First line of defence risk-based decision making in a South African non-life insurer

B Lindi



orcid.org 0000-0001-5826-2829

Mini-dissertation accepted in fulfillment of the requirements for the degree *Master of Commerce in Applied Risk Management* at the North-West University

Supervisor: Prof H Zaaiman

Examination: May 2024

PREFACE

This mini-dissertation is the final deliverable for the Master of Commerce (MCom) in Applied Risk Management. The mini-dissertation was written in article format and consists of three sections: Research project overview; Article; and Reflection.

This mini-dissertation is the student's work. The student was responsible for the final concept, set up, execution of the research project and writing of the mini-dissertation. The members of the supervisory team contributed in an advisory and technical support capacity to the study's conception and design, analysis and interpretation of data, and critical revision of the manuscript. The mini-dissertation was language edited before submission for examination. However, the student is responsible for doing these edits, and for the grammatical correctness of the final document.

The main study supervisor gave the student permission to submit this mini-dissertation for examination.

ABSTRACT

The non-life insurance industry engages in calculated risks, guided by risk-based decision decision-making process, to fulfil policyholder obligations and ensure long-term sustainability. Despite the extensive literature on risk-based decision making (RBDM) in sectors such as manufacturing, engineering, and environmental management, there is a noticeable scarcity of studies exploring these principles within the first line of defence in the non-life insurance industry, especially in the South African context. Recognising this gap, there is a clear need for additional insights to enhance the inclusion of risk in decision making for short-term insurers. The objective of this study was to examine how first line of defence managers integrate risk into decision making within this South African non-life insurance company. The study's threefold research objectives aimed to explore how the first line of defence managers incorporate risk into decision making, identify challenges in integrating risks into decisions crucial to organisational objectives, and propose improvements for including risk in such decisions. Qualitative data, collected through semi-structured interviews with the representatives from all three lines of defence, highlighted a consensus on the importance of integrating risk into decision making. Various strategies were identified for keeping risk at the forefront, tailored to the nature of the decision at hand. However, challenges arising from the volatile and uncertain environment significantly influenced the integration of risk considerations into decision-making process. Despite time-related study limitations, this study serves as a foundational exploration into risk integration within the non-life insurance industry, particularly by the first line of defence, even in general RBDM. It paves the way for future research and suggests possibilities for extending the study to encompass various financial services sectors, including life insurance. Furthermore, it proposes delving deeper into challenges faced by the first line of defence when incorporating risk into decision-making process.

Keywords: *lines of defence, first line of defence, risk-based decision making, non-life insurance, risk, risk assessment*

ACKNOWLEDGEMENTS

To my friends and family, thank you so much for always being there for me. Your support, patience, and belief in me kept me going. I am grateful for the strength you gave me. I want to express my heartfelt gratitude to my incredible wife and daughter. Your unwavering support during my studies and the countless late nights have been my anchor.

I want to say a big thank you to my classmates for being great friends and sharing experiences that made my time during the last two years so special. We worked together and made learning fun. I am grateful for the friendships and networks I have built. A special mention to Msizi Gumede who kept me on the positive when I felt like I was losing touch with my studies, your support and words of advice kept me going.

A special thanks to my supervisor for being patient and guiding me through my studies. Their support meant a lot, and the advice they gave me helped me a lot with my research. This appreciation is extended to the facilitators of the program who walked the journey with us from start to finish.

I would like to express my gratitude to my previous employer, for giving me the opportunity to participate in this Master's program. I am also thankful to my current employer for allowing me the time to attend and complete the program. I want to extend my appreciation to my colleagues who took time out of their busy schedules to participate in the study. All your support and flexibility played a crucial role in helping me balance work and school life.

This journey was a team effort, and I appreciate everyone who supported and encouraged me along the way.

TABLE OF CONTENTS

PREFACE 1

ABSTRACT 2

ACKNOWLEDGEMENTS 3

TABLE OF CONTENTS 4

LIST OF TABLES 5

LIST OF FIGURES 5

LIST OF APPENDICES 5

CHAPTER 1: RESEARCH PROJECT OVERVIEW 6

CHAPTER 2: ARTICLE 9

- **ABSTRACT** 9
- **INTRODUCTION** 10
- **BACKGROUND** 12
- **METHOD** 20
- **RESULTS AND DISCUSSION** 24
- **CONCLUSION** 39
- **REFERENCES** 41

CHAPTER 3: REFLECTION 43

APPENDICES 45

- **APPENDIX A: INTERVIEW GUIDE** 45
- **APPENDIX B: INFORMED CONSENT FORM** 49
- **APPENDIX C: STUDY CONTRIBUTION TO THE ORGANISATION AND SUMMARY OF FINDINGS DASHBOARD** 53

LIST OF TABLES

Chapter 1

Table 1: Role players in the first line of defence risk-based decision making in a South African non-life insurer study.

Chapter 2

Table 1: The three lines of defence.
Table 2: Literature used to formulate the background section.
Table 3: List of the demographic variables required for this study.
Table 4: Sample of participants who agreed to be part of the study.
Table 5: Overview of perspectives on risk-based management, decision types requiring risk consideration, and approaches to risk in decision making.
Table 6: Summary of challenges in integrating risk into decision making.
Table 7: Summary of improvements to risk-based decision making.

LIST OF FIGURES

Chapter 1

Figure 1: The governance objective: value creation
Figure 2 : Definitions of risk
Figure 3: The original three lines of defence model

LIST OF APPENDICES

Chapter 1

Appendix A: Interview Guide
Appendix B: Informed Consent Form

Chapter 3

Appendix C: Study contribution to the organisation and summary of findings dashboard

CHAPTER 1: RESEARCH PROJECT OVERVIEW

This section provides a brief introduction to the mini-dissertation by describing the context of the research project.

How does this study fit into the field of risk management?

During the past decade, the South African (SA) non-life insurance industry has experienced several incidents that may signal concerns regarding the robustness of their risk management processes and their application of risk-based decision making (RBDM), to achieve organisational goals. Some of the cases include Saxum Insurance (Faurie, 2016), Lion of Africa (Faurie, 2018) and most recently Constantia Insurance (Bechard, 2022). As described in the research article, RBDM plays a crucial role in risk management. It is a method that involves the systematic identification, evaluation and inclusion of potential risks when making decisions in an organisation. This study makes a valuable contribution to the existing body of knowledge on risk management and decision making by enhancing the studied organisation and researcher's understanding of how risk is integrated into the decision-making processes by a business's first line of risk defence.

The primary contribution of this study to the existing literature lies in its exploration of risk integration in the non-life insurance industry, specifically focusing on the first line of defence and extending to general RBDM. It not only sets the stage for future research but also recommends potential avenues for expanding the study to include diverse financial services sectors, such as life insurance. Additionally, the study suggests the need for a more in-depth examination of the challenges confronted by the first line of defence in integrating risk into the decision-making process. The study provides the studied organisation with valuable insights into areas that can be improved to strengthen RBDM. Through an examination of the current approach to RBDM and the identification of challenges faced by the first line of defence, this study enables the organisation to identify specific areas requiring improvement and reinforcement of RBDM practices. It explores the organisation's strategies for integrating risk decision-making and delves into the nuanced understanding of RBDM across different lines of defence.

Who are the intended audiences for the article?

A study focused on RBDM in the non-life insurance industry can offer valuable insights and benefits to the following stakeholders.

a) First Line of Defence Leadership: Senior management and decision makers within insurance companies may acquire valuable knowledge aimed at elevating risk management and improving their decision-making process.
b) Second and Third Lines of Defence: Professionals entrusted with risk management and risk oversight responsibilities in insurance organisations may enhance their knowledge of the

challenges experienced by the first line of defence when having to consider risk in decision making.

c) Academic Researchers: Scholars and researchers specialising in the field of risk management and insurance can leverage the study's findings to extend the existing knowledge base and make significant contributions to ongoing research within the sector.

Selection of specific topic (Why did the student decide to study this specific topic?)

I am confident in the novelty of this research in the non-life insurance sector. The study outcomes confirmed my initial expectation that such a study has the potential to significantly advance the current knowledge base, spark discussions on decision making informed by risk, and lay a sturdy foundation for future research initiatives.

In the non-life insurance industry, the significance of decision making based on risk cannot be overstated, as this sector fundamentally revolves around decisions related to risk management and mitigation. As insurance providers bear the responsibility of shielding policyholders from unforeseen financial consequences, precise risk assessments and proactive risk management decisions are absolute imperatives for ongoing success. Additionally, by embracing decision making grounded in risk, insurers can align their strategies with the ever-changing landscape of market dynamics and evolving consumer preferences. This not only fortifies their competitive advantage but also paves the way for sustainable growth.

Journal selection

Two journals were selected for possible publication of this article. These two publications were selected because of my interest in risk management, and because I have always been employed in the non-life insurance sector. Details of the journals are noted below.

1) The *Journal of Risk Research* was selected due to its specialisation in publishing the latest theoretical and empirical applied risk research, along with commentaries on risk communication, regulation, and management.
2) The *Journal of Risk and Insurance* is dedicated to publishing rigorous and original research in insurance economics and risk management. It focuses on the following areas of expertise:
    a) Industrial organisation of insurance markets;
    b) Risk management in both the private and public sectors;
    c) Insurance finance, financial pricing, and financial management;
    d) Economics of employee benefits, pension plans, and social insurance;
    e) Utility theory, demand for insurance, moral hazard, and adverse selection;
    f) Insurance regulation;
    g) Actuarial and statistical methodologies; and
    h) Economics of insurance institutions.

To learn more about these journals, please visit their website at:

https://www.tandfonline.com/action/journalInformation?show=aimsScope&journalCode=rjrr

https://www.jstor.org/journal/jriskinsurance20

Contributors to the research project

This study provided the researcher with an opportunity to learn how to conduct an applied research project, demonstrating mastery at the master's degree level within a research team context. The responsibilities of the various role players in this research project are outlined in Table 1.

Table 1: Role players in the first line of defence risk-based decision making in a South African non-life insurer study

#	Team member	Role
1	Researcher	The researcher is the fundamental research instrument. His role was to define the problem and select appropriate methods for collecting and analysing the research data, executing the study, and communicating the research outcomes.
2	Supervisor	The supervisor acted as a mentor and guide, providing expertise, guidance, and support throughout the research process. Her role was crucial in making sure the research projects are well-organised, conducted with integrity, and result in valuable contributions to the field of study, considering the limits of a mini-dissertation study.
3	Editor	She advised during article writing workshops and did a pre-final grammar-only edit of the mini-dissertation.

