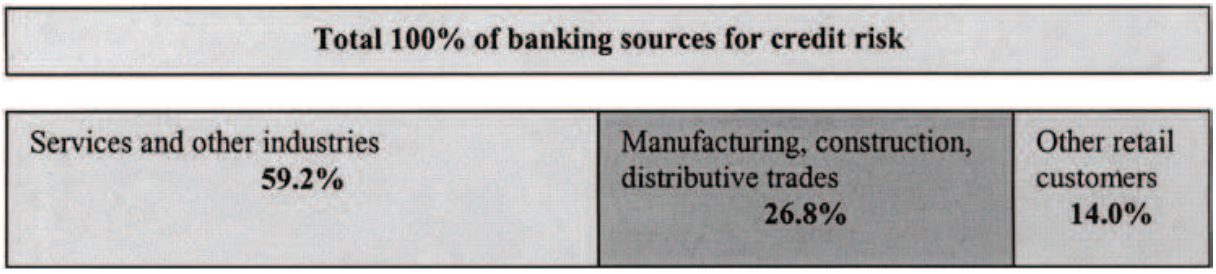

Figure 2.2 Credit risk

***Source*: "Provisioning for borrower risks by customer group – 'Commerzbank in 2000'," Annual report,** 2001.

Credit risk or default risk involves the inability or unwillingness of a customer to meet commitments in respect of lending, hedging, trading or settlement of his/her financial obligations (RBZ Risk Management operating document, 2004). The risk arises from uncertainty in the counterparty's ability and willingness to meet the agreed contractual obligations. According to Stulzs (2000), credit risk also comes when the credit rating of a counterparty declines. The process of credit risk management starts from the decision to lend to a particular counterparty, the follow-up process of the credit, the monitoring and ends with the reporting process as management should be appraised of what is taking place on the loan book from time to time (Strongman, 2009).

Credit risk means that payments may be delayed or ultimately not paid at all, which can in turn cause cash flow problems and pose liquidity challenges to the lender. According to Davutyan (1989), credit risk is still the major single cause of bank failures. Chagwiza (2012), also agrees that banks are exposed to the risk that comes with the downgrade of their counterparty by a rating agency.

Banks in particular are devoting a considerable amount of time and thoughts to defining and managing credit risk. Saha (2010) identifies two sources of uncertainty in credit risk: default by a party to a financial contract and a change in the present value (PV) of future cash flows (which results from changes in financial market conditions, changes in the economic environment, interest rates among others). According to the Basel II handbook (2008), the goal of credit risk management is to maximize a bank's rate of return after

adjusting for any form of risk. Banks need to manage the credit risk inherent in the entire portfolio as well as the risk in individual credits or transactions. As noted by Regester and Larkin, (2004), the effective management of credit risk is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization.

Mehran and Thakor (2011) point out that the banks are using credit score models to determine counterparty credit worthiness. From a bank's perspective, a high level of credit risk management means more than simply meeting regulatory requirements. The aim is rather to enhance the risk/return performance of credit assets. Regester and Larkin (2004), note that risk contribution plays an integral role in risk-sensitive loan pricing and portfolio optimization.

Due to the importance of Credit risk, most banks turn to rating agencies such as Standard and Poors, Moody's or others such as Fitch Investor Service, Nippon Investor Service, Duff and Phelps, Thomson and BankWatch to obtain an assessment of the risks of bonds, stocks and financial papers they may acquire (Rajan, 2005). Furthermore, even after a careful reading of these ratings, investors, banks and financial institutions proceed to reduce these risks using risk management tools. According to Reinhart and Rogoff (2009), the tools used by banks include limiting the level of obligation, seeking collateral, netting, recouponing, insurance, syndication, securitization, diversification and swaps.

Drehmann and Tarashev (2011) elucidate that an exposure to credit risk can occur from several sources. These include an exposure to derivatives products (such as options, as we shall soon define) to exposures in the replacement cost (or potential increases in future replacement costs) due to default arising from market adverse conditions and changes (ibid).

In Zimbabwe, instances of banks granting huge loans without collateral to internal directors have been reported and it is a clear violation of underwriting standards and a recipe for disaster (RBZ Monetary Statement, 2011). Such loans are not easily recovered

should the banks face liquidity problems and imminent closure. Consequently, financial institutions end up with a situation whereby the director is waiting to be paid by the bank on one hand, and the bank is in a cash flow dilemma and waiting for the director to pay the loan on the other hand.

2.2.2 Market Risk

According to DeLoach (2005), market risk is the change in net asset value due to changes in underlying economic factors such as interest rates, exchange rates, equity and commodity prices. Market risk is mostly divided into two segments, that is, price risk and liquidity. Many books however, list liquidity on its own (Drehmann and Tarashev, 2011), (Davutyan, 1989 and Heffernan, 2005). According to Davutyan (1989), Market risk for a fund is measured relative to a benchmark index or portfolio, and is often referred to as the "risk of tracking error".

Mian, and Sufi (2009) view market risk as a broad subject which looks at stress testing, normal cash flows, wholesale borrowings, loan/deposit ratio, bank's commitments, medium term funding, portfolio mark to market, value at risk, gap analysis, among others. All balance sheet triggers are monitored in Market risk.

2.2.3 Operational Risk

According to SCB Risk Radar (2010), operational risk refers to potential losses resulting from inadequate systems, management failure, faulty controls, fraud, and human errors. The Basel Committee on Banking Supervision defines Operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events (Basel II handbook, 2008).

Jeucken and Bouma, (1999) argue that the majority of the recent large losses are due to derivative trades and are a direct consequence of operational failures. Derivative trades

are more prone to operational risk than cash transactions because they are, by their nature, leveraged transactions (ibid). According to Munves et.al (2009), operational risk also includes "fraud". He further elaborates that this is when an employee intentionally falsifies, conceals, or misrepresents in a transaction. Technology risk and/or computer systems risk also fall into the operational risks growing list (Rajan, 2005).

Dorfman (2007) states that system challenges, that is, issues to do with resources (including human) are a threat to operational risk. This can include mechanical and human operations, faults in procedural design and system function. In addition, it also includes legal risk and all errors from trading and settlement not previously covered in the above categories, to the criminal or fraudulent actions, up to the information technology (IT) and system failures from human and external changes. However, strategic, systemic and reputational risks are excluded (Nijskens and Wagner, 2011).

Risk management used to be a reactive exercise, where the auditors would be called in after a company crashed or suffered losses. Now, it has become a specialist field in its own right encompassing several disciplines geared towards a proactive stance to mitigate against risk consequences (Hereth, 2000).

2.2.4 Other Bank Risks

Reputational risk (damage to an organization through loss of its reputation or standing), systemic risk (contagion effect) and corporate governance issues, although considered to be minor and standalone, can cause bank failures. In today's events; fraud risk, terrorism and employee compensation claims have also been added to the growing list of operational risks (Tilman, 2010).

It has always been argued that Zimbabwe's banking sector is over-banked and with this scenario, the banks compete for the same customers and risk is compromised. The Zimbabwe banking sector has faced ups and downs over the years, with some failing along the way. Forward-looking in terms of risk management cannot be overlooked.

(Shleifer and Vishny 2010) bring a new dimension to Liquidity risk when they concurred that it comprises both "funding liquidity risk" and "trading-related liquidity risk". Conley (2002), argues that the funding liquidity risk relates to a financial institution's ability to raise cash and meet customer obligations. Banks should also be prepared for the unforeseen. In the circumstances, they should have means and ways to deal with crisis situations.

2.3 CRISIS MANAGEMENT PLAN

According to Mitroff, (2006), crisis management is first and foremost about prevention. In fire fighting terms, it means putting in place strong fire safety codes, smoke alarms and behaving responsibly. However, no matter how good such policies look on paper, economic externalities, and endogenous developments in financial markets or stochastic factors can trigger economic problems. The challenge at this stage is to contain the crisis, limit damage, stop widespread contagion and restore confidence through risk mitigation. In the fire example, it involves stopping it from spreading using hand-held fire extinguishers, fire blankets and fire doors.

In the banking sector, this means planning for the unforeseen as highlighted earlier. Various scenarios have to be acted and management has to ensure that there is a work-around in the event of a crisis. Sometimes, even the best containment efforts can fail and the crisis deepens and spreads.

According to the Financial times, (November 2011), it was the absence of a credible resolution framework and an ‘endgame’ that turned the Lehman Brothers’ collapse (United States of America) into a global financial crisis and forced the rescue of dozens of banks. It was the uncertainty associated with a similar absence of a sovereign debt resolution framework that led to Greek problems infecting the whole Eurozone.

Banks are being asked to run countercyclical policies, where capital requirements increase in booms and fall during busts, to reduce the occurrence of crises (SCB

Research, 2010). Such 'leaning against the wind' preventive approaches should also be incorporated into the growth and stability pact where parameters should be allowed to vary counter-cyclically. According to the Basel Committee article on stress testing (2010), banks should not ignore stress testing because it is one of the first indicators of cash flow problems.

2.4 STRESS TESTING

According to Njanike (2009), stress testing for market and interest rate risk has been practiced for several years but stress testing on credit risk has emerged more recently. Given the rapidly changing environment, investments in Information Technology (IT) are now necessary to enhance the timely availability of risk information that will enable quality analysis and assessment of stress situations (Rajan, 2005). An organization that invests in liquidity risk management information systems find it easier to automate most of their processes and forecast balance sheet needs of their business units (Njanike 2009).

Stress testing is a 'what if' scenario that is based on assumptions (Hereth, 2000). For instance, in liquidity management, the bank may stress an 8day period on their capability of meeting customer payment demands in the event of either an internal or external negative publicity on bank or banks. In this case, the bank is assessing the convertibility of certain products into cash to meet customer payments.

According to the Basel committee article on stress testing (2010), the involvement of the board and senior management in stress testing issues is critical. Management should be involved from the setting of stress testing objectives all the way to decision making using the stress numbers from the defined stress scenarios (ibid). The Bankers magazine (October 2011), supports the same idea of senior management involvement and made statements that the banks that were highly exposed to the Global financial crisis of 2008 survived because senior management took an active interest in the whole process of stress testing and made sound decisions based on accurate stress information.

2.5 UNDERSTANDING RISK

According to Pyle (1997), implementation of risk management differs significantly between banks, but there are some broad principles on which most can agree, for instance, the RBZ has the Risk management framework (RMF) popularly known as the BSD number 1 of 2006 and Zimbabwean banks are expected to use it as a guide..

The RBZ RMF is built from the Basel committee documents whose objectives are to raise risk awareness to bankers, guide banks on risk management, etc, in an effort to protect depositors' funds and keep the banking environment sound. It is important to ingrain a risk culture and to know the Basel accords if banks are to remain on top of the situation.

2.5.1 Risk Culture

The board and management should consciously promote a responsible approach to risk and ensure that the long-term survival and reputation of the bank is not jeopardized while expanding the Bank's market share (Miccolis, 2002). This effectively means, the way the bank should be run comes from the top. The responsibility for risk management in the bank is fully vested in the Board of Directors which in turn delegates such to senior management and all the way to the junior staff (Knight & Pretty, 2008). It is important to tell staff to pay attention to both quantifiable and unquantifiable risks because the two are equally likely to cause bank failures. Last but not the least, the bank should always avoid products, markets and businesses where it cannot objectively assess and manage the associated risks. In other words, the bank should not venture where it cannot see in terms of risk or pitfalls.

According to the Banker Magazine (January 2012), a few people deny the fact that bank boards were as culpable as their senior management in failing to spot the dangerous levels of risk building within the banks in the lead-up to the global financial crisis. In the buoyant lead-up to the crisis, many banks grievously underestimated the levels of risk to which they were exposed. Some failed to aggregate concentrations of subprime mortgage risk across many different business areas and, as the boom progressed; value-at-risk

models based on insufficiently long data histories pulled many into a false sense of security. Even Basel II internal rating based models proved misleading when a point-in-time rather than a through-the-cycle methodology was used. As banks rushed to sell good assets, liquidity problems emerged in unexpected places (Hopkin, 2010)

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The above scenarios prove that risk culture was not as embedded as it is now. A set of principles designed to promote a consistent and effective risk culture, run from the top. The Banker Magazine (January 2012), reiterates that Risk management is the responsibility of senior management, particularly the Chief Executive Officer (CEO), and the board has an essential oversight role. Boards should set, and regularly review, goals for risk appetite and strategy, and monitor performance over time. Risk management should be the direct responsibility of a chief risk officer, with enough seniority and independence to do the job properly (SCB Risk Radar, 2010). It should not be over-dependent on particular models or a single methodology, and models should not be a substitute for 'thinking'. It should avoid the silo approach and aggregate risk across the firm, while making sure governance structures are implemented at an operational level. Finally, banks should stress-test more consistently and comprehensively, taking into account exposures and aggregations that may have been previously overlooked. Stress-testing results should have a meaningful impact on business decisions (ibid).

According to an SCB Risk Radar (2009), it is important for banks to draft a document that is commonly called a Product Programme Guide (PPG) that allows all forms of risk to be assessed on a product before it is launched. Apart from risk assessment, the PPG also describes the product itself, the customer base and it allows mitigating factors to be documented. Above all, the product programme is signed off at high level as evidence that all stakeholders are happy before product launch.

2.5.2 Basel II Capital Accord

The IRB model was the major innovation in the Basel II Capital Accord, which received a lot of praise as well as many critical comments (Basel Handbook, 2008). Several assumptions taken in Basel II have been questioned by many academics and practitioners (Stiroh, 2004 Drehmann and Tarashev, 2011, Dwyer, D. and Qu, 2007). For example the new concept assumed that banks were in advantageous position compared to the supervisors concerning the resources and expertise for the best possible risk assessment (Tarullo, 2004, KPMG, 2003). Being to a large extent true, this proposition increases the power of banking institutions by decentralizing risk management process, which if exaggerated can have rather negative consequences like the last financial crisis demonstrated.

There were also some problems related directly to Pillar 1. One of them Gordy (2003,) calls portfolio invariance". A specified mathematical model, based on Merton's Theory37, represents the core of the risk-weighting formulas of the second Capital Accord. The model is restricted with the assumption of an invariant portfolio, meaning that the required capital depends only on the risk of the loans it backs and not on the portfolio to which it is added (Atkinson, 2010). In other words, it is assumed that the bank`s credit portfolio is infinitely grained in the sense that any single obligor represents a negligible share of the portfolio`s total exposure, and that a single, common systematic risk factor derives all dependence across credit losses in the portfolio (Gordy, 2004). Being a compromise for the sake of easier global applicability, it has an important consequence on ignoring the diversification effect which can influence the portfolio risk substantially.

Another point of criticism relates to the risk-weighting approach which gives incentives to concentration of low-weighted assets (sovereign debt, mortgages and interbank lending) in the portfolio (Erkens *et.al* 2009). Emerging at the same period of time as the Basel Rules, the Credit Default Swaps (CDS) made it possible to go short in credit contracts, a practice not allowed in the past. According to Drehmann and Tarashev (2011), the banks exploited the opportunity of risk-derivatives, transforming the basic idea of

capital weights. Some argue that both Basel Accords did not pay enough attention to the balance sheet exposures and securitization issues, which subsequently led to huge counterparty risks and global contagion effect (Shleifer, and Vishny, 2010).

A significant number of arguments point at the pro-cyclicality of the Basel capital regulations (Basel Handbook, 2008). The basic claim is that people tend to underestimate risks in good times and overestimate them in bad times. As an example, the amount of debt held by banks usually fluctuates with the market values and if the latter are not fairly priced, reflecting future cash flows, the pro-cyclicality may result. Bank counterparty and risk management are stricter in bad times, but looser when the economic conditions are getting better.

According to Kane (2006), the negotiations of Basel II were very complex due to the multiple financial institutions and regulatory committees, which caused many simplifications and compromise solutions to difficult issues. Banks looking for the loopholes in the regulations could manipulate rather subjective risk inputs to reduce the amount of required capital. The idea of bank fully disclosure and transparency under the fear of punishment has its justification in efficient market hypothesis, which assumes rational behaviour of market participants. If the markets are not efficient, the possibility of financial bubbles and systemic pro-cyclicality is not unthinkable (Basil, 2002).

Summing up on Basel II, one can say that there are many critical opinions, the most critical related to the sub-prime and the last systemic crisis. Most of the arguments contain Basel III. At November 2010 Summit in Seoul, the Group of Twenty approved the new capital adequacy framework, named \Basel III". The revision of the existing capital rules was triggered by the financial crisis of 2008 and 2009 which revealed many areas that needed further improvement and correction. Though the initiative is still in its developing phase, the core principles have been already set.

According to the Basel III handbook, (2011), the regulation attempts to increase the safety of the banking system by strengthening its focus on capital, additionally turning its

attention to the liquidity management. In general, the new rules may be divided into 6 major statements:

1. increased quality of capital
2. increased quantity of capital
3. reduced leverage
4. increased short-term liquidity coverage
5. increased long-term balance sheet funding
6. strengthened risk capture, particularly counterparty risk

2.6 GENERAL RISK TYPES

It must be noted at this stage that there are three types of risks from a management perspective (Young, 2011), and these are:

(i) Risks that can be eliminated or avoided by simple business practices
(ii) Risks that can be transferred to other participants, and
(iii)Risk that must be actively managed at the firm level

According to the Senior Supervisors Group newsletter (2008), risk avoidance means excluding or ignoring an activity that could carry risk in your operations. There is no point in identifying risk when at the end of the day, nothing is done about it. For example, if a particular equity counter is likely to face challenges leading to a price fall, the aspiring purchaser should simply **avoid** buying the share. Similarly, if a bank is not comfortable in issuing a loan to an agricultural company and the same firm can access the same facility offshore, probably through a guarantee from the sister company. The bank should consider the option to **transfer the risk** offshore where it is guaranteed by the sister firm. In instances where you can live with the risk, enhance controls to ensure that the risk is **actively managed** (Schweser 2010)**.**

According to Alexander and Sheedy (2005), in the bank risk management world, the organization strategy is approved by the board. As earlier mentioned, the risk appetite is also spelt out. Banks are expected to develop appropriate systems that allow them to identify, assess, monitor and control the risks that they run. Additionally, banks should

have in place some clear operating procedures or documentation to ensure their ability to operate on an on-going basis and limit losses in the event of severe business disruption (Ibid).

Risk Management Process steps

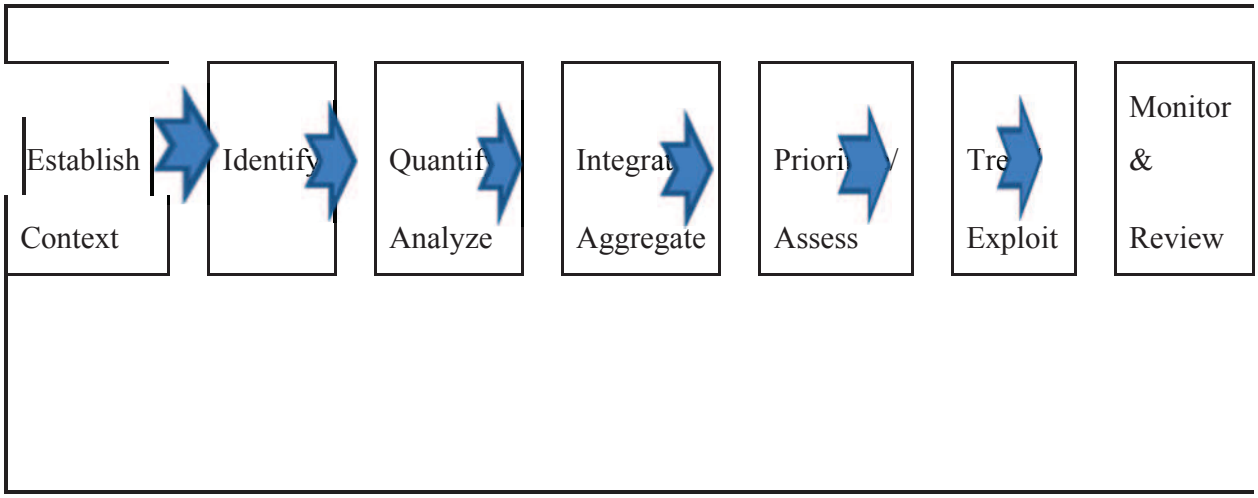

Figure 2.3 (Source: Risk Management Guide, University of South Africa)

2.6.1 Establish Context

According to Young (2011), this step includes External, Internal and Risk Management contexts. The external context defines the relationship of the enterprise with its environment, including the identification of the enterprise's strengths, weaknesses, opportunities and threats (SWOT analysis). This context-setting also identifies the various stakeholders (shareholders, employees, customers, community), as well as the communication policies with these stakeholders. Indeed, a bank cannot operate without customers. Most banks in Zimbabwe are also partnering with the community in developmental projects.

Internal context starts with an understanding of the overall objectives of the enterprise, its strategies to achieve those objectives and its key performance indicators (Strongman, 2009). It also includes the organization's oversight and governance structure. The Risk

Management context identifies the risk categories of relevance to the enterprise and the degree of coordination throughout the organization, including the adoption of common risk metrics (ibid).

In Zimbabwe, it is now a requirement that each bank should have the post of a Chief Risk Officer and all the various risk units should report to him/her (RBZ Supervision Guideline, 2007). Communication is important as risk issues are identified at unit level and discussed in different forums, with high level issues finding their way to the board risk committee.

2.7 REASONS WHY BANKS CONTINUE TO FAIL

As earlier highlighted, banks have failed in the past and they continue to fail up to this day. According to an SCB bank failures survey, (2011), over 2000 banks or financial institutions, many of these in advanced economies, failed or nearly failed over the past 40 years. The major causes of the failures were;

A. Hidden or ignored concentrations which, by themselves, seldom lead to failures. Failures occur as these concentrations are brought to the fore with the occurrence of unexpected externalities. The global financial crisis of 2008 started with mortgage lending bubble.

B. Failure to revaluate risks in the face of fundamental changes in competitive, monetary or regulatory landscape. People fail to notice the changing environment that requires an equal change in risk management.

C. Success-breeds-failure syndrome - a condition characterised by people or organisations continuing with a once successful strategy, often with deepened commitment, in the hope of producing spectacular results. This is mostly common in Treasury departments where positions keep increasing hoping to make a bigger kill because they (traders) previously made more with a smaller position.

D. De-emphasis of risk management functions due to excessive management focus on business growth, profit generation or a total slackening approach to risk management.

E. Regulatory failure due to lax, misdirected or anachronistic regulations.

F. Risky Business Strategy – This was evident in Zimbabwe during the hyperinflationary period as banks employed survival strategies, most of which were outside the banking core business.

G. Fraud – Banks lose money through internal direct or indirect stealing by staff members. The banks can fail especially where huge amounts are involved. News of fraud also contributes to bank-runs.

H. Contagion effects from crisis at other institutions with similar business strategies or portfolio profiles

I. Political interference prevents the bank from taking sound business decisions. An unstable political environment also makes banks lose focus.

There are many reasons that lead to bank failures. Risk managers try and tighten controls on an on-going basis but unique reasons always come up and cause a downfall to unsuspecting banks (Gruening, 2009). Non-performing loans alone can cause distress.

2.7.1 Non Performing Loans

Loans are granted on the understanding that borrowers would repay as per stipulated time periods (McDonald, 2011). Non-performing loans (NPL) increase when borrowers struggle to repay their loans thereby negatively impacting the cash flows of the lender.

According to the RBZ Press statement on NPLs (2011), the level of non-performing loans is not bad. The Governor issued a statement dismissing a Sunday mail report for the week 31 July to 6 August 2011 suggesting that borrowers were struggling to repay loans amounting to $740 million which translated to an average ratio of non-performing loans of 37% for the entire banking sector as at 30 June 2011. The Central bank of Zimbabwe defended their position when they stated that the ratio of non-performing loans to total loans for the banking sector was **4.72%** as at 31st March 2011 and this was a marginal deterioration from the **4.24%** recorded as at 31st December 2010. As evidenced by the table below, the average ratio of non-performing loans for the Zimbabwe banking sector

was **5.83%** as at 30th June 2011 (RBZ Press statement on NPLs, 2011). The figures however, differed with the levels announced earlier in the year 2011 by the Finance minister in his fiscal policy.

According to MMC Capital report (2010), 71% of total bank loans and advances in Zimbabwe were from five banks namely, CBZ, Stanbic, MBCA, Standard Chartered and Kingdom. The Zimbabwe Herald (20 January 2012), quoted the RBZ Governor echoing the same sentiments that 96.1 percent share of loans were with big banks and he assured Zimbabweans that the domestic financial sector was safe and sound. New Africa securities newsletter (September 2011), confirmed that CBZ non-performing loans for the period up to 30 June 2011, stood at US$8,1 million representing just 1,2 percent of the loan book. CBZ's mortgage loan book stood at US$30 million as at June 30, with insider loans amounting to US$1,2 million. Recent developments in the financial sector however, don't seem to support these figures. CBZ is over lent and from an outsider's view, the loan book does not seem to be performing if their persistent liquidity problems are anything to go by. The loan book must be handled with care. One of the reasons why Renaissance bank collapsed in 2011 was due to non-performing loans.

Table 2.1 – RBZ level of Non-performing loans

Quarter Ended	Non Performing vs Total loans ratio
31-Mar-2010	2.43%
30-Jun-2010	3.29%
30-Sep-2010	3.21%
31-Dec-2010	4.24%
31-Mar-2011	4.72%
30-Jun-2011	5.83%

Source: RBZ press statement on non-performing loans – August 2011

According to the RBZ deputy governor as quoted in The Daily News dated 31 August 2012, the non performing loans have since risen to 12.2%.

2.8 ROLE OF MAIN RISKS IN BANK FAILURES

The importance of operational risk management and controls is highlighted by the collapse of Barings in February of 1995. According to Borodovsky (2000), Britain's Board of Banking Supervision concluded that Barings' failure was due to immense losses from unauthorized and hidden derivatives trading of an employee of Barings Futures Pte. Limited in Singapore, that went virtually undetected by management. The trader (Nick Leeson) had been left unsupervised in his dual role as head of futures trading settlements. Barings bank's failure to independently monitor the trader's activities as well as its failure to separate front and back office functions created **operational risk** which resulted in large losses and, ultimately, the total collapse of the firm.

Similar poor management led to even larger losses at Japan's Daiwa Bank Ltd. ("Daiwa") in the bond market. In 1995, it was discovered that a bond trader at Daiwa was able to conceal approximately $1 billion in trading losses because of his access to Daiwa's

accounting books. As with Barings, the Daiwa trader was in control of accounts as well as trading activities and again, **operational risk** was not under control here. Separation of trading and support functions, a fundamental risk management practice, was violated in both.

According to Hanley (2005), an example of the danger inherent of **market risk** is highlighted in the bankruptcy of Orange County. Orange County's Treasurer used the Orange County Investment Pool's resources to invest in a significant amount of derivative securities, namely "structured notes" and "inverse floaters". When interest rates rose, the rates on these derivatives securities declined along with the market value of those notes (since they were at rates below those generally available in the market). This resulted in a $1.7 billion loss to the Orange County Investment Pool.

Gibson Greetings, Inc. ("Gibson") faced similar **market risk** when it began aggressively purchasing interest rate derivatives to take advantage of falling rates. When interest rates began to climb, Gibson sustained a $20 million loss on its derivatives contracts. Likewise, Procter & Gamble ("P&G") took a $157 million charge to unwind interest rate derivative contracts that were tied to interest rates in Germany and the United States. When the interest rates rose in both countries above the derivative's contractual hurdle rate (which required P&G to pay interest rates that were 1 412 basis points above the then commercial paper rate), the leveraged derivatives became too costly for P&G.

Credit risk is clear in the sub-prime loans where mortgage account holders were unable to repay their loans because interest rates had gone up and some people were out of jobs. A particular instance of **credit risk** relates to the process of settling financial transactions. If one side of a transaction is settled but the other fails, a loss may be incurred that is equal to the principal amount of the transaction. Even if one party is simply late in settling, then the other party may incur a loss relating to missed investment opportunities.

Settlement risk (i.e. the risk that the completion or settlement of a financial transaction will fail to take place as expected) thus includes elements of liquidity, market, operational and reputational risk as well as credit risk. The level of risk is determined by the

particular arrangements for settlement. Factors in such arrangements that have a bearing on credit risk include: the timing of the exchange of value; payment/settlement finality; and the role of intermediaries and clearing houses

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2.8.1 MORE BANK FAILURE CASE STUDIES

Horizon Bank (failure, Jan 2010)

Horizon Bank, a small community bank founded in 1922, with operations concentrated in Washington, USA was the first US bank to close in 2010 (McDonald, 2011). The bank failed despite being conservatively run and being funded mainly through deposits (A/D ratio was 120% in 2009). While many others adopted a securitization approach, Horizon stayed with the originate-and-service model.

As of September 30, 2009, over 81% of its $1billion portfolio was concentrated in real-estate loans. Most of these assets were in the developed-property market. However, buffeted by intense competition from larger banks, the bank expanded into the riskier development-loan market. The slump in the property market and depressed macroeconomic environment caused accumulation of large negative equity on its mortgage books and the bank experienced widespread defaults. This occurred despite the loans having been originated after due diligence and in line with limits prescribed by its policies.