References

Bechard, M. (2022). *Constantia Insurance goes into final liquidation*. moonstone. Retrieved 21 October 2022 from https://www.moonstone.co.za/constantia-insurance-goes-into-final-liquidation/

Faurie, J. (2016). *Liquidation of saXum Insurance*. FA News. Retrieved 20 October 2022 from https://www.fanews.co.za/article/compliance-regulatory/2/financial-sector-conduct-authority-fsca-was-fsb/1059/lliquidation-of-saxum-insurance/21207

Faurie, J. (2018). *Lion of Africa to close its doors*. FA News. Retrieved 20 October 2022 from https://www.fanews.co.za/article/company-news-results/1/lion-of-africa/1248/lion-of-africa-to-close-its-doors/25797

CHAPTER 2: ARTICLE

First line of defence risk-based decision making in a South African non-life insurer

Abstract

The non-life insurance industry engages in calculated risks, guided by risk-based decision decision-making process, to fulfil policyholder obligations and ensure long-term sustainability. Despite the extensive literature on risk-based decision making (RBDM) in sectors such as manufacturing, engineering, and environmental management, there is a noticeable scarcity of studies exploring these principles within the first line of defence in the non-life insurance industry, especially in the South African context. Recognising this gap, there is a clear need for additional insights to enhance the inclusion of risk in decision making for short-term insurers. The objective of this study was to examine how first line of defence managers integrate risk into decision making within this South African non-life insurance company. The study's threefold research objectives aimed to explore how the first line of defence managers incorporate risk into decision making, identify challenges in integrating risks into decisions crucial to organisational objectives, and propose improvements for including risk in such decisions. Qualitative data, collected through semi-structured interviews with the representatives from all three lines of defence, highlighted a consensus on the importance of integrating risk into decision making. Various strategies were identified for keeping risk at the forefront, tailored to the nature of the decision at hand. However, challenges arising from the volatile and uncertain environment significantly influenced the integration of risk considerations into decision-making process. Despite time-related study limitations, this study serves as a foundational exploration into risk integration within the non-life insurance industry, particularly by the first line of defence, even in general RBDM. It paves the way for future research and suggests possibilities for extending the study to encompass various financial services sectors, including life insurance. Furthermore, it proposes delving deeper into challenges faced by the first line of defence when incorporating risk into decision-making process.

Keywords: *lines of defence, first line of defence, risk-based decision making, non-life insurance, risk, risk assessment*

Introduction

Short-term insurers and their clients have experienced unprecedented challenges due to global financial crises, socio-political turbulence, the aftermath of COVID-19, and significant climatic disasters. In South Africa, a confluence of global and domestic factors compelled the non-life insurance industry (also commonly referred to as the short-term insurance industry) to reconsider its strategies pertaining to risk management and insurance (Forbes, 2023). The non-life insurance industry plays a crucial role in emerging economies such as South Africa, by providing protection against events impacting businesses, individuals, and governments (Alhassan & Biekpe, 2015). Insurance companies specialise in risk management, where they assume and mitigate risks from the broader economic landscape through pooling and hedging strategies. Proficient risk management therefore plays a pivotal role in an insurer's ability to fulfil its commitments to policyholders (FSCA, 2017a). However, short-term insurers are increasingly exposed to multiple systemic political, economic, social, technological, environmental, and legal (PESTEL) risks in a complex highly competitive, regulated landscape (Mazumder & Hossain, 2018). Risk refers to the likelihood of an uncertain event that could have a negative impact on achieving organisational objectives (Hardy & Maguire, 2018). To achieve these business objectives, an organisation's first line of defence—its business managers—must consider risks when making decisions that may negatively impact the attainment of these objectives.

Important insurance industry and regulatory developments between 2007 and 2018 have influenced the industry’s operational landscape. For example, Standard & Poor’s (S&P) introduced enterprise risk management (ERM) as a separate and distinct rating category for assessing the creditworthiness of insurance companies worldwide (Segal, 2011). In 2018, the South African Financial Sector Conduct Authority (FSCA) introduced Governance and Operational Standards for Insurers (GOI) as a comprehensive regulatory framework for evaluating the governance and operational robustness of non-life insurance companies. The GOI requires insurers to implement a risk management strategy, policies, procedures, and tools to effectively assess, monitor, report on, and mitigate significant risks that could potentially impact their ability to fulfil policyholder obligations (FSCA, 2017a). Furthermore, it requires insurers to conduct a forward-looking, risk-based own risk and solvency assessment (ORSA) to evaluate their solvency resilience by considering various scenarios, extending beyond typical risk assessments (FSCA, 2017b).

The above requirements have compelled insurers to improve their internal control environments by strengthening their risk management lines of defence and promoting accountability in the first line of defence (Kelly, 2017). The three lines of defence model operates on the principle that risk management constitutes a shared responsibility among all individuals within the organisation. It is deemed the most suitable model when it comes to identifying, understanding and linking risks to

strategic objectives, particularly in the context of today's rapid transformation in business models, and the evolving risk landscape (Shankar 2021). An organisation's first line of defence consists of the employees who are responsible for its day-to-day operations. They take responsibility for the design and execution of an organisation's risk controls and responses, such as inclusion of risk in decision making. This implies that they have the responsibility of implementing the company's strategy to achieve business goals. The second line of defence specialises in risk facilitation, supervision, and reporting tasks. The third line, represented by internal audit, assumes responsibility for providing independent assurance of the company's management of enterprise risks (COSO, 2015) .

It is essential for a non-life insurer to apply RBDM to achieve its objectives. Chisambara (2018) suggests that many businesses treat RBDM as an afterthought, recognising its importance only when a crisis occurs and then questioning the value of risk management and failure to anticipate events. RBDM aims to improve the quality of decisions by consciously considering uncertainties and potential risks, with the goal of minimising negative outcomes and maximising opportunities. So far, available literature on RBDM has focused on the manufacturing, engineering, and environmental management industries. However, no published studies could be found on how the principle of RBDM is applied by the first line of defence in the non-life insurance industry, including in the South African context. More knowledge on this topic is needed to assist short-term insurers in improving the inclusion of risk in decisions made by the first line of defence.

The aim of the present study was therefore to explore how first line of defence managers include risk when making organisational decisions that may negatively affect achieving objectives in a South African non-life insurance company. This aim translated into three research objectives:

1) Explore how first line defence managers include risk into decision making that may negatively impact achieving the insurer's organisational objectives;
2) Identify challenges to including risks in organisational objective-critical decisions; and
3) Suggest possible improvements to the inclusion of risk in such decisions.

This exploratory qualitative study was based on semi-structured interviews with a selected sample of first line defence managers and representatives from the second and third lines of defence within a short-term insurance company. The study's outcomes contribute significantly to the current body of literature on RBDM within the insurance sector and can inform future research. Furthermore, the insights gained offer valuable information to the organisation regarding employee perspectives on RBDM.

Background

This section presents fundamental concepts underlying this study on RBDM in the non-life insurance sector. Non-life insurers' main aim is to create value for their stakeholders. Such value creation includes realising organisational benefits efficiently while optimising resource allocation and risk management, as shown in Figure 1. These benefits can take different forms, such as generating profits for businesses or delivering public services by governments (ISACA, 2013). Organisations must have effective structures and processes, underpinned by strong risk management and internal controls, to enable objective realisation (Auditors, 2020). They also have a duty to use relevant and transparent criteria in their decision-making process to minimise risks at all levels and implement strategies and initiatives that support sustainable development (Rabenasolo & Zeng, 2012). Effective decision making is a key driver in the process of value generation within organisations. Every decision involves risk or uncertainty, meaning that all potential events that could negatively impact goal achievement must be considered (Boghean, 2020).

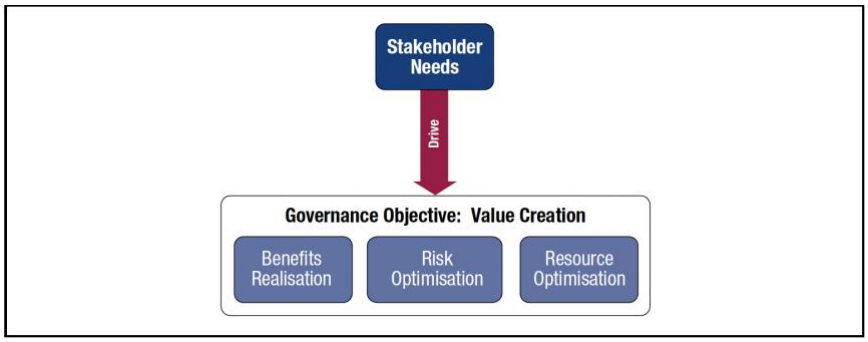


Figure 1: The governance objective: value creation (ISACA, 2013)

Organisational decision making

Decision making is the process of collecting and evaluating information to generate a set of potential outcomes while considering available resources and constraints. Every organisational decision is associated with a degree of risk, which can be low, medium, or high, depending on the uncertainties that influence the analysis (Demong & Lu, 2012). Decision making involves making choices by collecting information and evaluating different options and often involves multiple experts. Decision tasks are frequently complex, with many interconnected factors that complicate the decision-making process (Groves, 2021). This complexity is further compounded by conflicting interests and diverse backgrounds among experts (Mkrtchyan & Ruan, 2012). These challenges also do apply to insurance companies, including issues related to data availability and quality, handling missing values, addressing imbalanced datasets, ensuring the interpretability of model decisions, and achieving fairness in modelling outcomes (Sahai et al., 2022).

Risk and decision making are inherent and interdependent aspects of organisational management, influenced by multiple uncertainties. According to Gantz and Philpott (2013), every organisation encounters risks and uncertainties in achieving its goals, where risk is defined as the potential for an unfavourable outcome resulting from decisions, actions, or events that impact organisational operations.

Risk-based decision making

Lu et al. (2012) describe risk as the possibility that a decision will result in a loss or unfavourable outcome of objectives. This makes risk a crucial factor in corporate decision making, as suggested by Jarrett (2000). Insufficient awareness of risks, poorly structured problems, and ambiguous objectives can collectively contribute to unfavourable outcomes within an organisation, as pointed out by Zhu et al. (2021). Yoe (2019) asserts that individuals tend to rely on intuitive rather than analytical approaches when forming judgments and making decisions. Decision makers frequently rely on their memories, previous experiences, and connected associations. Decisions are also influenced by unconscious information such as cognitive biases. Kemshall (2021) adds that decision makers can face significant obstacles to making the right decisions due to personal biases and subjective errors in risk assessment and management responses. Bias refers to a tendency to favour or disfavour something or someone, which can impact the way people make decisions. In risk management decisions, subjectivity is inevitable due to uncertainty-based bias. This high likelihood of bias in risk-related decisions is linked to how our brains process risk-related information (Groves, 2021).

RBDM is defined by Auditors (2020) as a deliberate process that includes analysis, planning, action, monitoring, and review and takes into account the potential impacts of uncertainty on objectives. The RBDM process provides a defensible foundation for making decisions and aids in identifying and prioritising efforts to mitigate or eliminate the most significant risks (Zio & Pedroni, 2012). Morgan et al. (2022) suggest RBDM as an approach that utilises estimates of the likelihood and severity of harm (i.e., a risk estimate) to inform decisions; aligns risk estimates with the needs of decision-makers; and includes explicit consideration of uncertainty in the risk estimates. A variety of RBDM tools are available, including risk and uncertainty evaluations, risk acceptance criteria, and cost-benefit and cost-effectiveness analyses (Aven et al., 2007).

Risk

Risks can come from uncertainty in financial markets, project failures, legal liabilities, credit risk, accidents and natural disasters as well as deliberate attacks from an adversary (Kaya et al., 2012). Risk has different meanings to different people, and Figure 2 presents risk definitions from different

industry bodies. All activities of an organisation involve risks that should be managed. The risk management process aids decision making by taking account of uncertainty and the possibility of future events or circumstances (intended or unintended) and their outcomes on agreed objectives (ISO, 2009).