The main cause of defaults was a failure to review their policies in time. The bank had expanded into the riskier development loan market on the back of the same policy it had used for its developed property book.

The bank's Tier1 leverage capital ratio declined from 6.1% in March 2009 to 0.8% in September 2009. Concerned about mounting losses, the regulators imposed a cease-and-desist order, requiring the bank to reduce its bad assets and bring in more capital within

270 days. Given the challenging environment, the bank could do little more than conduct a fire sale of high quality assets. The bank was closed on January 8, 2010.

Guaranty Bank (failure, Aug 2009)

According to Brown (2010), Guaranty operated in California and Texas where its primary focus was in construction and housing loan business. The bank's thrift charter mandated 70% of the assets to be kept in housing-related investments. The Bank wanted to pursue further expansion into energy and small business lending. In order to get around the 70% floor, it acquired large portfolios of securities backed by option adjustable-rate mortgages issued in California and Texas.

These assets were subsequently impaired given large falls in house prices and a sharp reduction in the appetite of investors for complex structured mortgage-backed securities (MBS). The regulators forced the bank to write down the value of its MBS investments by more than $1.5 billion which eliminated the bank's entire capital base, leading to its failure.

2.8.2 ZIMBABWE BANK FAILURES

According to the RBZ Supplement1 on bank failures, (2006), the banks that failed in Zimbabwe during 2004/2005 were Royal bank, Time bank of Zimbabwe, CFX Merchant bank, Trust bank Corporation, Century bank, Rapid Discount house, Barbican bank, National Discount house and Intermarket entities. The reasons for the failures were;

- Inadequate Risk Management systems
- Diversion from core business to speculative activities
- Uncontrolled bank expansions
- Creative accounting
- High non-performing loans
- Overstatement of capital
- General recurring liquidity challenges and

- Poor corporate governance

Barbican Bank Limited

- ✓ The Bank faced serious liquidity challenges largely emanating from the funding of sister companies such as asset management companies and group subsidiaries in South Africa as well as non performing insider loans.
- ✓ The bank engaged in fraudulent foreign exchange activities to fund operations of foreign subsidiaries. The bank used local depositors' funds to support its operations in South Africa, London and Zimbabwe.
- ✓ There were no separate and independent boards for each subsidiary and the holding company posing serious corporate governance issues in the bank. The Chief Executive Officer also domineered because he was one of the major shareholders.
- ✓ The group mixed banking and non-banking business despite an earlier undertaking by management to desist from the practice after being warned of the dangers of such practice by the Reserve Bank.
- ✓ The bank also abused Reserve Bank liquidity support by funding non-banking activities such as purchase of shares in various counters on the stock exchange.

Trust Bank Corporation Limited

- ✓ Trust bank had liquidity challenges emanating from uncontrolled expansion of operations as well as high levels of nonperforming loans.
- ✓ Poor corporate governance structures, which resulted in poor asset and liability management also contributed to the bank's demise.
- ✓ The bank also engaged in non-banking activities through a Special Purpose Vehicle (SPV), TMB Nominees.
- ✓ The bank's capital deficit was a result of huge losses stemming from poor asset quality and the inhibitive cost of refinancing huge liquidity net mismatches.

Renaissance Merchant Bank

In 2011, Renaissance Merchant bank failed. In an article carried out in the Independent newspaper, (2011), the Zimbabwe Minister of Finance, attributed the failure to poor corporate governance. He said the shareholders at Renaissance Merchant Bank ran it like a tuck shop, and disrespected the separation of roles and responsibility between shareholders and management; shareholders and the board. "There was also a total breakdown of the shareholder, management and the board.

According to the minister, the second problem was interparty lending where the shareholders were lending money to themselves left, right and center, to relations and to relatives irrespective of corporate governance.

The third problem was the total breach of the Zimbabwe laws. In terms of Section 26 of the Banking Act, an individual shareholder cannot own more than 10 percent of a bank and an institution cannot own more than 25 percent of a bank. The three dominant shareholders in the bank created vehicles and various Trusts that marked their dominant control of the bank. Effectively, three people owned 70 percent of the bank.

The fourth problem was illegal borrowing, a move that was in contravention of Section 32 of the Banking Act that stipulates that you cannot borrow money from another institution to finance equity contribution.

2.8.3 RISK ANALYSIS

Robert (2008), observed that risk management has become more sophisticated as a result of the environmental challenges that keep changing. It has increasingly become clear that risk management works most effectively when it takes a firm-wide approach. In the case of Zimbabwe, the outstanding Basel II requirements must be implemented swiftly. All banks must be on the same “page” as far as risk management is concerned with the guide of the Central bank. Failure to adequately manage risk exposes banks not only to the possibility that they may suffer losses, but, more importantly, to the possibility that they may not achieve their strategic business objectives (White & Herman, 2003). In the worst

case, inadequate risk management may result in circumstances so catastrophic that the institutions cannot remain in business.

Regester and Larkin (2004), echo the same sentiments that there is a need to look at risk in a holistic manner because of bank failures. The management of credit risk has always been at the core of banking. Consequently, most banks already had sophisticated approaches to assess borrower's ability to repay loans. What did however, change was that banks began to realize that even good credit risk management was not sufficient to ensure survival. Market risk grew as a result of the increased volatility in interest rates, exchange rates, asset prices, etc. Credit risk and market risk can be managed but if the management of processes (operational risk) is not closely monitored, banks will still fail. An example is the Herstatt Germany bank failure in 1974 that failed due to the interdependencies of risk.

Market risk contributed to the failure in that there was an adverse movement of exchange rates. Credit risk played its part in that the Germany regulators closed the bank before it could deliver the United States dollar transactions that it committed to pay on foreign exchange deals. At the same time, operational risk mismanagement, which allowed the bank's chief dealer to make positions far in excess of what the bank could manage (Ibid).

As earlier mentioned, the level of risk an organization is willing to take is discussed and agreed at board level when business strategies are made. The concept of risk management is not about eliminating all risk but, it is about choosing which risks can be undertaken, what trade-offs should be accepted between different risks and what losses the organization will be willing to incur (Danielson & Vries, 1997).

Controls then come into play to ensure that only those risks that fit within the approved strategy are taken on. Zimbabwe bank failures of 2004 (Trust bank, Time bank, Barbican, etc) were characterized by operating blindly as banks engaged in survival strategies that included participating in non core banking activities using depositors' funds. Risk managers knew what was right but revenue or return took precedence to risk. In other words, the effects of risk and return were not weighed.

In the circumstances, there is need to continuously scan the environment and improve the way work is done (Young & Tippins, 2000). Risk events change, and so should the approach in managing risk. As noted in previous years, some bank failures were due to mismanagement in particular banks and recent developments show that processes can be managed effectively in one bank, but the bank can still fail because there is no foresight. Problems affecting one bank and unanticipated market events can bring unsuspecting banks down (systemic risk).

Whilst the issue of disclosures can be under-rated, it is important to have clear and transparent reporting (Mason, 2010). Institutions with signs of distress can be assisted when there is still time. By concealing the problems bedeviling financial institutions, banks are doing more harm than good to themselves.

2.8.4 MODELS

There are various risk models used in bank risk management and the most common ones are the Value at Risk (VAR) and the Credit risk rating models (Schweser, 2010). It is important to regularly back-test these models as required by the regulators to ensure that they are still functioning as expected. According to Basel requirements, models should be back-tested as frequently as possible. VAR is a market risk model that measures the maximum potential loss in value of a portfolio over a defined period for a given confidence interval, given a holding period. With VAR calculation, historical data is taken and assumed to be an indication for the future.

Assuming a position of one million dollars in shares today, the Profit and Loss for each day of history is worked out. If 250 days of data (interest rates, exchange rates, etc) is available, the Profit and Loss is worked on the one million dollars using the historical data for 250days. The 7^{th} largest loss (assuming 97.5% confidence interval) is the VAR. 7^{th} worst loss is calculated as 2.5% of 250days rounded upwards. Similarly, assuming 500 days of data at 95% confidence interval, the worst loss is 5% of 500 which is 25^{th} worst loss. Full calculation for the position of the largest loss is (100-95)x500/100.

VAR internal models are widely used these days on condition that they are back-tested frequently.

Credit risk models are used to determine credit ratings for any given name (counterparty). It is important to note that models give results based on the parameters provided (Jorion, 2003). This means that results are determined by input provided. It is therefore, critical to understand the models in use and to have an idea of what to expect as output. Risk models do not work in certain economic environments especially the abnormal situations like the hyperinflationary era that was experienced in Zimbabwe in 2008. A qualitative analysis of the risk environment is necessary to determine a full picture of risk.

2.8.5 CAPITAL

According to Gruening (2009), regulatory capital requirements are based upon a model for how banks operate. For capital reasons, it is assumed that every bank has a large mattress stuffed full of cash. This hypothetical cash is called capital. Any time a bank suffers an unanticipated loss, money is taken from the mattress to cover the loss. In this way, capital "absorbs" losses in the same way that a car's suspension absorbs bumps on the road. Every day, the bank takes all the money and dumps it out on the bedroom floor. It lines up its market, credit and operational risks, and places a little pile of its capital next to each. If risks hedge or diversify each other, there are rules for reducing the piles. The entire process is called capital allocation (Risk management techniques journal, January 2012). If there is enough capital to build all the necessary piles, the bank's capital is deemed adequate. Otherwise, it is inadequate, and regulators are expected to intervene.

Practically, there is no mattress full of money. Capital is "funny money." It is an accounting construct defined (for the most part) as the book value of owners' equity, reserves, and subordinated debt. It is not really available to "absorb" unanticipated losses. Much of it was invested a long time ago in things like office buildings and computer equipment.

Although the banks' capital is "funny money," capital charges for the risks they take are serious business. If a bank needs to raise additional capital to take on new business, there

is a financing cost associated with raising that incremental capital. As a natural consequence of capital requirements, banks started assessing proposed transactions in light of the capital charges those transactions would entail (Whitney, 2000). If a transaction was not expected to earn sufficient profits to cover incremental financing costs for applicable capital charges, the transaction would be rejected.

A problem with this approach of accepting or rejecting transactions is that capital charges are regulatory devices that are not necessarily related to the true risks or costs (including opportunity costs) of transactions. Accordingly, banks are now starting to implement their own internal systems for calculating "economic" capital charges. These are designed to more accurately reflect the true economic costs of entering into transactions. According to Butterworth (2001), banks are still expected to satisfy the old regulatory capital requirements, but they continue to use economic capital charges for assessing transactions.

Accordingly, bank capital refers to either **regulatory capital**, whose purpose is assessing the overall viability of a firm, and/or **economic capital**, whose purpose is supporting transaction-level decision making (Hanley, 2005). Zimbabwe banks, like other banks across the globe, are expected to have an Internal Capital Adequacy Assessment Process **(ICAAP)** as stipulated in Basel II requirements. ICCAP is more aligned to economic capital.

The major components of an ICAAP of a bank include the bank having an ICAAP policy, a Balance Sheet forecasting method, a Capital Planning platform, a way to identify risks, a way to assess risks materiality level, methods of quantifying risks, ability to perform stress tests, ability to allocate economic capital, ways of reconciling both economic capital and regulatory capital, ability to monitor and report issues and lastly, controlling mechanisms through audits and other checks. Risks are minimized if the ICAAP framework is in place because the internal procedures and systems take into consideration all material risks (Oracle Financial services journal, 2009).

Guiding principles of ICAAP, if religiously followed, allow bankers to remain on top of risk developments. According to the Wolters Kluwer Financial services journal (2010), ICAAP should be guided by the following principles;

- Risk based: ICAAP should be based on risk management approaches
- Capital adequacy: Every institution must have a process for assessing its capital adequacy relative to its risk profile; ICAAP design should specify the institution's capital policy
- Principle of proportionality: The ICAAP's design should be proportional to a bank's size, risk level and complexity
- Forward looking: It should consider existing risks and possible future risks facing the bank
- On-going exercise: The ICAAP is a dynamic and continuous process to ensure sufficient internal capital as business and market conditions change
- Have an evolving nature: The ICAAP should be continuously monitored and improved as needed for evolving business conditions and institutional complexity and experience

The principles promote proactiveness and a culture to continuously scan the control environment (Cannon, 1999).

According to the Banker Magazine, (October 2011), Europe should focus on bank assets and not capital. It went on to suggest that the raising of bank capital ratios is the wrong solution at the wrong time. Holding more capital and lower-yielding liquid assets depresses bank returns. Estimates vary, but many argue that returns on equity in investment banking could fall and as a result, firms would charge more to clients and close down capital-intensive businesses (Banker magazine, January 2012). Locally, Renaissance Merchant bank was found on the wrong side of the law as they were trying to raise capital the illegal way (borrowing). This is just one example but it shows that banks can lose focus as they concentrate on raising capital, be it by hook and crook or the normal way. The problem with banks is not so much the levels of capital, but it is the

riskiness of their assets. The researcher however, feels that banks should have both adequate capital and quality assets to ensure survival in turbulent times.

The Basel Committee's report to G20 (2010), argues that higher quality capital means more loss-absorbing capacity. This in turn means that banks will be stronger, allowing them to better withstand periods of stress. In addition to raising the quality and level of the capital base, the report advocated for a need to ensure that all material risks are captured in the capital framework. Commenting on the 2008 financial crisis, it was noted that during the crisis, many risks were not appropriately covered in the risk-based regime. For example, some banks held significant volumes of complex, illiquid credit products in their trading books without a commensurate amount of capital to support the risk. Moreover, failure to capture major on- and off-balance sheet risks, as well as derivative related exposures, was a key factor that amplified the crisis.

2.8.5.1 MARKET RISK CAPITAL CHARGE

The regulatory capital charge for Market risk has two components, that is, a charge for general market risk and a charge for specific risk (Birkbeck, 2001). General market risk pertains to changes in the market value of the positions of an institution, resulting from broad movements in interest rates, equity prices, foreign currencies and commodity prices. Specific risk refers to changes in the market value of the positions arising from factors other than broad market movements. For equities, it is idiosyncratic risk or movement in the equity price that is unrelated to the overall market movement. For interest rate instruments, the specific risk factors may be categorized as contributing to spread risk, event risk and default risk.

Spread risk arises from factors such as the current credit rating status of the instrument or the relative liquidity of the instrument. Event risk arises from an actual downgrade, or upgrade, in the credit rating of the issuer. Default risk accounts for the probability of default by the transacting counterparty.