Organization	Definition of risk
ISO Guide 73 ISO 31000	Effect of uncertainty on objectives. Note that an effect may be positive, negative, or a deviation from the expected. Also, risk is often described by an event, a change in circumstances or a consequence.
Institute of Risk Management (IRM)	Risk is the combination of the probability of an event and its consequence. Consequences can range from positive to negative.
Orange Book from HM Treasury	Uncertainty of outcome, within a range of exposure, arising from a combination of the impact and the probability of potential events.
Institute of Internal Auditors	The uncertainty of an event occurring that could have an impact on the achievement of the objectives. Risk is measured in terms of consequences and likelihood.

Figure 2: Definitions of risk (Hopkin, 2018)

Risk management

Managing risks in decision making has become tougher than ever in today's complex and rapidly changing business environment (Lu et al., 2012). Effective risk management requires that the concept is embraced by the organisation, and that risk consideration should be a part of every business decision. This does not mean avoiding risks altogether; instead, it involves assessing risks and recognising the opportunities that can arise from them (Blunden, 2010). Effective decision-making plays a vital role in the successful implementation of risk management. Integrating risk management into the decision-making process represents a critical stride toward enhancing decision-making effectiveness (Lu et al., 2012). Businesses apply risk-based methods to evaluate hazards and reduce the effects of their impact. Through risk assessments, organisations can see how each part contributes to the overall systemic risk of the organisation, and helps them to make informed choices on where to focus improvements for risk reduction (Zio, 2018). Numerous decision-makers at the highest level perceive risk management as a distraction from performance management. They hold the belief that effective risk management necessitates relinquishing a certain degree of organisational performance (Groves, 2021).

Risk assessment

Risk assessment entails a systematic, step-by-step approach to evaluating risks. It helps determine the likelihood of a risk event and the potential consequences that may arise (Sahai et al., 2022). This process is crucial as it provides a structured method to identify how objectives may be affected through risk analysis, considering the impact and likelihood of risk events before deciding on the need for further treatment (ISO, 2009). Jarrett (2000) adds that risk assessment is a crucial process that enhances the understanding of issues and builds confidence in dealing with them effectively. It plays a vital role in decision making. This value is derived from conducting a thorough analysis, rather than relying on a few aggregated metrics. To make sound decisions, it is essential to ensure that they are based on solid evidence, supported by current research, and grounded in effective risk assessment tools and management techniques. This makes risk-related choices more often correct than incorrect (Kemshall, 2021). Various methods exist to assess, evaluate, or measure risk, which contribute to improved decision making. Some are quantitative while others rely on subjective judgments. These methods are intended to support human decision making (Lu et al., 2012).

The three lines of defence (TLoD)

The three lines of defence (TLoD) model has become the most common benchmark for assigning control and risk management responsibilities to business functions in an organisation (Minto & Arndorfer, 2015). The concept of TLoD clarifies the roles and responsibilities of various risk functions within an organisation (Hakim, 2017). Bantleon et al. (2020) elaborated further, stating that the TLoD model serves to improve coordination and communication on risk management and control. Table 1 summarises the way in which these lines of defence contribute to managing risk in an organisation, and Figure 3 depicts the structural model of the TLoD.

Table 1: The three lines of defence

Line of defence	Description
First line of defence (First LoD)	First line of defence management holds accountability for the company's outcomes and risks by establishing risk appetite, tolerance levels, and overseeing compliance (Doff, 2011). It comprises staff members accountable for the organisation's daily operations, with responsibilities extending to managing risks and overseeing the design and execution of controls to address those risks (COSO, 2015).
Second line of defence (Second LoD)	This line plays an oversight role to ensure that the First LoD manages organisational risk effectively. This LoD comprises various risk management and compliance functions and is functionally independent of the First LoD (Hakim, 2017). Wales (2018) further notes that, to enhance the credibility of these functions' effectiveness, they are often managed by specialists who maintain greater independence from line management..
Third line of defence (Third LoD)	This line provides senior management and the **board independent assurance** on a wide range of objectives, including the efficiency and effectiveness of operations. The main distinction

Line of defence	Description
	between Third LoD and other two lines is their independence implying no involvement at all in risk management and business activities (Hakim, 2017).

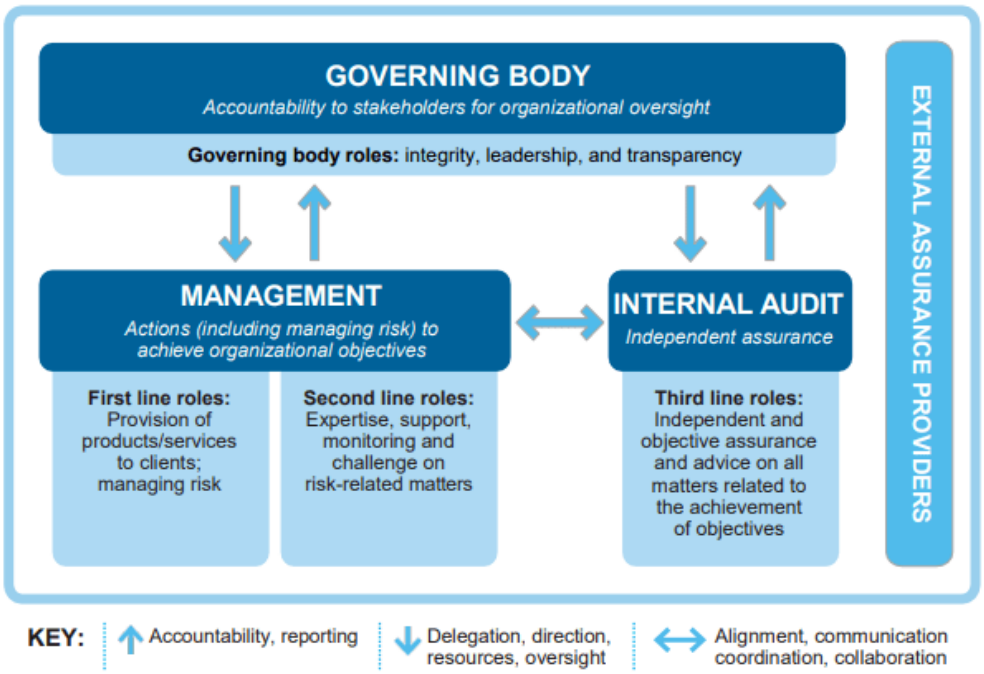


Figure 3: The original three lines of defence model Source: (Auditors, 2020)

In summary, the risk management efforts conducted by the first line of defence play a significant role in attaining organisational objectives. These efforts aid organisations in identifying potential challenges, strategically allocating resources, and enhancing decision-making process. Effective collaboration among these lines of defence is essential for successful RBDM.

The present study focuses on RBDM and is grounded in themes from the literature linked to the study questions and related aims—namely, decision making and risk, challenges to RBDM, and related improvements—as outlined in Table 2. These literature-based study themes and sub-themes provided the foundation for the analysis of the participant interview data**.**

Table 2: Literature used to formulate the background section.

Theme	Sub-theme	Description of theme	Literature Quote
Risk-based decision-making process	**Decision-making process**	The understanding of how organisations make decisions in the context of uncertainty, risk assessment, and prioritisation of efforts to mitigate risks.	Morgan et al. (2022) proposes that RBDM as an approach that utilises estimates of the likelihood and severity of harm (i.e., a risk estimate) to inform decisions; aligns risk estimates with the needs of decision-makers; and includes explicit consideration of uncertainty in the risk estimates. RBDM process provides a defensible foundation for making decisions and aids in identifying and prioritising efforts to mitigate or eliminate the most significant risks (Zio & Pedroni, 2012).
	Decision-making categories (types)	Decision making entails the selection of a choice or course of action from various alternatives, requiring a sequence of steps and thoughtful considerations to determine the most appropriate option. Decisions can be of various types depending on the situation at hand.	Organisation decisions can be taken for two reasons, strategic or operational reasons. Groves (2021) elaborates that operational decisions primarily involve tactics and technical aspects, with decision-makers having a good grasp of current performance and they know and agree on what to achieve and how performance is to be measured. Strategic decisions, on the other hand, are typically made collaboratively by executives and boards, where achieving performance metrics and defining desired outcomes may lack full alignment.
	Integration of risk in decision-making	A systematic process of identifying, assessing, prioritising, and mitigating potential risks or uncertainties that may affect an organisation's objectives, projects, or operations. The primary objective of this process is to improve decision making, safeguard assets, avert financial setbacks, and guarantee the realisation of desired results, all while upholding a delicate equilibrium between risk and reward.	Managing risks in decision making has become tougher than ever in today's complex and rapidly changing business environment (Lu et al., 2012). The effectiveness of risk management requires that it is embraced by the organisation, and it should be a part of every business decision. This does not mean avoiding risks altogether; instead, it involves assessing risks and recognising the opportunities that can arise from them (Blunden, 2010).
	Risk assessment and methods	Methodical evaluation of potential risks, such as hazards or threats, to determine their likelihood and potential consequences, thereby enabling informed mitigation decisions.	Risk assessment involves a methodical, step-by-step approach to evaluate risks. It aids in determining how likely a risk event is and what the potential consequences of such an event could be (Sahai et al., 2022). Jarrett (2000) adds that risk assessment is a crucial process that enhances our understanding of issues and builds confidence in dealing with them effectively. It plays a vital role in decision making. The value is derived from conducting a thorough analysis, rather than relying on a few aggregated metrics.

Theme	Sub-theme	Description of theme	Literature Quote
Risk-based decision-making process	**Risk assessment and methods**	Methodical evaluation of potential risks, such as hazards or threats, to determine their likelihood and potential consequences, enabling informed mitigation decisions.	The assessment of this risk is conducted through the categorisation of insurance applicants based on their individual risk profiles. This risk assessment process is applicable to various insurance types within the insurance sector, including motor insurance, property, and casualty insurance, as well as and travel insurance. Risk assessment represents a vital procedure within the insurance industry, facilitating the classification and categorisation of applicants (Sahai et al., 2022). The first line of defence has a dual role: creating business opportunities and overseeing the risks linked to those opportunities. This means they are responsible for identifying risks, assessing them, implementing measures to reduce risks (by ensuring appropriate controls are in position), and monitoring how effective these controls are (Hakim, 2017).
Challenges to risk-based decision making	**Risk assessment bias**	Risk assessment bias pertains to the existence of systematic errors or inaccuracies in appraising potential risks, potentially resulting in distorted perceptions and compromised decision-making process.	Kemshall (2021), adds that making decisions can face significant obstacles due to key challenges in individual professional practices, such as personal biases and subjective errors in assessment and management responses. Yoe (2019) asserts that individuals frequently rely on intuitive rather than analytical approaches in the process of forming judgments and making decisions. Decision makers frequently rely on their memories, previous experiences, and connected associations. Decisions are also influenced by unconscious information such as cognitive biases.. Bias refers to a tendency to favour or disfavour something or someone, which can impact how we make decisions. In risk management decisions, subjectivity is inevitable, which makes them susceptible to bias. The higher likelihood of bias in risk-related decisions is linked to how our brains process risk-related information (Groves, 2021).