According to Stulz (2000), the main approaches permitted by regulators for the computation of market risk capital charge are the Standardized Approach and the Internal Models approach. The capital charge, C, for specific risk under Standardized Approach involves the computation of marked-to-market values, V, and percentages, F, thereof:

$$C = F \times V$$

The Internal Models Approach on the other hand, is based on the Value-at-Risk (VaR) and factors thereof:

$$C = F \times VaR$$

VaR is a broad subject on its own and the main methods used to calculate it are the Monte Carlo method and the Historical simulation method. The later is widely used (Mason, 2010). The Capital Asset Pricing Model (CAPM) is an internal model used for measuring market risk where equities are involved.

2.9 BEST PRACTICES IN RISK MANAGEMENT

The Basel accord encourages banks to increase operational efficiencies and lower the cost of capital. Although an 8% capital is considered adequate, for a bank to be considered well-capitalized, the regulators require its total risk-based capital ratio to be greater or equal to 10% and Tier 1 risk-based capital ratio to be greater or equal to 6%, and Tier 1 leverage capital ratio (Tier I Capital/Average Assets) to be greater than or equal to 5% (Young, 2011).

Even with such a prudent capital framework, banks continue to be shaky and the question on "what is the best risk management practice" remains unanswered.

According to Schuermann, *e tal* (2008), banks need to continuously enhance risk management measures, seek integrated solutions, move in line with Global risk developments and automate reports. Risk management measures are enhanced by developing advanced technological tools and innovative financial instruments. Risk positions must be analyzed daily and certain trends in figures should tell a story.

Integrated solutions start with networking with other industry players and then taking the bold decision to acquire systems that provide all risks at one go (Jorion, 2003). Banks are very good at coming up with various systems for the many functions in each bank, for example, branches have their systems, loans are processed using one system, Treasury division has its own systems, Operational risk and indeed, Market risk and Credit risks have separate systems. The systems however, are all interfaced with the main General ledger and/ or the Management Information System used to extract statistics and returns for various purposes.

In other words, straight through processing (STP) also require checks and balances at certain intervals. STP is whereby a transaction is captured once in the front end system and all the back end systems are updated automatically, for example, in the credit management environment, a limit is captured once in one system and data updates bank teller systems, updates the main General ledger system and also updates all the other Information Delivery systems (SCB Risk radar, 2009).

As the risk environment can be so dynamic, banks need to move with time and it all starts with the Central banks. According to an SCB risk journal (2010), the Central banks of Zimbabwe and a number of countries in Africa, are yet to roll out Basel II. If sophisticated products find their way into the market, for example, derivatives, huge losses can be recorded unknowingly mainly because the regulators are not moving with time and/or are not actively enforcing basic rules of banking.

Automation of reports removes manual interventions and thereby reduces errors due to human manipulation. Automation has become a key step towards building internal models that are deemed better that imported ones (Strongman 2009). Internal models are better understood by users and can be changed locally to suit the environment. Furthermore, automations comply with Basel II requirements and they support real-time decision making. With automated reports, positions can be run anytime and there is an assurance of producing daily as well as intraday reports as the business wishes.

2.9.1 LESSONS FROM GLOBAL FINANCIAL CRISIS

According to the Senior Supervisors Group newsletter (2008), the companies that successfully handled the 2007 market turmoil adopted a comprehensive
view of their exposures. They adjusted their risk management practices, business strategy and exposures promptly in line with changing market conditions. As highlighted by the Senior Supervisors Group newsletter (2008), the following approaches were applied:

1. Consistent application of independent and rigorous valuation practices

In the late 2007, the firms that performed well had proactively established internal processes for the valuation of complex securities. The firms did not trust the rating agencies' expertise in this area and had developed in-house professionals to conduct their own independent assessments of the credit quality of the assets underlying the complex securities. The firms sought to use those values consistently both within the organization and on their counterparties' positions (Senior Supervisors Group newsletter, 2008).

Following the onset of the 2007 financial market turmoil, the firms that made it through the crisis continuously tested their valuation estimates by selling small chunks of their assets to observe price movements and to assess the accuracy of their valuations of the same or similar assets (SCB Risk Radar, 2010). In contrast, most companies that were negatively affected by the 2007 market challenges had not made rigorous use of internal processes (Mason, 2010). The firms lacked relevant internal valuation models and they heavily relied on external views of rating agencies and companies that offered pricing services to determine the true values of their exposures (ibid).

Mason (2010), emphasizes the need to continuously test valuation models and to desist from over relying on external assessments by rating agencies and other firms who generalize the inherent risks in these securities. Furthermore, the Senior Supervisors Group newsletter (2008), sums it up by encouraging firms not to continue relying on

estimates of asset correlation that reflected more favorable market conditions, but to be closer to reality as much as possible and take appropriate measures before disaster strikes.

2. Effective firm-wide risk identification and analysis

According the Senior Supervisors Group newsletter (2008), the firms that performed well towards the end of 2007 generally shared quantitative and qualitative information more effectively across the organization. Some proactive firms were able to detect the sources of significant risk as early as mid 2006 and they had enough time to evaluate the magnitude of those risks and to come up with risk mitigating methods while it was still practical (SCB Risk Radar, 2010).

The senior managers in the firms that did well in the turmoil developed a firm-wide plan to reduce or hedge their exposures, and did not rely on the hope that business lines would make decisions individually. On the contrary, in the firms that experienced greater difficulties, business line and senior managers did not discuss promptly among themselves the firm's risks in light of evolving conditions in the marketplace. This left business areas to make some decisions in isolation regarding business growth and hedging, and some of those decisions increased, rather than mitigated, the exposure to risks (Senior Supervisors Group newsletter, 2008).

3. Informative and responsive risk measurement practices

The organizations that encountered less challenges in the financial turmoil year had management information systems that could evaluate risk positions effectively (Senior Supervisors Group newsletter, 2008). The management at the high performing organizations had more adaptive (rather than static) risk measurement systems that could quickly change underlying assumptions in line with the changing circumstances (ibid). Forward-looking scenario analysis became the order of the game given the ever changing market conditions and management in such firms should be given credit for such responsiveness (Borodovsky, 2000).

The managers at the better performing companies also relied on a wide range of measures of risk that included taking into consideration notional amounts of gross and net positions as well as profit and loss reporting in an effort to gather more information and different perspectives on the same exposures (Senior Supervisors Group newsletter, 2008). According to the same newsletter (Senior Supervisors Group, 2008), a lot of the firms were able to integrate their measures of market risk and counterparty risk positions across businesses and they effectively balanced the use of quantitative rigor with qualitative assessments resulting in the blended analysis providing a high level of insight and consistent communications to management about the evolving conditions.

The Financial Crisis newsletter (2008), argues that the firms that encountered more substantial challenges were too dependent on specific risk measures with outdated assumptions. The SCB Risk Radar (2010), was confident that the firms that lacked alternative perspectives on risk positions lost sight of how risk could change in the future and what that could mean to their exposures.

4. Effective management of funding liquidity, capital, and the balance sheet

According to the Senior Supervisors Group (2008), the financial organizations that were spared by the 2007 market turmoil aligned their Treasury functions more closely with risk management processes that include liquidity planning and the actual contingent liquidity risk. These organizations created internal pricing tools that boosted confidence in individual business lines to control activities that led to significant balance sheet growth. The high performing financial firms proactively managed their contingent liquidity needs and when they implemented their plans, the firms exhibited greater discipline in adhering to limits in the face of the changing market conditions (Financial Crisis newsletter, 2008). On the contrary, weaker firms had weaker controls and their Treasury functions were not closely aligned with risk management processes and lacked uniformity in information dissemination practices across businesses within the organization (Senior Supervisors Group newsletter, 2008).

In Zimbabwe, the financial institutions that survived the 2004/2005 bank failures simply followed basic banking concepts. Some banks that were slightly "out of line" took the Reserve bank governor's warnings seriously and corrected their positions.

2.10 SUMMARY

Based on the literature review, there is no doubt that risk awareness is key in risk management. It takes an effort to identify, quantify, aggregate the risk profile, prioritize the risk, come up with mitigating factors and finally to monitor and review. In other words, action can only be taken on the risk that has been identified. Ignorance of this crucial subject (risk management) and the inability to assign responsibility at the highest level of the organization is a recipe for disaster in this day and age where sophistication and complexity characterizes our markets especially in the financial sector.

Banks and indeed, other organizations, have to continuously scan the environment (situational analysis) and take a proactive approach (contingency planning) if they are to remain on top of the game.

Organizations should not afford to ignore lessons from the past as history can easily repeat itself. Banks have failed in the past and they continue to fail. More often than not, the financial institutions that close or face closure would have deviated from the basics of banking and this is evident in the Zimbabwe bank failures.

In terms of models, the environment is changing and so should be these tools of trade. Quantitative techniques must be complimented with qualitative ones if a sound control environment is to be upheld.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter discusses and explains the research methodology used to acquire the data to be analyzed. The purpose of this section is to define and describe the main methods used to conduct research, and the justification for the methods adopted in this study. Also included are issues regarding research ethics, bias, the reliability and validity of the research findings. The chapter reflects upon the underlying assumptions about the research methodology employed during the research. The literature on research methodology to support the researcher's choice of methods is used wherever deemed necessary. The section also describes the various tools used throughout the research and also highlights the rationale behind choosing each one of those tools.

3.1 RESEARCH DESIGN

Many researchers strive for a research design that will not only give a multidimensional perspective of the phenomenon (Fowler, 1984) but will also provide rich, unbiased data that can be interpreted with a comfortable degree of assurance (Cooper & Schindler 2001). One of the ultimate goals of a researcher is to design a study that has strong internal and external validity and reliability, a comprehensive multi-perspective view (John & James, 1993), and procedures to decrease potential biases within the research. One way to increase the validity, strength, and interpretative potential of a study, decrease investigator biases, and provide multiple perspectives is to use methods involving triangulation (Zarb, 2005).

In order to achieve the objectives of this study, the research mixed both quantitative and qualitative research methodology. According to John & James (1993), the method that provides a powerful technique that facilitates validation of data through cross verification

from more than two sources is called triangulation. The advantages of combining both quantitative and qualitative approaches have been widely recognized (Saunders, 1999).

Both qualitative and quantitative studies are designed "to understand and explain behaviour and events, their components, antecedents, corollaries, and consequences" (Sidat, 2005). Therefore, blending elements of one with the other is possible, especially if the approaches have similar axiologies (Schweser, 2010). This blending allows the best representation of both worldviews. Qualitative input helps to explain the success of interventions when the numbers fail to answer the question (Love, 2002). Similarly, quantitative data enhance understanding by revealing outliers or unique individual cases. John and James (1993), suggests that combining qualitative and quantitative methods increase the ability to rule out rival explanations of observed change and reduces scepticism of change-related findings. In other words, methodological triangulation has the potential of exposing unique differences or meaningful information that may have remained undiscovered with the use of only one approach or data collection technique in the study.

According to Zikmund (2003), a merger of the best of both worlds, rather than a one-sided acquisition, will add substantial synergy to the research. By combining multiple observers, theories, methods, and empirical materials, the researcher could overcome the weaknesses or intrinsic biases and the problems that come from single method, single-observer and single-theory studies. The intention is to conduct the study with multiple lenses and questions in mind, to lend support to or refute findings. As such, triangulation was employed in order to provide more profound insights into the phenomenon under investigation.

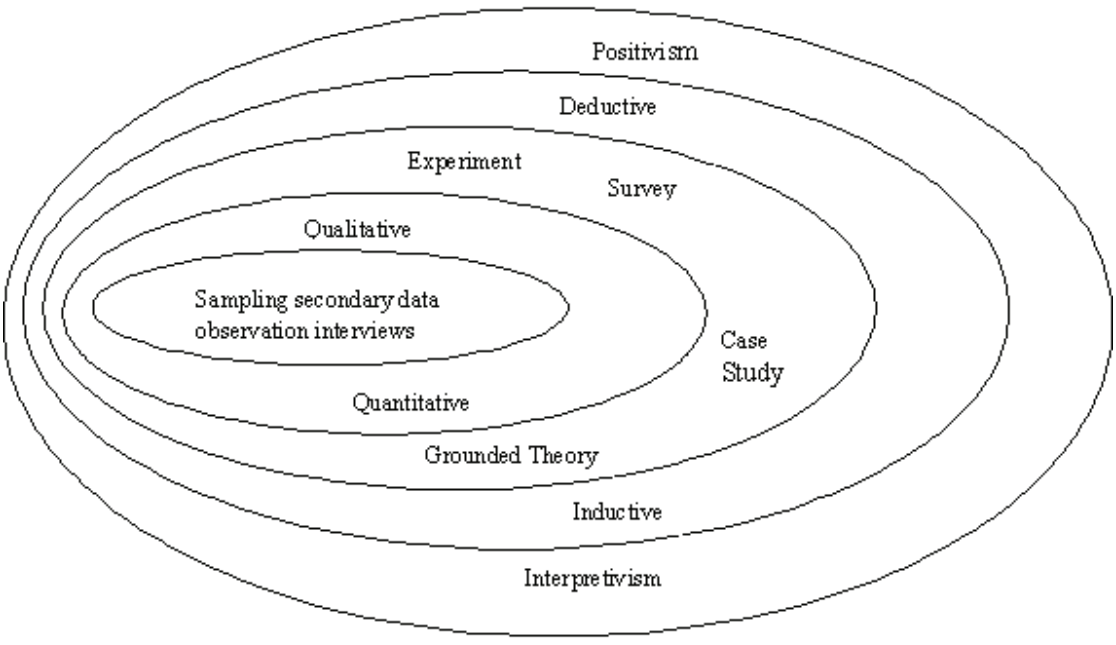
3.2 RESEARCH PHILOSOPHY

There are two main types of research paradigms; the positivism and the phenomenology approaches. The positivist paradigm argues that one should be able to explain phenomena in terms of what causes the behaviour observed. The cause and effect relationship underpins the positivist methodology. Positivism prefers 'working with an

observable social reality and that the end product of such research can be law-like generalizations similar to those produced by the physical and natural scientists' (Stoner, 2002). As noted by Saunders (1999), in this paradigm, the researcher is independent of, and neither affects, nor is affected by the subject of the research.

Love (2002) insists that when a research is conducted the following processes need to be followed: that the research is undertaken within a framework of a set of philosophies and that the research uses procedures, methods and techniques that have been tested for their validity and reliability. Finally, the research should be designed to be unbiased and objective (Fowler, 1984). He proposes a research onion in order to derive a research methodology. Accordingly, this research will adopt the research onion approach, whereby each layer of the research process will be analyzed in order to derive an appropriate research methodology.

Figure 3.1 Research Onion



Source: Saunders (1999)

This study seeks an interpretivist research philosophy approach as it seeks to understand the world from the researcher's point of view. In the case of present research, there is a need of knowing. Zikmund (2003), suggests that a research approach means the extent to which the researcher is clear about the theory at the beginning of the research, whether the research should use the deductive approach; in which a theory is developed and research strategy is designed to test the hypothesis or the inductive approach; in which the data is collected and a theory is developed as a result of the data analysis.