Theme	Sub-theme	Description of theme	Literature Quote
Challenges to risk-based decision making	**Volatility and uncertainty in risk**	Uncertainty is a state where the potential outcomes and their probabilities are unknown or cannot be reliably estimated, indicating a lack of information or the presence of unpredictable factors. Risk, on the other hand, involves potential outcomes, both positive and negative, encompassing situations where there is uncertainty about the final result. It may entail a range of potential consequences, some of which could be harmful or detrimental.	Risks can come from uncertainty in financial markets, project failures, legal liabilities, credit risk, accidents, natural causes, and disasters as well as deliberate attacks from an adversary. Risk has different meanings for different people; that is, the concept of risk varies according to viewpoint, attitudes, and experience. Risk is therefore generally seen as an abstract concept whose measurement is very difficult (Kaya et al., 2012).
	Data and information	The issues in risk management encompass challenges related to the quality and accuracy of data, as well as the crucial need for timely access to relevant information.	Insurance companies encounter numerous challenges, including issues related to data availability and quality, handling missing values, addressing imbalanced datasets, ensuring the interpretability of model decisions, and achieving fairness in modelling outcomes (Sahai et al., 2022).
Risk-based decision-making improvements	**Lines of defence**	The "Lines of Defence" framework is a structured approach to risk management within organisations, defining layers of responsibility for risk oversight and control.	Lines of defence have become the most common benchmark for assigning control and risk management responsibilities to business functions in an organisation (Minto & Arndorfer, 2015).
	Tools and techniques	Various tools and techniques are employed to enhance the quality and effectiveness of decisions in the face of uncertainty and potential risks	A variety of RBDM tools are available, including risk and uncertainty evaluations, risk acceptance criteria, and cost-benefit and cost-effectiveness analysis (Aven et al., 2007).

Method

This section covers the study's research design and approach, determination of the sample size, participant selection, use of purposive sampling, methods employed for data analysis and interpretation, and research ethics considerations.

In line with the research design and approach, a journal article search was conducted to select the necessary literature for this study. Only journals accredited (approved) by the country's Department of Higher Education and Training (DHET) were used. The data derived from interviews were then compared with the literature to determine similarities or the emergence of new information. The common themes were iteratively identified from the literature and interview data using a codebook. Coding data organises information into patterns to discover common themes (Reyes et al., 2021). According to Roberts et al. (2019), thematic analysis involves conducting content analysis, which is one of several methods designed for handling qualitative data. It includes recognising patterns in content analysis, where the themes (or codes) that emerge from the data serve as the basis for analysis. The researcher is the fundamental instrument in qualitative research.

In this study, a qualitative research approach was employed, utilising semi-structured interviews. The researcher used the interview guide outlined in Appendix A, which comprised five main questions. These questions addressed the research problem, study objectives, and the insights gathered from the literature review. The study aimed to explore how managers in the first line of defence incorporated risk considerations into their decision-making process to mitigate potential impacts on the organisation's goals. These questions were presented to a diverse group of managers, spanning senior, middle, and junior management levels across the three lines of defence in a non-life insurance company as shown in Table 3. In instances where responses appeared ambiguous or required further clarification, the interviewer actively sought explanations and more comprehensive elaborations from the participants.

Table 3: List of the demographic variables required for this study.

Description	Why is this LoD necessary for this research project?	Options (list of the options to be provided to the respondent)
First line of defence	• Drives departmental decision making. • Assists business in thinking about incorporating risk into decision making. • Risk work execution.	Executive, Senior, Middle and Junior Management
Second line of defence	• Has deep insights and background about the organisation. • Aerial view, support, and oversight on the first line of defence.	• Enterprise Risk Management • Financial Risk Management • Business Integrity (Fraud & Ethics)

Description	Why is this LoD necessary for this research project?	Options (list of the options to be provided to the respondent)
Third line of defence	• Has deep insights and background about the organisation. • Provides perspectives from a different vantage point (independent assurance on risk work).	Internal Audit

In qualitative research, sampling should generate as many examples as needed to answer the research question, but it should not be based on the notion that 'the more, the better or round numbers' (Flick, 2018). To ensure a study-focused sample, a purposive sampling strategy was used. Flick (2018) explains that purposeful sampling involves the deliberate selection of cases that are rich in information and relevance to address the research question at hand. Given that qualitative research relies heavily on the depth and richness of information, it is imperative that the sampling procedures employed are not only suitable but also sufficient in scope. In essence, this entails exercising sound judgment in the selection of participants who possess the capability to make the most substantial contributions to the study, as noted by. A total of 16 potential participants, all of whom had the requisite expertise for leadership and supervisory roles in operations, risk management, oversight, and provision of independent assurance on operations, were intentionally selected to take part in the study. Although the study primarily focused on the first line of defence, it was crucial to gather input from the second and third lines of defence regarding their perspectives on the inclusion of risk in the first line decision-making process. Eleven of the 16 initially selected participants were able to be interviewed, as the other five declined to participate, mainly due to workload. Table 4 summarises the kinds of participants who accepted the invitation to be part of the study and the lines of defence they represented.

Table 4: Sample of participants who agreed to be part of the study.

Level of management	Line of defence	Number of participants	Participant reference
Executive Management	1st Line	1	7
	2nd Line	1	3
Senior Management	1st Line	4	1,2,5,10
	2nd Line	3	4,8,9
Middle Management	1st Line	1	11
Junior Management	3rd Line	1	6
Total		**11**	

The interview questions are listed below. Participants were also asked to provide the context and their views on the inclusion of risk when the first line of defence makes decisions that may negatively affect achieving organisational objectives.

1. Can you explain what risk-based decision making means to you, and how it fits into an organisation's overall risk management framework?
2. Considering the above, what kind of decisions require the first line of defence managers to actively include risk in the decision making process?
3. How does the first line of defence management go about including risk when they make decisions?
4. In your experience, what are some common challenges faced by the first line of defence management in incorporating risk when making such decisions?
5. How can the inclusion of risk in decision making be improved?

As the participants were in different geographic areas, the interviews were carried out using the Microsoft Teams (MS Teams) platform. It was anticipated that each interview would take approximately 30–45 minutes. The interviews were recorded on MS Teams, and prior consent was obtained from the participants for the recording. The generated recordings and transcripts were intended solely for the purposes of the research. The Microsoft Teams transcripts included specific participant details, making it possible to differentiate between the various interviews. However, to ensure the anonymity of the participants, all identifying information was replaced with anonymising codes such as "Participant 1” and “Participant 2" in the transcriptions that were used for analysis.

To uphold ethical standards, it was necessary to obtain consent from both the organisation and the university before making any contact with potential participants. Each participant in the study also had to give formal consent to participate in the research. This was accomplished by having them complete and sign an Informed Consent Form, available in Appendix B. Participants were given assurances about the confidentiality and anonymity of their contributions. After the transcription process was completed, in line with established protocols, the original interview recordings and transcripts were promptly erased. However, the transcribed data were securely stored in a designated and confidential location to safeguard organisation-specific information.

The data collected from the interviews underwent thorough analysis employing thematic analysis techniques, which aimed at identifying prevalent themes related to management's stance on RBDM. As this is a wide-ranging topic, participants were informed about the study's aim and objectives, and they were encouraged to offer detailed and illustrative examples in their responses to allow the researcher to evaluate participant response in the context of the study aim. This analytical process encompassed the systematic identification of patterns, themes, and interconnections within the dataset to reach meaningful conclusions. The analysis involved repeated readings of the interview

transcripts to obtain an in-depth grasp of the content ,and manual checks were conducted to ensure that the transcripts, automatically generated by MS Teams, aligned with the recordings. Next, meaningful segments of data were assigned codes to represent key concepts and themes. These codes were then further categorised into broader thematic clusters through a process of iterative examination and refinement. The identified themes were supported by relevant quotes from the transcripts to ensure transparency and enhance the validity of the findings.

Results and Discussion

This section presents and discusses the findings of the study, focusing on its overarching aim, which centres on exploring RBDM within the first line of defence in the South African non-life insurance context. The results are presented to address the research objectives. The transcribed interview data were analysed using a literature-based codebook. The results are presented beneath each codebook, down to the level of sub-themes, as listed in Tables 5 – 7. An overall summary of findings is noted per sub-heading providing additional information to support the tables. The icon labelled as "✔" on the tables indicates the specific line of defence to which the participant, who made the comment, belongs.

Exploring how first line defence managers include risk in decision making that may negatively impact achieving the insurer's organisational objectives

This section provides key findings based on the different lines of defence views how different lines of defence understand RBDM, the categories of decisions necessitating the consideration of risk, and how risk is included in decision making. The researcher tied the research commentary feedback to the themes identified in the literature (refer to Table 5). A summary of the findings is also provided.

Table 5: Overview of perspectives on risk-based management, decision types requiring risk consideration, and approaches to risk in decision making