3.3 RESEARCH STRATEGY

According to Sidat (2005), a survey is a research strategy where a sample of subjects is drawn from a population and studied to make inferences about that population. A survey can be either descriptive or analytical. Fowler, (1984) is of the assertion that analytical surveys are those where the researcher's intention is to determine whether there is any relationship between different variables. On the other hand a descriptive survey involves identifying and counting the frequency of a specific population, either at one point in time or at various times for comparison. Sidat (2005), argues that surveys involve the use of structured questions and the recording of subjects' responses.

The survey is a non-experimental, descriptive research method. Survey can be useful when a researcher wants to collect data on phenomena that cannot be directly observed. Cross-sectional survey used to gather information on a population at a single point in time. An example of a cross sectional survey would be questionnaires that collect data. A different cross- sectional survey questionnaire might try to determine the relationship between factors.

3.4 POPULATION

According to Zikmund (2003), a population is any complete group of people, companies, hospitals, stores, college students or the like that share some set of characteristics. For the purposes of this study, the population consisted of risk units from all banks in Harare central business district. The target population was derived from banks under study. These banks include Barclays bank, Standard Chartered (SCB), and Stanbic bank, Commercial bank of Zimbabwe (CBZ), ZB bank, Zimbabwe Allied Banking Group (ZABG), Ecobank, and BancABC. The population for this research is defined and expressed in terms of risk management.

NAME OF BANK	Target population	Sample size
CBZ	50	20
Barclays	50	10
Standard chartered	50	20
Stanbic	50	15
ZB Bank	50	15
ZABG	50	15
BANCABC	50	12
ECOBANK	50	13
TOTAL	**400**	**120**

Table 3.1 Target Population Distribution

3.5 SAMPLE SIZE

A total sample of 120 respondents was required to enable collection of data for this study from a target population of 400. These were chosen from risk departments of the banks under study. Due to the sensitivity of bank information, it must be noted that only people

from risk departments were chosen to participate in the survey. Involving other department heads would have raised eyebrows and responses might have not come at all. Permission was therefore sought from management to have the survey done in risk departments only. The sample represented about 30% of the target population. According to Cooper and Schindler (2001) any calculated sample size exceeding 5% of the target population offers adequate precision. According to Zikmund (2003), a sample size has a direct influence over the accuracy of the research findings. Therefore a sample representing 30% of the population was considered appropriate as it is well above 5% margin.

To determine a suitable sample size, it was also necessary to specify the variation or standard deviation of the population, magnitude of acceptable error and confidence level. For a population of 300 or more, a sample of 100 is required to obtain a 95% confidence level and a range of error of 5% (Zikmund, 2003). Approximately 130 questionnaires were prepared and circulated. A total of 125 responses were received. Of these, five (5) responses had to be discarded due to invalid or incomplete data entries. Thus, the sample comprising of a total of 309 respondents was used for analysis. According to John and James (1993), this exceeded the minimum required sample size to achieve a 95% confidence level for a population greater than 400. The sample also included both male and female respondents with the age bracket of 25 to 40 and above.

3.6 SAMPLING PROCEDURE

Sampling methods provide a range of methods that enable researchers to reduce the amount of data to be collected by considering only data from subgroups rather than all possible cases and elements (Fowler, 1984).

Cooper and Schindler (2001) suggest that the members of a sample are selected either on a probability basis or by another means. Probability sampling is based on the concept of random selection, a controlled procedure that assures that each population element is given a known nonzero chance of selection. In contrast, non probability sampling is

arbitrary and subjective. Each member does not have a known non zero chance of being included, allowing interviewers to chose sample

The study will use judgment sampling as a method to select samples. With a group of people who have knowledge about a particular problem, they can be selected as a sample element. Sometimes it is referred to as a purposive sample because it involves a specific purpose (Sidat, 2005). According to Zikmund (2003), with purposive sampling, an experienced individual selects the sample based upon some appropriate characteristics of the sample member. According to John and James (1993), judgment sampling is more convenient and has low cost involvement. As such, key informants were selected by means of purposive sampling. This approach was chosen because it was deemed to be effective in highlighting key trends as well as being economical in terms of financial costs and time.

3.7 TYPE OF DATA

The research used two types of data which are the primary and the secondary. The secondary data is the data that has already been collected for purposes other than the problem at hand. In contrast, primary data are originated by a researcher for the specific purpose of addressing the problem at hand. These data are collected by the researchers individually and the procedure of their collection is more expensive and time consuming compared to the secondary ones (Whitney, 2000). One of the best methods to collect the primary data is the questionnaire, which is the chosen method for this particular study. It is the best instrument since it is the less expensive and the less time consuming.

In this paper both primary and secondary data sources was used. The secondary data was collected from the financial statements from the selected banks in the sample and the primary data was obtained by questionnaires. Questionnaires were prepared in order to collect primary data. The researcher used the data from selected banks for analysis.

3.8 DATA COLLECTION TECHNIQUES AND RESEARCH INSTRUMENTS

For the purpose of this research, a survey was used as a data collection method. The study utilized the questionnaire developed by Han and Beak (2004) to measure the level of risk management. The survey research strategy was employed for its support for structured research, in this case the use of questionnaires; hence minimizing systematic error and reducing subjectivity. Furthermore, surveys make data analysis easy through the use of quantitative methods of data analysis. The survey questionnaire consisted of two parts. The first section focused on the respondent's demographic information. The demographic variables included: gender, age, level of education, work status, and income level. The respondents were also requested to indicate whether they currently work in the risk department.

Open-ended questions were included to allow respondents to express their views independently. The advantages of these questions are that they allow more freedom of response, they are easier to construct and they permit follow-up by the interviewer. However, the disadvantages are that the responses tend to be inconsistent in length and content across respondents, which make them susceptible to misinterpretation and are more difficult to process, (Fowler, 1984). Validity was the key issue and that was the reason the pre-testing of the instruments was conducted.

Before conducting the main survey, a pre-testing (pilot study) was done to validate the instrument. Cooper and Schindler (2001) recommends the conducting of a pilot test for self administered questionnaires before it is administered to the sample population. They further suggest that a pilot test would make sure that the questionnaire as a whole functions well. According to Zikmund (2003), a pre-testing study provides an opportunity for the researcher to determine whether the respondents had any difficulty understanding the questionnaire. The pre-test afforded an opportunity to check whether there are any ambiguous or biased questions (Zikmund, 2003).

The pre-testing study was sent to 10 respondents, five females and five males, who were selected on a convenience basis. The respondents were asked to comment on the length of the instrument, the format, general understanding of the words used, and wording of the scales. All feedback was recorded and adjustments made to the questionnaire. The second batch was sent with all adjustments reflected, and an observation was made to judge the level at which the respondents interacted with the questionnaire. Results of pilot test led to further refinement of the questionnaire. The definition and description of risk management were communicated to respondents to improve the accuracy of responses. For understanding of risk management, a 5-likert scale was used (1=strongly disagree, 5=strongly agree).

The questionnaire was used due to its applicability to a survey research design (Bryman & Bell, 2007). Furthermore, the questionnaire permits respondents time to consider their responses carefully without interference from an interviewer. Secondly, questionnaires can be administered to large numbers of people simultaneously. Thirdly, in terms of uniformity, respondents receive identical set of questions. With closed form questions, responses are standardized, which can assist in interpreting from large numbers of respondents. Fourthly, questionnaires can address a large number of issues and questions of concern in a relatively efficient way, with the possibility of a high response rate. Furthermore, questionnaires permit anonymity. It is normally argued that anonymity increases the rate of response and may increase the likelihood that responses reflect genuinely held opinions.

The questionnaire was designed to answer the research questions highlighted in chapter one. The questions aimed to get an overview of the respondents' views on risk management. It was expected that the participants would answer all the questions in the questionnaire. In the current study, questionnaires were designed for respondents with mostly close-ended questions to allow for standardized responses and to also make the compilation and data analysis of these responses easier (Cooper & Schindler, 2001). Open ended questions were used to probe more information and perceptions.

3.9 ETHICAL CONSIDERATIONS

The research was in line with ethical guidelines in that permission was sought from management to conduct the research on the bank. Participation by respondents was voluntary and confidential. The respondents were free to participate or not to. No incentives or gifts were given to participants. The responses were kept as confidential as possible and no names were asked for the respondents to avoid any form of intimidation.

3.10 RELIABILITY AND VALIDITY

In this study the researcher aimed to ensure reliability by obtaining data for the research objectives through self administered questionnaires and verified through interviews where clarity and additional information is needed. By doing so the findings were corroborated from various sources (Zikmund, 2003). About the validity of the research, respondents were asked on issues regarding risk management practices.

3.11 DATA PROCESSING, ANALYSIS AND PRESENTATION

Data processing consists of questionnaire coding, data entry and data cleaning. In this study, questionnaires were given unique codes for all responses. Data entry was done using Microsoft Excel. After entry, frequency tables were run in the Statistical Package for Social Sciences (SPSS) version 16.

In data analysis and interpretation, frequencies, percentages and mean were used. The information was presented using tables, graphs, charts and testing of hypotheses to enable easy comparison and clear projection of the situation. These findings are laid out in chapter four, together with their detailed discussion.

Descriptive statistic (such as mean and frequencies) analysis was conducted on the demographics data. The data collected from the returned questionnaires were captured onto an Excel spreadsheet for analysis. The data was sorted to group questions according to applicable constructs under test. Statistical analysis was conducted on the data. In this study the dependent variable is categorised into three groups; a group of adopters,

potential adopters and non-adopters. A question within the questionnaire was included to enable the categorisation of respondents. Discriminate Analysis was used to determine which independent variables were the best predictors of the dependent variable's outcome.

3.12 LIMITATIONS OF THE RESEARCH

As far as the design of questionnaire is concerned, due to the lack of experience, it was difficult to ensure that the questionnaires were effectively designed. There might be some misunderstandings in the questions or in the structure of the questionnaire. Another limitation can be the inadequate time in order to conduct the research and to analyse the findings. A research in order to be successful needs a lot of time so as to have a lot of findings and to draw a lot of conclusions.

3.13 CHAPTER SUMMARY

This section has highlighted the research methodology and design which will be employed in seeking to answer the research questions. The research was based on the survey study of commercial banks risk management in Zimbabwe. Data collection was done through questionnaires and interviews designed to capture the respondents' opinions. A fairly representative sample of 30 % of the population was selected for the purposes of the study. Sample elements were selected using stratified random sampling which the researcher regarded as the most effective sampling method for the study. The next chapter presents data findings and analysis.

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.0 INTRODUCTION

This chapter will focus on presenting the data which was gathered through the previous chapter of the research. The major focus of this chapter is data presentation, analysis and interpretation of findings on risk management in Zimbabwe commercial banks. The previous chapter presented a description of the methodology approach and this chapter presents the results of the statistical analyses. It reveals the demographic profile of survey results; test results of the scale and provides aggregate information about the survey responses.

4.1 RESPONSE RATE

The researcher selected 8 commercial banks out of the eighteen licensed commercial banks in Zimbabwe, as the sample population to distribute the user questionnaire. As earlier mentioned; the total number of questionnaires administered was 120 for the sample under study.

Of the 120 questionnaires prepared and circulated, a total of 112 responses were received. Of these, eight responses had to be discarded due to invalid or incomplete data entries. Thus the sample comprising of a total of 104 respondents was used for analysis. This exceeded the minimum required sample size of 90 to achieve a 95% confidence level for a population greater than 400 (Zikmund, 2003). The usable response rate amounted to 93%, which is satisfactory for data analysis. From the received questionnaire feedback, some meaningful results were found and documented. The response rate was however, considered adequate to proceed with the analysis and draw conclusions.

The above responses are shown in table – 4.1 as follows:

Table 4.1. Final Response

Bank	**Population**	**Sample**	**Distributed**	**Responded**
CBZ	50	20 (40%)	20	17 (85%)
Barclays	50	10 (20%)	10	10 (100%)
Standard Chartered	50	20 (40%)	20	15 (75%)
Stanbic	50	15 (30%)	15	15 (100%)
ZB Bank	50	15 (30%)	15	15 (100%)
ZABG	50	15 (30%)	15	15 (100%)
BANCABC	50	12 (24%)	12	12 (100%)
ECOBANK	50	13 (26%)	13	13 (100%)
TOTAL	**400**	**120 (30%)**	**120**	**112 (93.3%)**

According to the table above, the total population which was considered from the eight selected banks and out of that 30% were taken as the sample. Next the questionnaires were distributed among the total sample size and it was 100% distribution. The final column indicates the response for the questionnaires and it was considered as sufficient data for the analysis process.

The following bar chart in figure 4.1 shows the final responses and non responses count from the total distributed questionnaires.

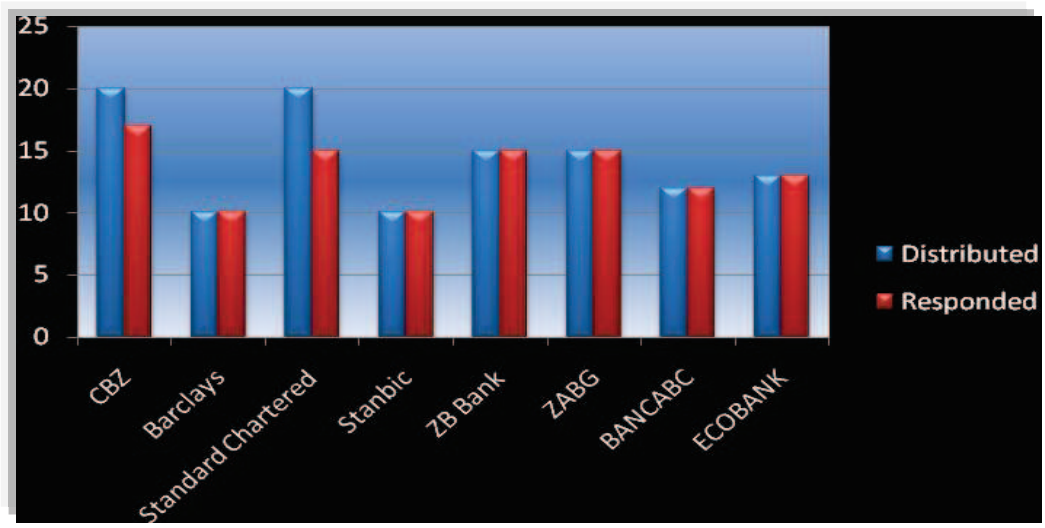


Figure 4.1: Final Response Chart

The researcher selected 8 commercial banks as the sample population (see figure 4.1) to distribute the user questionnaire and the responses are shown in the above figure. The overall total percentage was around 93%. The final data set was designed according to the above figures and the data analysis was done based on the survey data.