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative quote
			1st	2nd & 3rd	
Risk-based decision-making process	Decision-making process	Risk as integral to organisational decision making	✔	✔	*"It's always important to make business decisions with risks that one can manage. So, there will always be risk in a business decision. It could be reputational. It could be regulatory. And it could be against a certain sector of an organisation of the society. But if one decides, knowing of those risks and how they would address them, then that is OK for me." (Participant 2)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative quote
			1st	2nd & 3rd	
Risk-based decision-making process	Decision-making process	Risk as integral to organisational decision making		✔	*"So, it's really always whenever business decision is taken is to take into consideration the whole spectrum of risk. So it's looking at from a financial perspective. The impact that it will have on earnings from a capital perspective, the impact from a solvency perspective and then also reputational and compliance, making sure that it's embedded within your decision making." (Participant 3)*
		Decision making requirements and consequences of risk-based decisions	✔		*"We've got formal and informal kind of processes. we structured the business into these formal forums. Example is in our profit and growth forum the guys come together and discuss. We would lay a case down and say the reason we need to give this broker is this? And then this debate on, will this person give us more growth? The consequences of any decision have been kind of clearly understood." (Participant 5)*
				✔	*"…risk-based decision making speaks to how key stakeholders in any organisation in whatever decisions that they have to make, how they take into consideration the risk, the risk that's involved in that decision. And in that consideration is not just the risks that could affect them internally as an as an organisation, it's also external risks that could have an influence on the success of whatever the time to decide on." (Participant 6)*
			✔	✔	*"Risk is truly about balance, the equilibrium between upside and downside potential. With any decision that's made, there are potentially positive and negative outcomes. Risk management ensures that, especially in the first line, those decisions optimise the best upside within your risk appetite framework. It is about incorporating the concept of risk into all areas that affect the performance of the business." (Participant 7)*
			✔	✔	*"In my mind this means that before making a decision, the person who's tasked to make the decision considers the various risks that are associated in making such a decision." (Participant 8)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative quote
			1st	2nd & 3rd	
Risk-based decision-making process	Decision-making process	Decision making requirements and consequences of risk-based decisions	✔		*"I think even before we go into that, I mean we as an insurance company, our business is risk and risk management. So that has to flow through to the operational side in any event, as sort of I alluded to in the second phase comment that insurance is basically the business of risk as it is. When it comes to decision-making or considering risk in decision making, it is part and parcel of the job because you always have to be aware of the possible risks" (Participant 11)*
	Decision-making categories (types)	Decision making entails the selection of a choice or course of action from various alternatives, requiring a sequence of steps and thoughtful considerations to determine the most appropriate option. Decisions can be of various types depending on the situation at hand. E.g., strategic, and operational decisions.	✔		*"I would say every single decision we make. So, there are plenty of decisions that we do make every day. So, it's operational: do we change the process, or do we incorporate a new process? Do we look at a new sort of staff structure?" (Participant 11)*
				✔	*"So, I think definitely it starts with strategic because that's the alignment to strategy; if they're not making decisions at that level, then they're going to be driving, implementing whatever you call it." (Participant 9)*
				✔	*"The culture of the organisation is based on risk, risk-based decision making, then they should be making decisions. All decisions should be factored from a risk-based approach because the nature of business is so interconnected." (Participant 8)*
				✔	*"So generally, when they're making strategic kind of decisions and they would consider the risks." (Participant 6)*
			✔		*"I think it's the material decisions. So, you know, starting from that point, so what are decisions that can have a material impact on the company?" (Participant 4)*
			✔		*"Most decisions affect the business in one way or another. Some decisions, such as rate increases and pricing, are more important and are made within my area" (Participant 7)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative quote
			1st	2nd & 3rd	
Risk-based decision-making process	Risk assessment and methods	Methodical evaluation of potential risks, such as hazards or threats, to determine their likelihood and potential consequences, enabling informed mitigation decisions.		✔	*“Identify the risks that arise from the decisions you're making, and the risks that arise from not deciding, from not acting. I think that's also important that you know sometimes not doing anything also has risks.” (Participant 4)*
				✔	*“It is not just the risks that could affect them internally as an organisation; it is also external risks that could have an influence on the success of whatever the time to decide on.” (Participant 6)*
				✔	*“There are a lot of risks. So, I think a key part of the risk-based decision making is prioritising risks and knowing which ones are the material ones and which ones you should spend time mitigating.” (Participant 4)*
	Integration of risk in decision-making	Integration of risk in decision making involves systematically incorporating risk factors into organisational decisions. This includes evaluating and managing potential uncertainties to align decision making with risk tolerance and strategic objectives, fostering a proactive and risk-aware culture.		✔	*"I think that they do it better now from a strategic starting point as well because we have Chief Risk Officer (CRO) as part of the Executive Committee which ensures that risk becomes part of the discussion throughout all decisions taken. When strategy is being discussed, there is voice at the table to drive risk management." (Participant 9)*
			✔		*"For example, with COVID new things actually came out of the woodwork where now we needed to review all issues around the policy wordings to ensure that they are aligned to market conditions." (Participant 1)*
			✔		*"In my division we've got what we call our decision making framework. So, the framework generally consists of the four or five strategic objectives and then the one inclusion of risk. So, our decision making framework inherently has a component of risk consideration." (Participant 11)*
				✔	*"I suspect that many first line managers make decision based on the KPI and KPAs because it is very much target-driven, and results driven." (Participant 8)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative quote
			1st	2nd & 3rd	
Risk-based decision-making process	Integration of risk in decision-making	Integration of risk in decision making involves systematically incorporating risk factors into organisational decisions. This includes evaluating and managing potential uncertainties to align decision making with risk tolerance and strategic objectives, fostering a proactive and risk-aware culture.	✔		*"Because we are an intermediated business, we have to incentivise our brokers as well to continue using us as their insurance. To do that, sometimes you know you have to make compromises, but you always have to keep in mind whether that compromise makes sense. Yeah, given the business that you are receiving with that broker. So, again, maybe to illustrate why, for instance, if we typically require drivers with five years' experience, but a broker presents a case with drivers having less experience, we must weigh the risk it adds to our portfolio against the overall business value from that broker. This ensures that the broker continues to provide us with business that aligns with our objectives." (Participant 10)*

Summary of findings

The interview findings indicate a shared understanding of RBDM across the lines of defence, emphasising its role in informed management choices for value creation. Participants emphasised the importance of understanding and managing risks for achieving organisational goals. This underscores the necessity for a comprehensive risk assessment process and the adoption of a holistic approach, considering both internal and external factors that impact the organisation. Participants 1, 10, and 11 (First LoD representatives) emphasised that the organisation as an insurance company, risk management is integral to the business and should extend to the operational side in any event.

Participants highlighted that decision-makers needed to consider risks, especially in areas of the business beyond defined boundaries. Not all decisions required the same level of risk consideration, as their impact might not have been material to the organisation. There was a consensus among the participants in the present study that risk should be an inherent part of the decision-making process, and it was acknowledged that their industry is all about risk and that decisions must consider potential risks. The nature of decisions is determined by the magnitude of associated risks, ranging from strategic choices to group decisions or everyday operational determinations. Strategic decisions impacted the organisation's long-term direction and sustainability, aligning with sentiments shared by Groves (2021) on decisions being made for operational or strategic reasons. Daily operational decisions are crucial for seamless operations, often made by front-line employees and supervisors. Analysis of the interview data revealed a distinction made by some participants between strategic and tactical decisions. They suggested that risk should be considered in both types of decisions, with an understanding that tactical decisions could also have strategic implications. Collaborative approaches in group discussions and the establishment of consensus within forums and committees were necessary for some decisions, such as profitability actions, across-the-board rate increases, and pricing. The second line of defence participants emphasised that risk culture and leadership tone played a critical role in decision-making, stressing the importance of keeping risk at the top of the mind and remaining vigilant about potential exposures. For effective RBDM, the first line of defence needed to be well-educated, up-to-date, and well-informed about the evolving operational environment.

Specific examples provided by participants across all three lines of defence of approaches to include risk in decision-making included collaborative forums, reactive decisions made during the COVID-19 pandemic involving the review of insurance policy wordings to clarify coverage provisions, proactive decisions in managing a portfolio of policies as a single unit, and the use of risk appetites. Quarterly tracking of risk appetite statements served to monitor decisions. An interesting point raised by the second line of defence participants pertained to how key performance indicators (KPIs) for

risk management, included in the scorecards of first-line managers, were measured. The question arose as to the consistency of measurements.

Challenges to the inclusion of risks in organisational objective-critical decisions

This section provides key findings based on the challenges experienced by the respective lines of defence in including risks in decision making, which may negatively impact the achievement of the insurer's organisational objectives. The researcher tied the research commentary feedback to the themes identified in the literature (Table 6). A summary of the findings is also provided.

Table 6: Summary of challenges in integrating risk into decision making

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative Quote
			1st	2nd & 3rd	
Risk-based decision making challenges	Volatility and uncertainty in risk	Uncertainty denotes a lack of knowledge about potential outcomes or their probabilities, often involving unpredictable factors. Risk, on the other hand, encompasses situations where outcomes, both positive and negative, are uncertain, leading to a range of potential consequences, some of which may be harmful or detrimental.	✔		*"Risk itself is not static, right? It is always changing. So, the assumptions that you had around the riskiness of a certain type of risk, for lack of a better term, always need to be updated because it is never static; it's always evolving." (Participant 10)*
				✔	*"From a pure risk perspective, some of the challenges faced by first line is this whole volatile risk landscape that we are currently navigating even as risk professionals and audit professionals. We are operating literally in a Polycrisis as South Africans, and I think for first line it becomes difficult for them to always do the right thing(risk on top of mind). They have to do their business and then do the right thing and maybe they're doing too much of one thing and then not focusing on the other." (Participant 9)*
			✔		*"And is that it's not always easy to understand what the implications are. What the actual risk is you always making a guess around what could possibly happen, and it there's always uncertainty around that and the more uncertain it is, the riskier any decision is. And so, I think that is also a challenge is really. Quantitatively calculate what is the impact of any decision. It's not always easy, umm, from a risk perspective, you know the downside risk, so that that is also a challenge." (Participant 7)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative Quote
			1st	2nd & 3rd	
	Data and Information	The issues in risk management encompass challenges related to the quality and accuracy of data, as well as the crucial need for timely access to relevant information.	✔	✔	*"I think the challenge facing the first line managers in terms of risk decision making, is not having access to data. Data can tell you help in raising a red flag and say that this property is located in an area where if it were to rain for a day or two area will be it's going to be flooded." (Participant 1)*
Risk-based decision making challenge	Resource constraints - **New sub-theme**	Limitations that can hinder assessment of risk.	✔	✔	*"The challenges that they are facing is probably resource constrained. So, they just don't have enough time to consider everything and sit back and really understand what needs to get done. Everyone's almost just driving and focusing on targets to get to the end result and there's not enough focus on risk." (Participant 3)*
	Balancing risk, growth, and profitability - **New sub-theme**	Balancing risk, growth, and profitability means carefully weighing growth and profitability against risks and seeking sustainable growth without jeopardising risk management. The goal is aligning growth with risk tolerance and financial objectives. Achieving this balance requires a thoughtful integration of risk management into decision-making process.	✔	✔	*"Well, I think there are various competing agendas in any business and again it's that balance around you know for example some areas might want to grow and are willing to take less premium to grow and maybe not be as profitable and that might be acceptable at certain times and might not be acceptable other times." (Participant 7)*
				✔	***"****I think a challenge is the balance between chasing profits and growth and managing things like risk, which I appreciate, and something that the system must get right, cause no one person can get that right." (Participant 9)*
	Risk awareness and education - **New sub-theme**	Risk awareness refers to the level of consciousness and understanding within an organisation or individual regarding potential threats, uncertainties, and opportunities that may impact objectives. Risk education involves systematic efforts to enhance the knowledge, skills, and awareness of individuals or groups regarding risk management principles and practices.		✔	*"So, I think it is the lack of risk awareness by management. I don't think there's sufficient education and awareness around it." (Participant 8)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		Illustrative Quote
			1st	2nd & 3rd	
Risk-based decision making challenge	Risk awareness and education - **New sub-theme**	Risk awareness refers to the level of consciousness and understanding within an organisation or individual regarding potential threats, uncertainties, and opportunities that may impact objectives. Risk education involves systematic efforts to enhance the knowledge, skills, and awareness of individuals or groups regarding risk management principles and practices.		✔	*"Risk awareness and education are a key challenge to embracing risk-based decision making. The first line of defence is aware of how to run the operations of their business, but when it comes to governance, knowledge, and risk knowledge, in my opinion I find them lacking in understanding."(Participant 6)*
	Tone at the top, and risk culture - **New sub-theme**	"Tone at the top" is the influence of senior leadership in an organisation in setting the tone for risk awareness, ethical conduct, and adherence to risk management practices. It shapes the overall risk culture and behaviour, emphasising the significance of attitudes, values, and commitment from executives.		✔	*"I think one of the biggest challenges would be if the person that you report to, is not, not big into risk culture. So, I think the culture of risk management has to come the top- down. If the senior people like the CEO, CFO are not into risk management it is almost impossible to incorporate risk management within decisions. I think it has to come from the top down and the also has to be some kind of repercussions." (Participant 4)*

Summary of findings

The interview data have highlighted several key themes related to the challenges that first line defence management commonly confront when trying to consider risk in their decision-making process. New sub-themes were uncovered during the study, whose focus was on fostering a culture of risk management and setting the tone at the top.