4.2 BANKING EXPERIENCE

The table below shows the percentage of banking years of experience of the respondents. The researcher asked this question because he wanted to know how experienced the respondents were in the banking sector. In the results, it was found that 33.6 % have 1 -5 years working experience. Those with 6-10 years experience represented 56.8% and only 5.2% for over 10 years. The group with less than one year experience was 3.4%.

Table 4.2 Bank Working Experience

RESPONSE	**PERCENTAGE**
Less than 1 year	**3.4**
1-5 years	**33.6**
6-10 years	**56. 8**
Above 10 years	**5.2**
TOTAL	**100%**

4.3 LEVEL OF EDUCATION

From the responses, it was found out that each of the respondents had at least an earned university degree. As such, all the banks under study had people with theoretical knowledge of risk management. These results are illustrated in table below:

Table 4.3 Level of Education

LEVEL OF EDUCATION	**FREQUENCY**	**PERCENTAGE**
Primary education	0	0
High school	0	0
Poly technical college	0	0
University or higher	104	100
TOTAL	**104**	**100**

4.4 AUTHORITY TO ESTABLISH RISK MANAGEMENT IN POLICY OR PROCEDURE

The researcher asked a question about commitment and support from top management. In the table above, the respondents asked to identify who has the authority to establish credit

risk management in the respective eight banks. The results of this question showed that top-level should have the authority to establish risk management. As tabulated below (see table 4.4), the majority of the respondents (88.1%) said that the board and risk committees have the authority to establish risk management policies. The remaining 11.9% said that the executive management team is responsible for establishing risk management policies and procedures. As such, respondents identified commitment and support from top management as the most important. Furthermore, most of the banks believe that it is the responsibility of the Board of Directors or Committee and Executive Management team to establish credit risk management policies and procedures. Top management decides the objectives and strategies for organizational credit risk management activities, mission and overall objectives.

The respondents indicated that there are many ways in which top management can support risk management policies as shown in the table.

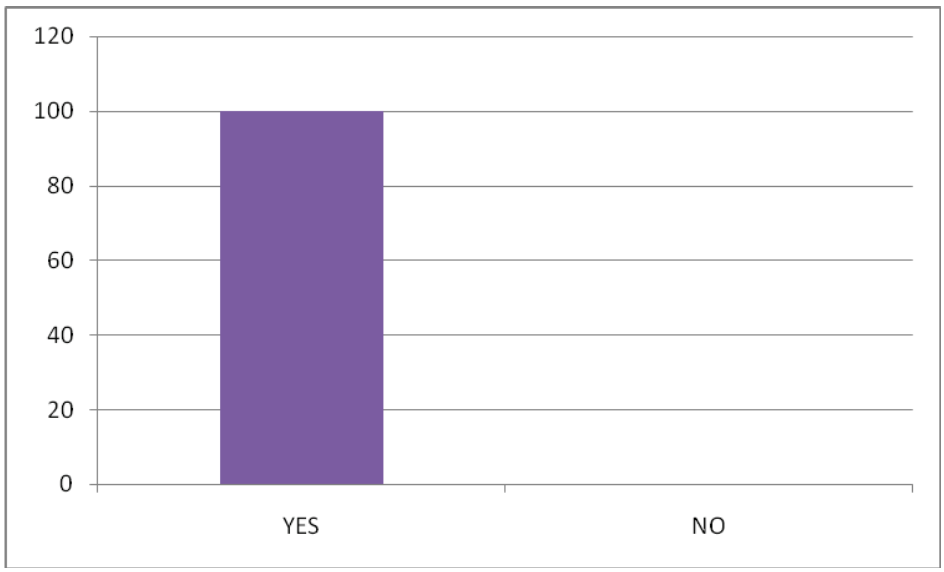
Table 4. 3 - Level of top management engagement in risk policies & procedures

RESPONSE	**PERCENTAGE**
Chief executive officer (CEO)	-
Chief financial officer (CFO)	-
Board/ risk committee	88.1
Executive management committee	-
Internal auditor	11.9
Staff	-
Other (please specify:	-
TOTAL	**100**

4.5 POLICIES AND PROCEDURES

From the responses it was found that all banks that responded to the questionnaires confirmed that they have risk policies and procedures in place.

Figure 4.2 Bank Policies and Procedures



The results show that all respondents answered _Yes thereby agreeing that their banks have established procedures for keeping up-to-date with changes in regulations. From the table it can be concluded that the banks are aware of changes that can happen in risk regulations at any given point.

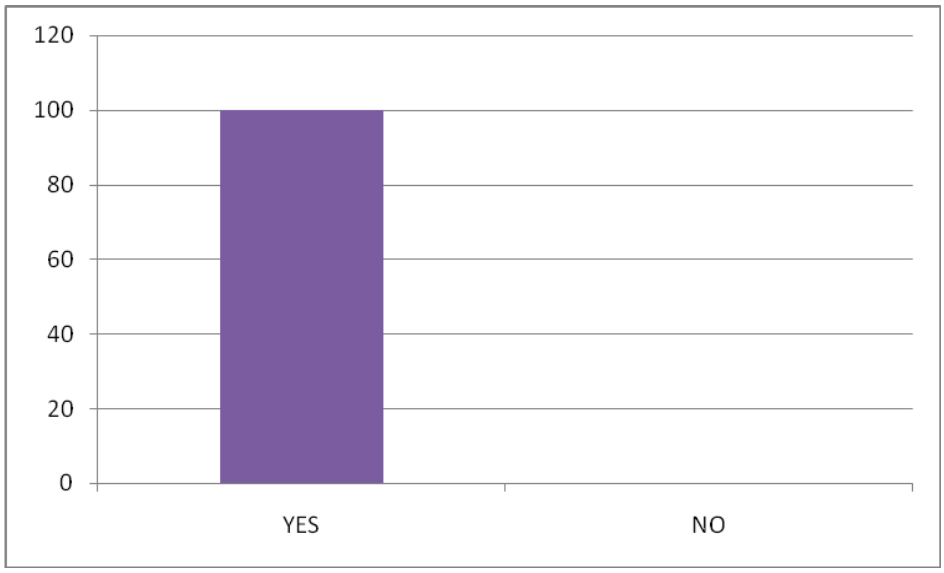
The ability to respond to changing conditions in a bank's operation is related to a range of activities including the development of risk training courses and involvement of staff in responding to an early warning system (Carey, 2001). The respondents state that their banks have established procedures for keeping up-to-date and informed with changes in regulations to their staff. In addition, they provide risk management training courses at least once per year. The other banks also offer training courses more than once a year. Consequently, this is a good starting point because all staff members have the risk

knowledge at their disposal. Through work experience, risk management employees would be able to understand and apply what is documented in the risk policies and procedures.

4.6 THE USE OF ALTMAN Z SCORE MODEL FOR CREDIT VALUATION

The researcher also asked yes or no questions about the application of Altman Z score for credit evaluation to determine customer bankruptcy position. The results show that 100% stated that they do use Altman Z score. From the result it can be concluded that the financial institutions are in the position to apply the model to evaluate what will happen to their customers‘ regarding the payment of their obligation. The Z-score formula for predicting bankruptcy of Edward Altman (1968) is a multivariate formula for measurement of the financial health of a company and a powerful diagnostic tool that forecasts the probability of a company moving towards bankruptcy within a two year period with a proven accuracy of between 75% and 80%.

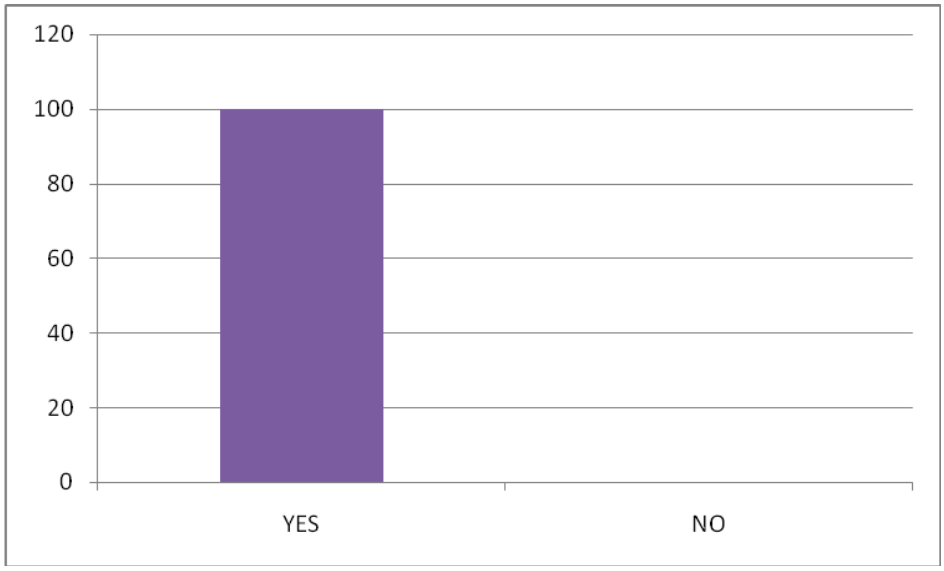
Figure 4.3 Use of Altman Score By Banks



4.7 INTERNAL CREDIT RATING SYSTEM IN THE ORGANIZATION

From the findings, 100% of the respondents answered _Yes agreeing that their organizations have internal credit rating systems. Well-managed credit risk rating systems promote bank safety and soundness by facilitating informed decision making. Rating systems measure credit risk and differentiate individual credits and groups of credits by the risk they pose. This allows bank management and examiners to monitor changes and trends in risk levels. The process also allows bank management to manage risk to optimize returns (Comptroller's Handbook 2001). These findings are shown graphically below:

Figure 4.4 Internal Credit Rating Systems by Banks

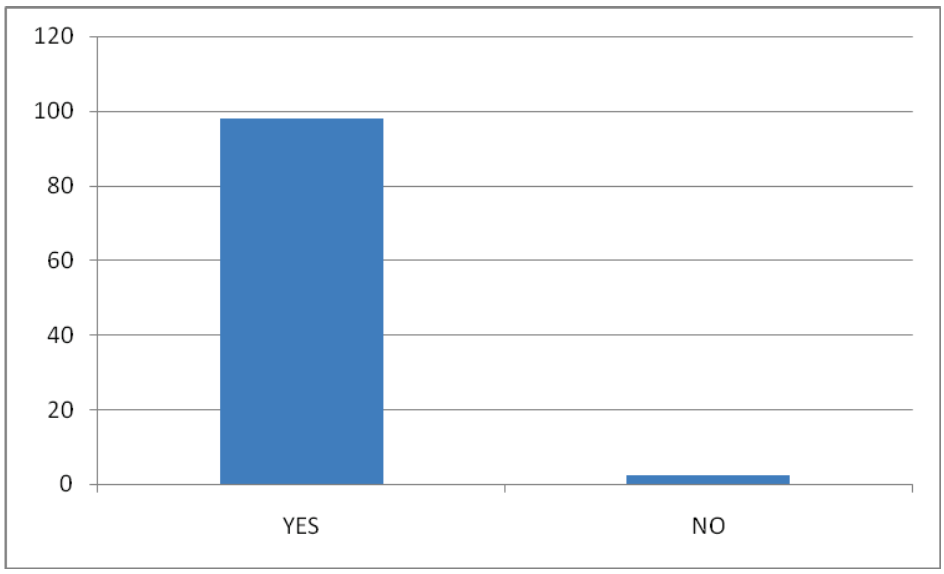


4.8 LEVEL OF UNDERSTANDING CREDIT RISK

The respondents showed that 97.8% understood credit risk management (CRM) guidelines and policies. Only 2.2% showed lack of understanding the risk policies and

procedures. However, it can be generalized that the majority of risk workers understand guidelines that govern their work in the organization.

Figure 4.5 Percentage of People Who Understand CRM Guidelines



In addition, most of the respondents (70%) replied that their banks revise risk guidelines or policies once per year. Surprisingly, 23.81% of the respondents actually confirmed that their organizations do it twice per year and 9.52% revise them several times per year.

Because the financial world is always in fluctuating, Carey (2001), suggests that organizational structure must be reviewed regularly and adjusted to adapt to changing financial environments. Most of the organizations implement changes and review their organizational structure every year. Moreover, Grabowski and Roberts (1999), elucidate that risk management in banks is primarily associated with the fluidity of organizational structures. It is a flexible approach to respond in different ways and respond quickly in the face of changing conditions.

4.9 RISK PRIORITY BY BANKS

All the banks that participated in the survey consider liquidity and credit risk as the most important risks to be focused on. About 96.2 % of the responders consider market risk as

critical, 99% consider operational risk as top priority, and 85.6% consider the interest rate risk for the same reason. Foreign exchange risk is considered as the less important risk with only 45% positive responses. There however, seems to be confusion on what market risk is all about as some components of the risk were covered separately (price risk and liquidity risk) and priority weighting is not adding up.

Table, 4.4 risk priorities by banks

	FREQUENCY	**PERCENT**
Credit Risk	104	100%
Liquidity Risk	104	100
Market Risk	100	96.2%
Operational Risk	36	99%
Foreign Exchange Risk	47	45%
Interest Rate Risk	89	85.6%

4.10 TECHNIQUES USED TO IDENTIFY RISKS

According to the findings 82.6% of the responders think that the most widely used technique to identify risks in the bank is to perform Key Risk Indicators (KRI) assessments. This is based on the understanding of the business and dip-sticks are done to measure conformity to expected trends and outcomes. About 40.9% use auditing and inspection, 62.6% use risk assessment workshops, 54.8% do a scenario analysis, 38.3% use industry benchmarking and 47.8% use incident investigation. Finally, according to the responders, the less used technique from the banks is the brainstorming with only 33% and the administration of questionnaires scored 35.7%.

TABLE 4.5 Techniques used to identify risks

TECHNIQUE	PERCENTAGE
Business studies/Key risk indicators	**82.6**
Auditing and inspection	**40.9**
Risk assessment workshops	**62.6**
Scenario analysis	**54.8**
Industry benchmarking	**38.3**
Brainstorming	**33**
Questionnaire	**35.7**
Incident investigation	**47.8**

4.11 AREAS STRESS TESTED

Stress test is a key trigger in risk management and therefore cannot be overlooked. There are a number of portfolios that the researcher wanted to be stress tested for risk management units in Zimbabwe commercial banks. The survey found that the stress tests are being done but the frequency of the tests differs from one bank to the other as shown below.