a) Operating in a volatile, uncertain, complex ambiguous landscape

The business landscape, encompassing both the insurance industry and the global environment at large, operates within a context characterised by unprecedented volatility, uncertainty, complexity, and ambiguity (VUCA). These conditions significantly impact management decisions and how they manage all associated risks effectively. Management continually grapples with the challenge of keeping pace with rapid changes, sometimes leading to insufficient attention being given to risk during decision-making process.

b) New sub-theme - balancing risk, growth, and profitability (balance between risk and reward)

With all the VUCA, management must balance the achievement of operational objectives, such as growth and profitability, while keeping risk at the top of their minds. The primary performance areas and objectives established for the first line of defence predominantly centre on the attainment of operational goals (target-driven and results-driven) as a result very little focus is spent considering risk. Consequently, employees tend to prioritise those areas that hold the highest quantifiable measures. Participant 6 offered a relevant quote to substantiate this view: “What you measure is what people are going to deliver on”.

c) New sub-themes - capacity constraints and availability of resources

Both first and second line participants highlighted challenges related to capacity constraints, resource availability, and skills. The challenging economic conditions lead to businesses prioritising operational targets and allocating resources accordingly and risk management becomes an afterthought. Organisations are compelled to maintain lean workforce structures to achieve objectives amid resource constraints, potentially relegating risk considerations to a secondary position.

d) New sub-theme - risk awareness and education

Participants from the second and third lines of defence have emphasised a challenge related to management's comprehension and awareness of risk, which can significantly impact the quality, direction, and effectiveness of decisions made throughout the organisation. Consequently, they assert the importance of offering continuous education through workshops and seminars, along with providing access to tools and technologies to facilitate well-informed decision-making.

e) Data and information

Having access to reliable and quality data is crucial for making risk-based decisions. This organisation faced challenges in gathering, consolidating, and accessing quality data, essential for enabling proactive RBDM. Since the organisation operates on an intermediated business model, access to quality data does pose a challenge. For instance, leveraging geospatial data to evaluate location-related risks tied to insured properties or assets proves highly advantageous, especially when assessing vulnerability to natural disasters or areas with a high incidence of crime.

f) New sub-theme - Tone at the top, and risk culture

An interesting point raised by one of the second-line defence participants related to the 'tone at the top'. They indicated that one of the biggest challenges arises when the person you report to is not fully committed to this culture. They emphasised that effective risk management needs to be instilled from the top down. It becomes challenging if senior leadership such as the Chief Executive Officer (CEO) and Chief Financial Officer (CFO) are not committed to risk management; it is then almost impossible to incorporate risk considerations into decisions.

Improvements to the inclusion of risk when making decisions

This section provides key findings based on improvements that management would need to apply to drive the inclusion of risk in decision making. The researcher tied the research commentary feedback to the themes identified in the literature (Table 7). A summary of the findings is also provided.

Table 7: Summary of improvements to risk-based decision making

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		illustrative Quote
			1st	2nd & 3rd	
Risk-based decision-making improvements	Lines of defence	The "Lines of Defence" framework is a structured approach to risk management within organisations, defining layers of responsibility for risk oversight and control.	✔		*“I think communication is very important. The first line needs to speak to the various parties involved, getting their input and alternate views on risks.” (Participant 7)*
				✔	*"I think it's building that relationship between the first line and second line. The second line has to invest time into understanding the business and instead of moving straight onto risk management, the first step to understand what the first line is actually doing and if they do that, then the first line will have a lot more understanding of the need for risk management." (Participant 4)*
	Tools and techniques	Tools and techniques to enhance the quality and effectiveness of decisions in the face of uncertainty and potential risks.	✔		*"I think it's training on risk, risk management, there's technology as well that can also help with risk management." (Participant 7)*
			✔		*"We need the right data. We need to identify the required data to support decisions and ingest it from the systems." (Participant 1)*
	Risk awareness - **New sub-theme**	Risk awareness is the conscious understanding and recognition of potential uncertainties, threats, or adverse events that may impact an individual, organisation, or system.		✔	*"There needs to be a concerted effort in terms of changing or measuring this at the end can be measured and it should be included in your KPI. I think there should be a huge focus on driving awareness and training." (Participant 8)*
				✔	*"Consider going on more risk awareness runs to all levels of management tasked with decision making to make sure that the first line is more equipped with the concepts and tools available to drive risks based decision making." (Participant 6)*
				✔	*"Risk management must be embedded into everything business does and making sure that risk remains top of mind in history, training through workshops, through significant amount of engagement." (Participant 3)*

Theme	Sub-theme	Brief description of theme	Mentioned by participants in line of defence		illustrative Quote
			1st	2nd & 3rd	
Risk-based decision-making improvements	Tone at the top and Culture - **New sub-theme**	“Tone at the top" is the influence of senior leadership in an organisation in setting the tone for risk awareness, ethical conduct, and adherence to risk management practices. It shapes the overall risk culture and behaviour, emphasising the significance of attitudes, values, and commitment from executives.		✔	*"The top must buy into; risk management and they have to. And kind of feed the risk culture throughout the organisation and they have to, umm, send a message and that risk management is important and the first line has to have some skin in the game and if risk protocols aren't followed, you know there has to be some repercussions and then good risk must good risk behaviour must also be rewarded. "Participant 4*
			✔		*"I think that we should start including risk management into the culture of the organisation. It's generally included, it's part of our decision making framework and our fixed agendas and feedback governance, all of that sort of thing as part of our day-to-day business and operations." (Participant 11)*

Summary of findings

The interview data highlighted several key themes related to how RBDM can be improved. New sub-themes were uncovered during the study, focusing on how to enhance the inclusion of risk in decision making.

a) Technology and data

Participants 1 and 7 indicated that the organisation can enhance its RBDM through investment in technology and data. Currently, the business heavily relies on lagging risk indicators, such as risk appetite statements and performance reports which reflect past actions and are used to assess the effectiveness of decisions made. The organisation should prioritise tools that offer leading indicators, providing a forward-looking perspective to anticipate and shape future outcomes. Additionally, investing in data is essential, as indicated by the challenges related to data availability and quality, which demand attention.

b) New sub-theme - training and awareness of risk management

Addressing the challenge concerning risk awareness and education, the second line participants made indicated that establishing a culture of risk management awareness within the first line of defence is necessary. While formal policies, procedures, and risk appetite statements are already

established, the next phase should involve actively engaging the first line of defence in the risk management process. The enhancement of an organisation's risk resilience relies significantly on elevating training and awareness of risk management within the first line of defence. By investing in training and awareness initiatives, the organisation improves its ability to navigate uncertainties, reinforces risk mitigation capabilities, and cultivates a risk-aware culture in alignment with strategic risk management goals.

c) New sub-theme – risk culture (tone at the top)

Participant 4 emphasised that for the organisation to fully embrace risk, it is crucial for the leadership at the highest levels to set the tone. The concept of 'tone at the top' acknowledges that the values and attitudes exhibited by senior leadership play a pivotal role in shaping the risk culture and overall conduct within the company. Similarly, participant 11 echoed this perspective, asserting that to cultivate a culture that embraces risk, it is essential to integrate risk management into the organisational ethos.

Conclusion

The objective of this qualitative interview-based study was to understand better how the selected South African non-life insurer approaches risk work, specifically the incorporation of risk into decision making. This exploratory study investigates how the first line of defence managers at a South African non-life insurance company incorporate risk into organisational decisions that could have an adverse impact on the achievement of objectives. This aim translated into three research objectives:

1. Explore how first line defence managers include risk in decision making that may negatively impact achieving the insurer's organisational objectives;
2. Identify challenges to including risks in organisational objective-critical decisions; and
3. Suggest possible improvements to the inclusion of risk in such decisions.

During the research process, themes were identified from the literature, enabling the researcher to evaluate the evidence of RBDM by the first line of defence in a non-life insurance company. New sub-themes surfaced through interviews with participants, contributing insights not identified in the reviewed literature. These sub-themes substantially enhanced the comprehension of RBDM within the organisation. Integrating these newfound themes enhances practical relevance, providing a more comprehensive and insightful perspective on the topic.

The findings of this study highlight a consensus among participants regarding the critical importance of incorporating risk-related data into decision making across the lines of defence. The challenges posed by the volatile, uncertain, complex, and ambiguous operational environment significantly influence the integration of risk considerations into decision-making process. These factors can have a knock-on effect on an organisation's targets, potentially leading the first line of defence to prioritise reaching those operational goals, thereby diminishing the focus on risk. Praise is due to the new executive team for driving risk management as a measure in the key performance indicators of performance contracts, but a pertinent concern exists regarding how these will be consistently measured across the organisation. Risk awareness, tone at the top, and the culture of risk management were highlighted as key areas of improvement that could contribute to increasing the inclusion of risk in decision making.

Limitations

The study objectives were achieved, with certain limitations noted below:

- Sample: Although the intended sample of 16 participants could not be reached, we managed to interview 11 (69%) of them, thereby providing an indicative summary of multiple views across the organisation.

- Time limitation: Time constraints affected the inclusion of additional participants to replace those who declined to participate in the research.
- Data collection limitation: The data collection was confined to a specific timeframe, a limited sample of participants, and a single organisation, potentially impacting the overall comprehensiveness of the study.

Despite these limitations, this exploratory study establishes a foundation for future research on risk integration into decision making within the non-life insurance sector. The scope of the study may potentially expand to include other financial services sectors, such as life insurance. Furthermore, there is potential for research to delve in greater depth into the challenges encountered by the first line of defence when incorporating risk into their decision-making process.

Number of words:

Abstract: 294 (max: 300 words)

Article: 5736 (max 8,000, excluding detailed tables, abstract and references)

References

Alhassan, A. L., & Biekpe, N. (2015). Efficiency, productivity and returns to scale economies in the non-life insurance market in South Africa. *The Geneva Papers on Risk and Insurance-Issues and Practice*, *40*, 493-515.

Auditors, T. I. o. I. (2020). The IIA'S Three Lines of Defence Model: An update of the Three Lines of Defense. In. United States of America: The Institute of Internal Auditors (IIA).

Aven, T., Vinnem, J. E., & Wiencke, H. (2007). A decision framework for risk management, with application to the offshore oil and gas industry. *Reliability Engineering & System Safety*, *92*(4), 433-448.

Bantleon, U., d'Arcy, A., Eulerich, M., Hucke, A., Pedell, B., & Ratzinger-Sakel, N. V. S. (2020). Coordination challenges in implementing the three lines of defense model. *International Journal of Auditing*, *25*(1), 59-74. https://doi.org/10.1111/ijau.12201

Bechard, M. (2022). *Constantia Insurance goes into final liquidation*. moonstone. Retrieved 21 October 2022 from https://www.moonstone.co.za/constantia-insurance-goes-into-final-liquidation/

Blunden, T. T., John. (2010). *Mastering operational risk* (C. Cudmore & M. Lince, Eds.). Pearson Education Limited.