Table 4.6 areas stress tested

	Frequency			
Type of Stress	**Daily**	**Monthly**	**Quarterly**	**Total**
Liquidity	38%	31%	31%	100%
Fx rate	62%	38%	0%	100%
Interest rate	62%	38%	0%	100%
Credit	0%	69%	31%	100%

In a volatile environment, stress tests should be done more regularly, preferably daily.

4.12 RISK MEETINGS

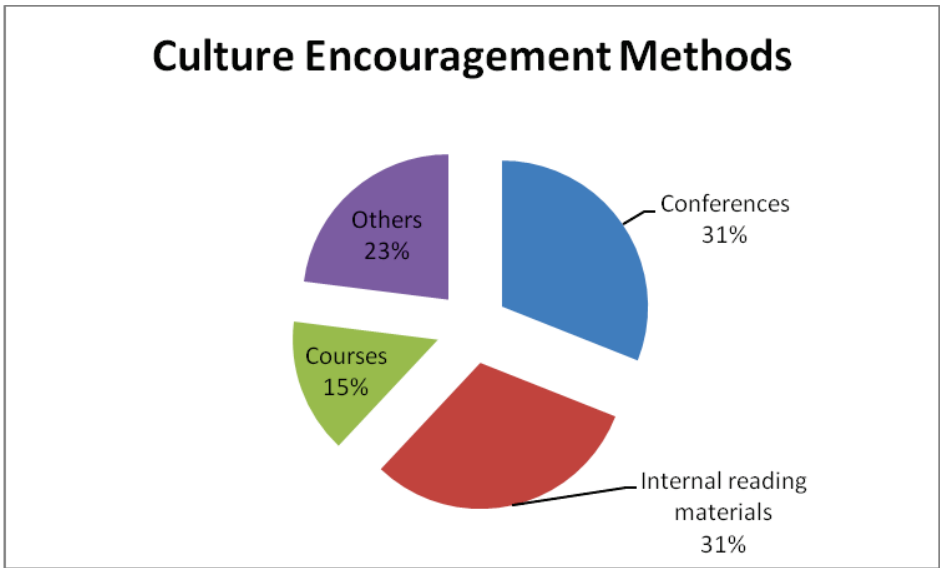
According to the research findings, the main risk meetings held in commercial banks are the Board risk meeting held quarterly and chaired by the Risk non-executive director, ALCO is done monthly, the Loan review meeting is held monthly, the Credit committee meets monthly and the Operational risk meetings are also done monthly. As expected, the names of the meetings differ in some institutions. Some of the meetings are chaired by the CEO and others are led by the Risk Director. The research also revealed that out of the 8 banks that responded, only 3 commercial banks have risk people who convene for a combined operational risk managers' meeting, representing a mere 23% for this critical meeting.

4.13 RISK CULTURE ENCOURAGEMENT

Risk culture is promoted in many ways. In the Zimbabwe banking sector, risk culture is encouraged through conferences (31%), internal reading materials (31%), courses that also include e-learning (15%) and other ways that could be meetings, informal

discussions and management leading by example (23%). The research outcome on how banks are embedding risk culture can be summarised as follows:

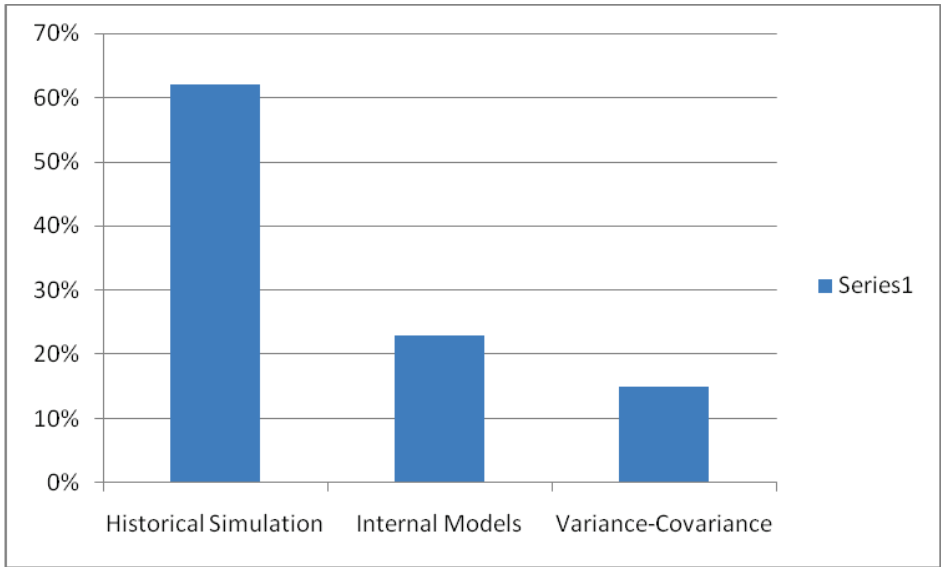
Figure 4.6 Risk culture promotion methods



4.14 VAR CALCULATION METHODOLOGY

Value-at-Risk is calculated on all portfolios and local commercial banks appreciate that fact. The method of calculation however, differs from one bank to another. The respondents use the Historical simulation method, apply internal models and are using the Variance-Covariance method representing 62%, 23% and 15% respectively.

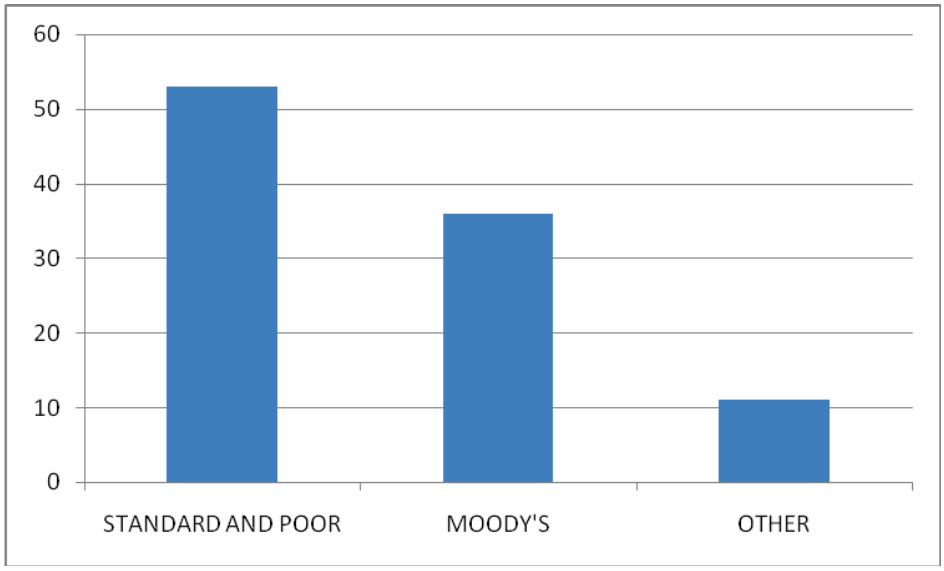
Figure 4.7 VAR Calculation method



4.15 CREDIT ASSESSMENT METHOD

The research also sought to ascertain the common credit rating models that have been in use for the past couple of decades and they are mainly Standard and Poor (S & P), and Moody's. With the continuous failure of banks in the recent past, people have started using other options. Internal rating models are now widely used locally and internationally. The results of the findings are shown below:

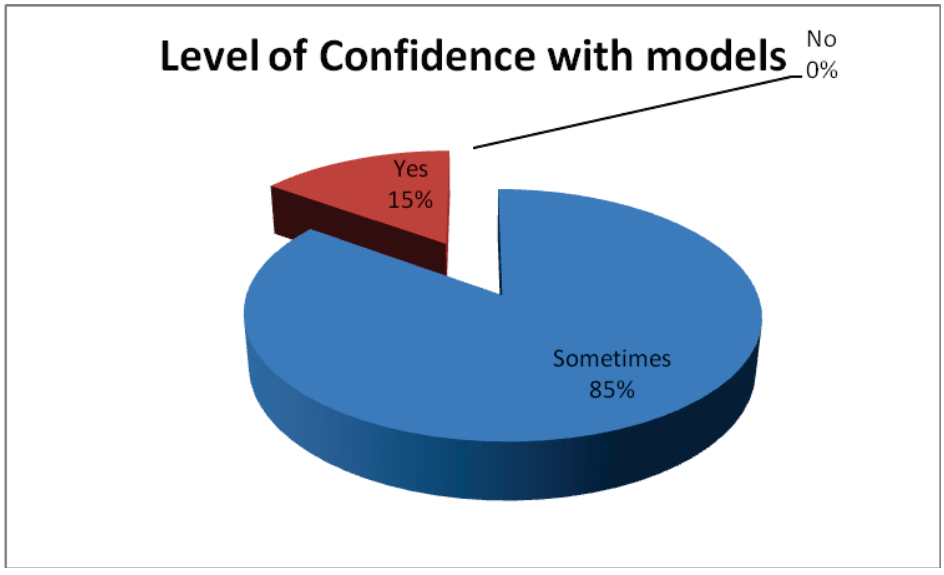
Figure 4.8 credit assessment methods



4.16 CONFIDENCE WITH MODELS

The banks that participated in the survey confirmed the level of confidence they have on the models. 85% advised that models can sometimes be relied on whilst only 15% expressed their full support on models as shown below.

Figure 4.9 - Confidence with models



Below are some of the comments from respondents:

1) Models are a bit on the technical side and there is need to include other fundamentals such as economic metrics prevailing in a particular country or region to come up with meaningful results.
2) Models work within various parameters that are easily violated without users' knowledge.
3) Models should be used within the context of the model assumptions
4) Models provide an informed indicator of the direction of risk but the results should be taken with a pinch of salt. Back testing should be done periodically

4.17 MODEL BACK TESTING

Back testing is a test for model functionality and involves comparing output from the model and what is expected probably based on an individual's experience. According to the research results, respondents argue that models should be back tested once every six or twelve months depending on the type of model.

4.18 BEST RISK MANAGEMENT PRACTICES

There is no one formula for survival in the banking industry. From the researcher's experience, banking is a zero tolerance area when it comes to the conduct of bank business. This means that banks should always operate within guidelines and spelt out statutes. There are certain documents such as the Internal Capital Adequacy Assessment Process (ICAAP), the Crisis Management plan and various other such guidelines that are recommended for each financial institution as a starting point.

This research reveals that all Zimbabwe commercial banks have these setups in place. Banks however, continue to fail because they do not do the basics of banking right. Short cuts are a common phenomenon as people focus on revenue at the expense of sound risk

management practices. The top team involved in formulating the risk management framework overturn their strategies due to greediness especially on loans and banks have continued to fail for this reason. Banks are also losing forecast due to rapid changes in the industry and are simply caught unaware. Undercapitalization and liquidity challenges leave some banks with no other option except to close.

It is therefore a fact that banks should be adequately capitalized, should have trained staff, should do the basics right, should be regularly audited, should be transparent in their dealings, innovative and should obviously move with time. The list is not exhaustive but it is important to be ahead of the changing curve.

4.19 CHAPTER SUMMARY

This chapter was initiated by analyzing the samples which were under consideration. The demographics of the data samples, distribution of questionnaire and the final response were presented in tables, pie charts and in bar graphs. The composition of the respondents was briefly introduced. A detailed illustration of responses according to the different variables was given, with supporting statistical analysis. Finally all findings were presented in a summarized format and conclusions and recommendations would be discussed in the next chapter.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

5.0 INTRODUCTION

This final chapter summarises the study and concludes the findings for each objective. Recommendations are also included and it is hoped that they will be of great use in Zimbabwe banking industry.

5.1 CONCLUSIONS

Banks cannot be immune from taking risk on the one hand, and on the other, no organization is immune to risk. Willingly or unwillingly, banks face several types of risks and as such, risk management should not be overlooked. Risk management is very important if an organization is to avert failure and remain in business. From the research findings, the following conclusions can be drawn about risk management in Zimbabwe commercial banks:

- There is commitment and support from top management regarding risk issues in banks. It is pleasing to note that top-level management responds to business processes and are actively involved in managing risks of the bank. Banks have a common understanding that it is the responsibility of the Board of Directors through the Board Risk Committee to establish risk management policies and guidelines. Top management decides the objectives and strategies for organizational risk management activities, mission and vision. Whilst the risk framework is in place, it is the follow up on processes and procedures that lacks and results in bank failures.

- Most of the respondents indicate that their banks have documented risk management guidelines and the respondents understand them. The banking environment is always

changing and most of the respondents acknowledge that fact. In the circumstances, it is an agreed fact that policies and procedures should be reviewed regularly and adjusted to adapt to the changing environment. The use of obsolete models that do not capture parameters in the changing environment puts banks at risk of collapse.

- The research summarizes that banks use different risk management tools, techniques and assessment models to manage their risk. It is however, noted that models are good but they should be complimented with qualitative information, that is, acceptable reasons why things are happening this or that way. The models should also be back-tested and over-reliance on the models is a recipe for disaster as models are not sensitive to all changes, for example, inflationary pressures.

- Furthermore, the study also shows that a comfortable level of capital is good but much higher capital requirements paralyze some institutions as evidenced by past bank failures locally and abroad.

- Since the purpose of capacity building is to improve knowledge, skill and attitudes to job satisfaction, the banks provide training for employees at least once per year as agreed by most of the respondents. Product knowledge as well as industry trends are therefore key to avert a scenario where a bank fails due to competition.

- Based on the recommended best practices from respondents, it can be generalised that Zimbabwe commercial bank risk units are manned by knowledgeable people. It must however, be emphasized that the best prescription for ensuring future survival is doing the basics right as spelt out in regulatory manuals that include the banking act and the risk management framework.

- The message that came out of interviews upon further probing is that the level of non-performing loans is high in some financial institutions and such information is not being disclosed. Furthermore, some institutions are under pressure to meet revenue targets and risk management is being compromised in the process.

5.2 **RECOMMENDATIONS**

Based on the findings, the researcher would recommend that the banks could establish a risk management team that should be responsible for the following actions that will help in minimizing risk:

- Establish external credit rating agencies to obtain the true information of the clients and use modern credit evaluation techniques like Altman Z score. Furthermore, banks should invest in information technology to store the data and ensure the information is available when needed at the click of a button.
- Since credit and liquidity risks were singled out as the most important risk types that will easily fail banks, information about the bank's credit exposure and liquidity gaps must be presented to management in time. In addition, banks should grant approval authority to qualified and experienced individuals.
- As part of Corporate governance, policies and standards that conform to regulatory requirements and bank operations in general should be followed through on a regular basis. This includes prudent lending with adequate capital. The culture of performing independent dip-sticks by fellow employees, auditors and regulators should be an on-going event. Ideally, the Central Bank should make time to inspect financial institutions even when there are no signs of distress. Best practice dictates that audits be done at least annually.
- Local banks should embrace modern risk management techniques and fully adhere to Basel accords and any further promulgations. This includes abiding by disclosure requirements as lack of transparency will not correct the situation but worsen the position that might lead to bank failure.
- Risk managers should form a body similar to Dealers' forum where risk developments and best practices are shared.

REFERENCES

1. Alexander, C. and Sheedy, E. (2005), The Professional Managers' Handbook. Premia Publications.
2. BancABC, (2011), Banking sector half year Financial results review.
3. Bank Risk Management article on www.treasury-management.com Accessed 6 January 2012
4. Basel Committee's response to the financial crisis (2010): Report to the G20 on www.bis.org, Accessed 30 December 2011
5. Basel Committee report on stress testing (2010), on www.bis.org, Accessed 30 December 2011
6. Basil, J. (2002), Risk Management in Banking, 2nd edition, John Wiley & Sons Ltd, West Sussex
7. Birkbeck, K. (2000), Realizing the Rewards of Risk Management, McGraw Hill
8. Borodovsky, L. (2000), Practitioner's Handbook of Financial Risk Management, Butterworth-Heinemann publishers.
9. Borodzicz, E. (2005), Risk Crisis and Security Management. John Wiley & Sons
10. Brown, G.W. (2010), Seeking security in a volatile world, Prentice Hall
11. Bryman, A. and Bell, E. (2007), Business Research Methods, 2nd edition, New York, Oxford University Press
12. Butterworth, M. (2001), The emerging role of the risk manager, McGraw Hill
13. Cannon, T. (1999), A Guide to Integrated Risk Management, London AIRMIC
14. Carroll, T. (2008), The Basel II Handbook. SCB Internal publication
15. Chagwiza, W. (2012), The Role of Financial Intermediaries in Zimbabwe's Economic Recovery: A Robust Analysis.
16. Conley, J. (2002), Waves of Future Risk Management, John Wiley & Sons
17. Cooper.J and Schindler, R. (2001), Business Research, 3rd edition, New York: Palgrave Macmillan
18. Danielson, J. and deVries, C.G. ((1997), Extreme returns, Tail estimation and Value at Risk. University of Iceland

19. Davutyan, N. (1989), Bank Failures as Poisson Variables, Economic Letters
20. De Jonghe, O. (2010), Back to the Basics in Banking, A Micro-analysis of Banking System
21. DeLoach, J. (2005), Enterprise-Wide Risk Management, Prentice Hall
22. Diamond, D.W. and Rajan R.G. (2001), Liquidity Risk, Liquidity Creation, and Financial Documentation on Eurosystem monetary policy instruments and procedures.
23. Dorfman, M.S. (2007), Introduction to Risk Management and Insurance. Prentice Hall
24. Drehmann M. and Tarashev N. (2011), Systemic Importance: Some Simple Indicators, Bank for International Settlements Quarterly Review, Bank for International Settlements, March.
25. Dwyer, D. and Qu S. (2007), Model Enhancements, Moody's.
26. Ellul, A. and Yerramilli V. (2010), Stronger Risk Controls, Lower Risk: Evidence from U.S. Bank Holding Companies, NBER Working Paper Series.
27. Erkens, D., Hung M. and Matos P. (2009), Corporate Governance in the 2007-2008 Financial Crisis: Evidence from Financial Institutions Worldwide, Finance Working Paper.
28. European Central Bank (2009), Financial Stability Review, Frankfurt.
29. Firm Wide Risk Management article on www.sas.com/industry/financial-services/banking/firmwide-risk/index.html Accessed 12 January 2012
30. Fowler, T. (1984), Applied Business Statistics: Methods and Applications, The Rastica Press, Ndabeni, Cape.
31. Gil-Diaz, F. (2008), The Origin of Mexico's 1994 Financial Crisis, The Cato Journal, vol.17
32. Gruening, H.V. (2009), Analyzing Banking Risk, Wiley-Interscience press
33. Hanke, S.H. (2008), Zimbabwe: From Hyperinflation to Growth, The Cato Institute Development Policy Analysis, No. 6.
34. Hanley, M. (2005), (Lowering Exposure by spreading the risk, McGraw Hill
35. Heffernan, S., (2005), Modern Banking, John Wiley & Sons Ltd, West Sussex.

36. Herrero, A.G. (2003), Determinants of the Venezuelan Banking Crisis of the Mid 1990s
37. Hereth, M.L. (2000), Beyond the Box in Risk Management, University of Cambridge
38. Hopkin, P. (2010), Fundamentals of Risk Management. John Wiley & sons
39. International Journal of Academic Research (2010), Risk Management Practices on www.ijar.lit.az Accessed 6 January 2012
40. Jeucken, M., H., A., and Bouma, J., J., (1999) The Changing Environment of Banks, McGraw Hill
41. Jorion, P. (2003), Financial Risk Manager handbook, 2nd Edition. John Wiley & sons
42. John, W. and James, P. (1993), Research Concepts, McGraw Hill
43. Kane, E.J.; Rice, T. (2006), Bank Runs and Banking Policies: Lessons for African Policymakers.
44. Kendall, R. (2004), Risk Management for executives, Prentice Hall
45. Knight, R. and Pretty, D. (2008), Philosophies of Risk, Michigan University Press
46. Lancaster, J. (2005), Principles of research in Behavioural science, 2nd Edition, McGraw Hill, Montreal
47. Love, N. (2002), Using Data / Getting Results, Northwood, MA: Christopher-Gordon Publishers
48. Mason J.M. (2010), Future of Risk Management in Banks, McGraw Hill
49. McDonald, L. (2011), A new world of risks, Prentice Hall
50. Mehran, H. and Thakor A.V. (2011), Bank Capital and Value in the Cross-Section, Review of Financial Studies.
51. Mian, A. and Sufi A. (2009), The Consequences of Mortgage Credit Expansion: Evidence From the U.S. Mortgage Default Crisis, Quarterly Journal of Economics.
52. Miccolis, J.A. (2002), Enterprise Risk Management in the Financial Services Industry, Prentice Hall
53. Miller, R. (1998), The Importance of Credit Risk Management, McGraw-Hill
54. Mitroff, I. (2006), The Essentials of Crisis Management, McGraw-Hill

55. MMC Capital Investment research (2010), Zimbabwe banking sector performance and competitive analysis as at 31 December 2009 on www.mmccapitalzim.com Accessed 21 November 2011
56. Munves, D., Hamilton D. and Gokbayrak O. (2009), The Performance of EDFs since the Start of the Credit Crisis, Moody's Analytics.
57. Nijskens, R. and Wagner W. (2011), Credit Risk Transfer Activities and Systemic Risk: How Banks Became Less Risky Individually But Posed Greater Risks to the Financial System at the Same Time, Journal of Banking and Finance.
58. Njanike, K. (2009), The Impact Of Effective Credit Risk Management On Bank Survival Economics Vol. 2
59. Oracle Financial Services journal (2009), Managing Capital Adequacy with the Internal Capital Adequacy Assessment Process (ICAAP) - Challenges and Best Practices
60. Pyle, D.H. (1997), Bank Risk Management Theory, University of California
61. Rajan, R.G. (2005), Has Financial Development Made the World Riskier?, National Bureau of Economic Research Working Paper Series.
62. RBZ Bank failures review (2006), RBZ Supplement1
63. RBZ RMF (2006), Bank Licensing Supplement, BSD2
64. RBZ Supervision Guideline (2007),Guideline No. 02-2007/BSD: Consolidated Supervision Policy Framework
65. Regester, M. and Larkin, J. (2004), Risk Issues and Crisis Management; 2nd Edition
66. Reinhart, C. M. and Rogoff K.S. (2009), This Time Is Different: Eight Centuries of Financial Folly, Princeton University Press.
67. Risk Management Techniques journal on www.ehow.com/list-6604010-risk-management-banks.html Accessed 18 January 2012
68. Robert, G. (2008), Risk Management ,3rd Edition, Willey and Sons, New York ,USA
69. Saha, S. K. (2010), Role of banks in Indian economy. Calcutta Business School, West Bengal, Macro-economic Research Paper.
70. Saint Mary's University of Minnesota, (2004); Periodic journal

71. Saunders, A. (1999), Financial Institutions Management: A Modern Perspective, Irwin Publishers, Illinois
72. SCB Bank failures survey, (2011); Ad hoc journal
73. SCB Risk Radar, (2008); Annual risk focus
74. SCB Risk Radar, (2009); Annual risk focus
75. SCB Risk Radar, (2010); Annual risk focus
76. Schuermann, T. et al, (2008), Risk Management Practices, McGraw-Hill
77. Schweser, K. (2010), Ethical and Professional Standards, and Quantitative Methods, McGraw Hill
78. Senior Supervisors Group newsletter, (2008) on http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf
79. Shleifer, A. and Vishny R.W. (2010), Unstable Banking, Journal of Financial Economics, Issue 3.
80. Sidat, A.D. (2005), Business Research Projects, 4th edition, Yorkshire: Thomson Learning
81. Somashekar, N. T. (2009), Banking. New Age International Limited
82. Stiroh, K.J. (2004), Diversification in Banking, John Wiley and Sons
83. Strongman, S. (2009), Risk Management Among GCC Banks
84. Stulz, R. (2000), Diminishing the Threats to Shareholder Wealth, Cambridge University Press
85. Stoner, J.A.F. (2002), Management, 8th Edition, New Jersey, Prentice Hall
86. The Financial Crisis newsletter (December 2008) on www.fsa.gov.uk Accessed 4 January 2012
87. The Herald (20 January 2012), The Zimbabwe Banking sector safe, Zimpapers
88. Tilman, L. (2010), Financial Darwinism, University press
89. White, L. and Herman, M. (2003), Leaving nothing to chance, John Wiley and Sons
90. Whitney, S. (2000), Managing Internal risks, John Wiley and Sons

91. Wolters Kluwer Financial services journal, (2010), Essential Components of ICAAP, on http://www.frsglobal.com/news_and_events/essential-risk-components-of-icaap.html Accessed 3 February 2012
92. Young, J. (2006), Operational Risk Management, South Africa: Van Schaik Publishers
93. Young, J. (2011), Risk Management Guide, University of South Africa
94. Young, P.C. and Tippins, S.C. (2000), Managing business risk, AMACOM Printers
95. Zarb, F.G. (2005), Navigating the Risk Financing Frontier, McGraw Hill, Montreal
96. Zikmund, W.G. (2003), Business research Methods, 7th ed, Thomson, South-Western, Australia
97. Zimbabwe Independent newspaper, (2011), Renaissance bank under curatorship

APPENDIX A

Research Introductory letter

GRADUATE SCHOOL OF MANAGEMENT
UNIVERSITY OF ZIMBABWE

Topic: **Risk Management in Financial institutions, the case of Zimbabwean commercial banks**

My name is Rawlet Mugodo, an MBA Student with the Graduate School of Management, Faculty of Commerce, University of Zimbabwe. I am currently conducting a dissertation research study on the above topic.

I would appreciate if you could spare some time to complete this questionnaire. There is no right or wrong answer and it is your factual response that matters. All the information and views that you give will be treated in strict confidence.

Thank you in advance for your time and assistance

Rawlet Mugodo
0773 912163

APPENDIX B

QUESTIONNAIRE FOR BANK STAFF

A. DEMOGRAPHICS

1. **Bank** _____

2. Length with the organisation

a) Less than 1 year [ ]

b) 1-5 years [ ]

c) 6-10 years [ ]

d) Above 10 years [ ]

3. Level of education

a) Primary education [ ]

b) Secondary school [ ]

c) High School [ ]

d) University or higher [ ]

B. RISK MANAGEMENT

4. Who has the authority to establish risk management in policy or procedure in your organization?

□ Chief executive officer (CEO)

□ Chief financial officer (CFO)

□ Board/ Risk committee

□ Executive management committee

□ Internal auditor

□ Staff

□ Other (please specify:

Does your bank have a documented risk management guideline or policy?

□ Yes

□ No

Does the guideline support the goals and objectives of bank risk management?

□ Yes

□ No

Do you understand the risk management guidelines or policies?

□ Yes

□ No

7. How often does your organization change its guidelines or policies to manage risks?

□ Once per year

□ Once per two years

□ Once in more than two years

□ Never

8. Does your organization offer training for employees?

□ Yes

□ No

9. How often does your organization provide risk management training courses?

□ Never

□ 1 times per year

□ 2 times per year

□ More than 2 times per year

10. Does the bank use Altman Z score for credit evaluation?

□ Yes

□ No

11. Does the bank have internal credit rating system?

□ Yes

□ No

12. What are the banking risks that your bank consider are the most important to focus on in order to protect the organization from adverse consequences?

□ Credit Risk

□ Liquidity Risk

□ Market Risk

□ Operational Risk

□ Foreign Exchange Risk

□ Interest Rate Risk

13. Does your bank believe that risk management should be a primary or a secondary function of a banking organization?

□ Primary

□ Secondary

14. Which techniques does your bank use in order to identify its risks?

□ Business studies or key risk indicators which look at each business process and describe both the internal processes and external factors which can influence those processes

□ Auditing and inspection

□ Risk assessment workshops

□ Scenario analysis

□ Industry benchmarking

□ Brainstorming

□ Incident investigation

□ Questionnaire

15. How does your bank benefit from the management of operational risk?

□ Limited frauds due to customers and personnel

□ Adequate function of systems and IT

□ Reduced internal wrongs which affect the net income

□ No obstacles to other bank activities

□ No linkage of confidential information

□ No violation of duties

16. How does your bank benefit from the management of market risk?

□ Limit the risks of other associated risks such as interest rate, foreign exchange or liquidation risks

□ Be immunized against adverse economic forces

□ Be protected from high cost of borrowing financial products

5 Point Likert Scale

17. Using a 5 point Likert scale please tick where appropriate box concerning your agreement or disagreement for the following statements:

1= Strongly Disagree

2= Disagree

3= Neither agree or Disagree

4= Agree

5= Strongly Agree

18. Your bank follows a strict risk management process in order to be immunized from adverse consequences

1	Strongly agree	2	Agree	3	Neutral	4	Disagree	5	Strongly disagree

19. Every bank employee should be involved in bank risk management processes.

1	Strongly agree	2	Agree	3	Neutral	4	Disagree	5	Strongly disagree

20. Specialized staff and new methods are used by the bank to enhance the risk management process.

1	Strongly agree	2	Agree	3	Neutral	4	Disagree	5	Strongly disagree

21. Due to the use of advanced Risk Management, your bank has raised its revenues.

1	Strongly agree	2	Agree	3	Neutral	4	Disagree	5	Strongly disagree

End of questionnaire

Thank you for completing this questionnaire