Boghean, F. (2020). Integrating Risk Management into Decision Making. 16th Economic International Conference NCOE 4.0 2020,

Chisambara, P. (2018). *Risk-Based Decision Making*. ERPM Insights. Retrieved 26 March 2023 from https://erpminsights.com/risk-based-decision-making/

COSO. (2015). *Leveraging COSO across the three lines of defense*. Committee of Sponsoring Organizations of the Treadway Commission. Retrieved 07 July from https://www.coso.org/Shared%20Documents/Compliance-Risk-Management-Applying-the-COSO-ERM-Framework.pdf

Demong, N. A. R., & Lu, J. (2012). Risk-based decision making framework for investment in the real estate industry. In *Handbook on Decision Making: Vol 2: Risk Management in Decision Making* (pp. 259-283). https://link.springer.com/chapter/10.1007/978-3-642-25755-1_14

Doff, R. (2011). Organising Risk Management. In *Risk Management for Insurers: Risk Control, Economic Capital and Solvency II* (2nd ed., pp. 273-294). Risk Books, a Division of Incisive Financial Publishing Ltd.

Faurie, J. (2016). *Liquidation of saXum Insurance*. FA News. Retrieved 20 October 2022 from https://www.fanews.co.za/article/compliance-regulatory/2/financial-sector-conduct-authority-fsca-was-fsb/1059/lliquidation-of-saxum-insurance/21207

Faurie, J. (2018). *Lion of Africa to close its doors*. FA News. Retrieved 20 October 2022 from https://www.fanews.co.za/article/company-news-results/1/lion-of-africa/1248/lion-of-africa-to-close-its-doors/25797

Flick, U. (2018). *The SAGE Handbook of Qualitative Data Collection*. SAGE Publications Ltd.

Forbes, S. (2023). *Top trends that are shaping the insurance sector in 2023 and beyond*. FA News. Retrieved 01 September from https://www.fanews.co.za/article/short-term-insurance/15/general/1217/top-trends-that-are-shaping-the-insurance-sector-in-2023-and-beyond/36704

Prudential Standard GOI 3 - Risk Management and Internal Controls for Insurers, 1-17 1 (2017a).

Prudential Standard GOI 3.1 - Own Risk and Solvency Assessment (ORSA) for Insurers, (2017b).

Gantz, S. D., & Philpott, D. R. (2013). Chapter 3 - Thinking About Risk. In S. D. Gantz & D. R. Philpott (Eds.), *FISMA and the Risk Management Framework* (pp. 53-78). Syngress. https://doi.org/https://doi.org/10.1016/B978-1-59-749641-4.00003-5

Groves, T. (2021). Unconscious Bias and Risk Management. In *Enterprise Risk Management: Today's Leading Research and Best Practices for Tomorrow's Executives* (pp. 243).

Hakim, A. L. (2017). Application of Three Lines of defense in Islamic Financial Institution. *International Journal Of Management and Applied Research*, *4*(1), 44-57. https://doi.org/10.18646/2056.41.17-005

Hopkin, P. (2018). *Fundamentals of risk management: understanding, evaluating and implementing effective risk management*. Kogan Page Publishers.

ISACA. (2013). COBIT 5 for Risk. In *COBIT 5 for Risk* (pp. 15). ISACA.

ISO. (2009). ISO-31010 Risk management: risk assessment Techniques. *International Electrotechnical Commission*, 1-90.
Jarrett, E. L. (2000). The Role of Risk in Business Decision-Making, or How To Stop Worrying and Love the Bombs. *Research-Technology Management*, *43*(6), 44-46. https://doi.org/10.1080/08956308.2000.11671395
Kaya, İ., Kahraman, C., & Çebi, S. (2012). Computational Intelligence Techniques for Risk Management in Decision Making. In *Handbook on Decision Making: Vol 2: Risk Management in Decision Making* (pp. 9-38). https://link.springer.com/chapter/10.1007/978-3-642-25755-1_2
Kelly, C. K. (2017). *First Line & Controls*. https://www.linkedin.com/pulse/first-line-risk-controls-christopher-kelly/
Kemshall, H. (2021). Bias and error in risk assessment and management. *HM Inspectorate of Probation Academic Insights*, *14*.
Lu, J., Jain, L. C., & Zhang, G. (2012). Risk Management in Decision Making. In *Handbook on Decision Making* (Vol. 2, pp. 3-7). Springer.
Mazumder, M. M. M., & Hossain, D. M. (2018). Research on corporate risk reporting: Current trends and future avenues. *The Journal of Asian Finance, Economics and Business*, *555*(1), 29-41.
Minto, A., & Arndorfer, I. (2015). The four-line-of-defence model for financial institutions. Taking the three-line-of-defence model further to reflect specific governance features of regulated financial institutions. *Financial Stability Institute Working Paper-BIS*, *11*, 1-26.
Mkrtchyan, L., & Ruan, D. (2012). Using Belief Degree Distributed Fuzzy Cognitive Maps for Energy Policy Evaluation. In *Handbook on Decision Making* (Vol. 2, pp. 39–67). Springer-Verlag.
Morgan, K. M., Crawford, A., & Kowalcyk, B. B. (2022). Risk-based Decision Making Definition: A Scoping Review of Food, Agricultural, Environmental, and Medical Literature. *Risk Analysis*, *42*(9), 2107-2121.
Rabenasolo, B., & Zeng, X. (2012). A Risk-Based Multi-criteria Decision Support System for Sustainable Development in the Textile Supply Chain. In *Risk Management in Decision Making* (Vol. 2, pp. 51–170). Springer-Verlag.
Reyes, V., Bogumil, E., & Welch, L. E. (2021). The living codebook: Documenting the process of qualitative data analysis. *Sociological Methods & Research*, 0049124120986185.
Roberts, K., Dowell, A., & Nie, J.-B. (2019). Attempting rigour and replicability in thematic analysis of qualitative research data; a case study of codebook development. *BMC medical research methodology*, *19*, 1-8.
Sahai, R., Al-Ataby, A., Assi, S., Jayabalan, M., Liatsis, P., Loy, C. K., Al-Hamid, A., Al-Sudani, S., Alamran, M., & Kolivand, H. (2022). Insurance Risk Prediction Using Machine Learning. The International Conference on Data Science and Emerging Technologies,
Segal, S. (2011). Corporate value of enterprise risk management. *Hoboken (NJ): Wiley*, 25-37.
Shankar , N. G. (2021). A Handbook on Internal Audit: A Comprehensive Guide for Corporate Directors and Senior Executives. In *A Handbook on Internal Audit: A Comprehensive Guide for Corporate Directors and Senior Executives* (Second ed., pp. 59 - 60). Institute of Directors.
Wales, I. o. C. A. i. E. a. (2018). *The four lines of defence Helpsheet*. Institute of Chartered Accountants in England and Wales.
Yoe, C. (2019). *Principles of risk analysis: decision making under uncertainty*. CRC press.
Zhu, T., Haugen, S., & Liu, Y. (2021). Risk information in decision-making: definitions, requirements and various functions. *Journal of Loss Prevention in the Process Industries*, *72*. https://doi.org/10.1016/j.jlp.2021.104572
Zio, E. (2018). The future of risk assessment. *Reliability Engineering & System Safety*, *177*, 176-190. https://doi.org/10.1016/j.ress.2018.04.020
Zio, E., & Pedroni, N. (2012). Risk-informed decision-making processes: an overview. 1-61. https://www.icsi-eu.org/en/publication/risk-informed-decision-making-processes

CHAPTER 3: REFLECTION

Upon commencing this course, my initial perspective on its content differed significantly from what I eventually encountered. My primary goal was to enhance my understanding of risk management concepts and broaden my knowledge in the field. However, I hadn't anticipated the degree programme's emphasis on research intensity. I began the research process (proposal) with a supervisor, who unfortunately left at the beginning of the year. Consequently, my initial topic underwent a transformation when I was assigned a new supervisor. Initially, I was hesitant about the new focus as it didn't align with my perception of the importance of risk management in my current and previous organisations. My perspective shifted when I delved into the interview process (data collection) and recognised the significance of risk-based decision-making. It became evident that risk plays a crucial role in influencing decision-making processes.

Over the past two years, I have gained valuable insights, including:

- Thematic coding: Despite finding this process frustrating initially, I now appreciate its role in allowing researchers to distil key messages from the study and summarise them into specific study-relevant themes.
- Writing: I learned to consider my audience, ensuring clarity by simplifying language and connecting the storyline to convey the research purpose and objectives effectively.
- Reading: The program cultivated the skill of reading with the intent to understand and extract meaningful information.
- Interviews: I now recognize the importance of structured interviews, emphasizing clear guidelines and adequate preparation.
- Literature Review: The ability to synthesise information from various journals and create a cohesive background for the study using multiple sources has been a crucial learning point.

Reflecting on these experiences, I acknowledge areas for improvement in future research projects that I may undertake. I would allocate more time for study assignments, recognizing the impact unforeseen events can have on timely completion. Additionally, I would enhance collaboration with the supervisor, seeking feedback regularly instead of waiting to submit extensive pieces of work, thereby addressing review notes more effectively.

The study provides the organisation with valuable insights into areas that can be improved to strengthen RBDM. Through an examination of the current approach to RBDM and the identification of challenges faced by the first line of defence, this study enables the organisation to identify specific areas that require improvement and reinforcement of RBDM practices. It explores the organisation's strategies for integrating risk decision-making and delves into the nuanced understanding of RBDM

across different lines of defence. An overview dashboard showcasing the study's contribution to the studied organisation including a summary of findings can be found in Appendix C.

APPENDICES

Appendix A: Interview Guide

Mcom Applied Risk Management
UARM873 Mini-dissertation study
Interview Guide

Study title: First line of defence risk-based decision making in a South African non-life insurer.
Student (also called 'the researcher' in this form): Buzwe Lindi

Study supervisor: Professor Hermien Zaaiman

Supervisor contact details: +2782 921 0463 and hermien.zaaiman@nwu.ac.za

---

Document aim

The aim of this document is to provide a guide to the student on how s/he will be conducting the interview after obtaining informed consent from the interviewee (see MARM Interview Informed Consent Form for this study for information provided to the interviewee before the interview).

Interview process

1. **Clarification of understanding of the informed consent form at the start of the interview process:**

Thanks for agreeing to participate in this study. I appreciate your willingness to assist me with this research.

Do you have any further questions or concerns about the informed consent form that you would like to discuss before we start the interview?

- If the interviewee has questions/concerns, discuss the questions before continuing with the interview. Remind the interviewee that s/he is allowed to leave the interview at any time during the interview.
- If the interviewee does not have questions or concerns, continue with the interview.

2. **Interview:**

Firstly, I will just ask a couple of questions to get a better understanding of your role and your day-to-day decision making activities.

1. What is your role title?
2. Which line of defence does your role fit into?
3. What is your role description?
4. How long have you been involved in the role you occupy?

Secondly, I would like to give a brief explanation of what we mean when we talk about risk-based decision making.

Risk-based decision making is an approach used in business to make informed choices while considering potential risks and their impact. This approach involves assessing and prioritising risks before making decisions to ensure that the potential negative consequences are minimised or managed effectively. In a nutshell, risk-based decision making is a structured approach that helps organisations and individuals make more informed and resilient decision by considering potential risks upfront and developing strategies to address them, it is possible to minimise negative outcomes and enhance chances of success.

Thirdly, I am interested in your views on the inclusion of risk when the first line of defence makes decisions that may negatively impact growth and profitability.

1. Can you explain what risk-based decision making means to you, and how it fits into an organisation's overall risk management framework?
2. Considering the above, what kind of decisions require the first line of defence managers to actively include risk in the decision making process?
3. How does the first line of defence management go about including risk when they make decisions?
4. In your experience, what are some common challenges faced by the first line of defence management in incorporating risk when making such decisions?
5. How can the inclusion of risk in decision making be improved?

- Facilitate the interviewee responses only when required by asking non-leading further questions:
  - Do not overdo probing questions to avoid influencing the interviewee's responses.
  - Do not lead your respondent into providing information that you expect to be the answer to your research questions.
- Pre-prepare non-leading probing questions for your interview. Example questions:
  1. *When you say ….., what do you mean by that?*
  2. *Tell me more about.... (Referring to something the respondent said, not what you wanted him/her to say)*
  3. *Please give me an example (concrete examples provide more information about the actual situation than general statements about a situation)*
  4. *What does this look like in practice?*
  5. *How does this happen? (Note: ask 'how' rather than 'why' questions – see the Harvard interview strategies document available on link listed at the end of the document)*
  6. *How is this important to you?*
  7. *How is this important to the organisation?*

8. *How is this important in the context of risk management (or insert a phrase related to your specific research objective) in the organisation?*
9. *If the person refers to how somebody else or a group feels about something, ask: How do you feel about this?*
10. *How does this information relate to the topic under discussion? (Steer respondent back to topic when s/he digresses from the topic)*

3. Interpersonal aspects of interviews to keep in mind.

Your behaviour during the interview will influence the interviewee's responses.

- **Do:**
  - Keep the possible biases and limitations of interviews in mind when designing, executing, and writing up your interviews – interview transcriptions will assist you and others to evaluate how your own expectations and natural biases may have influenced the interview data.
  - Understand the aims of your interview questions in the context of your research project.
  - Ask simple questions that will provide information related to your research objectives.
  - Pilot and practice your interview before formal data gathering so that you can see what works and what doesn't work.
  - Ask only one question at a time.
  - Give the person time to think about the question – stay quiet during that time.
  - Listen attentively to the interviewee.
  - Ask clarifying questions where necessary for purposes of your research.
  - Remain ethically sensitive as described in the Informed letter of consent – do not change the rules of engagement during the interview.
  - Stay warm and empathetic (not sympathetic – see under 'Don't' below) during the interview – you do not have to suddenly become a 'cold fish' during the interview.
  - Relax and enjoy the interview.
  - At the end of the interview, state why you are grateful to the participant for her/his time and inputs to allow the respondent to feel appreciated for their efforts to contribute to your research question.
- **Don't:**
  - Interrupt your interviewee.
  - Convey any approval, sympathy, or disagreement, with your interviewee's comments through words or actions (e.g., avoid encouraging nods, frowns, verbal affirmations, or disagreements) – the interview is about what the person thinks, and not about how you feel about what they think.
  - Answer the question for the interviewee.
  - Don't ask questions that can be answered with one word, such as 'yes' or 'no'.

- **What if the interviewee becomes frustrated or emotional during the interview?**
  - Stay calm.
  - Do not interrupt, try to defend, comfort the interviewee, or 'fix' the situation – say as little as possible and allow the person to calm down.
  - Turn the audio-recording audio recording off if the person requests this.
  - When the person has calmed down, ask a question that acknowledges the emotion, such as

    What about the situation prompted these strong emotions?

4. Feedback to participants

In conclusion to the interview:

- Thank participants for their time and goodwill
- Ask them if they have any questions
- Ask participants if they would prefer to see the transcripts of the interviews prior to their use as part of the dissertation.
- Ask participants if they want to receive feedback on the outcome of the research project.
- Keep promises and provide participants with the requested information.

5. Further preparation for the interviews

Use other useful interview advice available online to prepare yourself for the interviews, e.g.:

https://msu.edu/user/mkennedy/digitaladvisor/Research/interviewing.htm

https://sociology.fas.harvard.edu/files/sociology/files/interview_strategies.pdf

Appendix B: Informed Consent Form

MCom Applied Risk Management
UARM873 Mini-dissertation study
Interview Informed Consent Form

Study title: First line of defence risk-based decision making in a South African non-life insurer.

Student (also called 'the researcher' in this form): Buzwe Lindi

Study supervisor: Professor Hermien Zaaiman

Supervisor contact details: +2782 921 0463 and hermien.zaaiman@nwu.ac.za

---

Document aim

The aim of this document is to provide potential interview study participants with the opportunity to give formal informed consent to participate in this study.

Why this interview?

This is an academic study at master's degree level, which provides the student with the opportunity to learn how to do an interview-based study, while obtaining data expected to be useful for your organisation.

Informed consent process

The interviewer will obtain written consent from participants before setting up the interviews. Written consent is given by completing and signing this form.

Permission to do this study.

The South African non-life insurance company will provide formal permission for this study to be conducted. This study has been approved by the North-West University Faculty of Economic and Management Sciences Research Ethics Committee (EMS-REC.)

Study aim

This study is expected to contribute to a better understanding of how this South African non-life insurer approaches risk work, specifically the incorporation of risk into decision making.

Why have you been invited to take part?

Due to their roles within the organisation, participants have been invited to participate in this study. The investigation requires insights from all three lines of defence. As a participant, you are either active in the implementation of the company strategy or providing risk management support and monitoring.

Interview Questions

I am interested in your views on the inclusion of risk when the first line of defence makes decisions that may negatively impact growth and profitability.

1. Can you explain what risk-based decision making means to you, and how it fits into an organisation's overall risk management framework?
2. Considering the above, what kind of decisions require the first line of defence managers to actively include risk in the decision making process?
3. How does the first line of defence management go about including risk when they make decisions?
4. In your experience, what are some common challenges faced by the first line of defence management in incorporating risk when making such decisions?
5. How can the inclusion of risk in decision making be improved?

Interview process – what to expect from the interview.

The scheduled interview will last 30 - 45 minutes. I may request more information from you post-interview if necessary for clarifying study data. However, I shall endeavour to keep post-interview follow-up questions to a minimum. The interviews will be run in a semi-structured manner, meaning that I shall ask a set of open-ended questions and may ask additional questions to clarify my understanding of your response.

I need to audiotape your interview to allow me to transcribe and analyse your responses post-interview. This will allow me to give full attention to your responses during the interview and not get side-tracked by multiple notetakings. I therefore kindly request that you consent to such audiotaping based on the requirement that the recordings be deleted after transcribing (see Study data management).

Study data management

The audio recordings will be deleted after the information has been transcribed by the researcher or transcriber. If a separate (i.e., not the study researcher) transcriber is used, s/he will sign a confidentiality clause before transcribing (i.e., the transcriber may not talk to anybody about the study data). Neither the company nor the interviewee will be identified in the study transcriptions. The transcriptions constitute the raw data for this study, which will be stored safely by the researcher for three years. The interview content will be analysed and reported anonymously. Responsible members of the North-West University may be given access to the anonymised data for supervision and/or audit of the research. The researcher may wish to directly quote some of your responses in the study report, without identifying you. You will be asked to give permission for each such quote to be used.

Publication of the study results

The study will be written up as a confidential study report in the researcher's mini dissertation. The report will be made available to the organisation in which the study was done. Post examination, the study may be published as an academic article if formal permission to do so has been received by the organisation.

Potential risks to you and the organisation in taking part in this study.

Firstly, the interview will take up some of your valuable time, being a senior member of the organisation. This could extend to potential follow-on questions to seek clarity. The researcher will attempt to keep these succinct and to a minimum. The researcher will provide the list of questions to participants before interviews, to allow for preparations. Interviews will be scheduled for no more than 45 minutes, to allow for any follow-on questions and get clarity where required. A potential risk inherent to such interviews is that your identity might be divulged. This study however allows full confidentiality. To ensure confidentiality any information you provide will be removed from the insights gathered from your answers. You may also be weary of painting the organisation in a negative light. The researcher will make all efforts to keep both individual and organisation information confidential. The name of your organisation will not be mentioned in the assignment report, only the industry in which it operates could be divulged. Further to this, all information shared will be removed from the data obtained during the interview. Lastly, as mentioned above, all recordings will be disposed of, and transcripts will only be shared with the lecturer reviewing the assignment. Should you have any other concerns about taking part in this study, please contact the researcher or module leader to discuss your concerns. Should the organisation or participants have concerns about taking part in this study, please contact the researcher or study supervisor to discuss your concerns.

Potential benefits to you in taking part in this study.

Contribute valuable research findings that will drive the correct behaviour when approaching risk management. Risk management is pivotal in protecting and creating value for the organisation at hand.

Should you have concerns about this study?

The interviewer has been trained to interview in an ethical and academically sound manner. Should you have any concerns about the interview that cannot be allayed by the researcher, either before or after the interview, you are welcome to contact the student's supervisor (contact details above) to discuss these concerns. Should you wish to further escalate your concerns, please contact the module leader, prof Hermien Zaaiman at hermien.zaaiman@nwu.ac.za (082 921 0463).

Informed consent	yes/no
I have read and understood this consent form.	
I have had a chance to ask the researcher questions on the study.	
These questions have been adequately answered for me to be able to provide informed consent to participate in this study.	
I understand that taking part in this study is voluntary.	
I have not been pressurised to take part in this study.	
I understand that I may exit the study at any time without being penalised or prejudiced against in any way.	
I hereby provide consent to contribute to this study under the conditions explained in this form.	

Initial each page and sign

Participant Signature:

Date:

Researcher Signature:

Date:

Appendix C: Study contribution to the organisation and summary of findings dashboard

Contribution to the organisation

Objective	Details
RBDM Understanding	There appears to be a consensus among all three lines of defence participants regarding their understanding of the concept of Risk-Based Decision Making (RBDM), the kinds of decisions that necessitate the inclusion of risk, and the methods used to consider risk in decision-making processes throughout the organization. Communicating the various approaches employed by individual departments to other areas could be beneficial, especially if there is an approach that one area finds advantageous and that others have not yet adopted.
Challenges of RBDM	The study presents the organisation with a set of challenges that management can thoroughly examine and tackle for enhancing RBDM. Given the study's limitations, the organisation may cross-reference these challenges with other departments to explore whether they are facing similar issues.
Improving RBDM	The lines of defence have put forward several recommendations on addressing challenges affecting risk-based decision making. The management team could analyse these solutions and address those they perceive as systemic issues across the organization. For instance, focusing on areas such as data management and enhancing risk management awareness could be key considerations.

Summary of findings

Objective	Commentary of overall finding
RBDM Understanding	The study findings reveal a shared perspective among participants on the vital importance of integrating risk-related information into decision-making processes across all lines of defence.
Challenges of RBDM	Challenges stemming from the volatile, uncertain, complex, and ambiguous operational environment significantly impact the incorporation of risk considerations into decision-making. These challenges may influence an organisation's targets, potentially leading the first line of defence to prioritise operational goals over risk

Objective	Commentary of overall finding
	awareness. This is further exacerbated by capacity constraints and the availability of resources.
Improving RBDM	Participants emphasised the need for improvement in risk awareness, the tone set by leadership, and the overall culture of risk management to enhance the integration of risk into decision-making processes.