

Risk Culture and Risk Management within Gauteng Government Departments

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ABSTRACT

Regardless of the sector, organisations are faced with various risks, and risk culture has been identified as the key barrier to effective risk management. The financial crises exposed shortcomings in risk culture, as well as insufficient risk management systems and controls, resulting in substantial losses and institutional failures. The primary purpose of the study was to evaluate whether risk culture influences the implementation of risk management within the Gauteng Provincial Departments. The study employed a quantitative and positivist research methodology. Data was gathered utilising a cross-sectional approach through questionnaire. 81 cases were collected from senior management in various departments that were chosen. Cronbach's alpha was utilised as the appropriate measure for assessing reliability. The results showed that leadership support, communication, and accountability are the primary factors influencing effective risk management, whereas risk awareness and risk behaviour did not show a meaningful correlation. A robust risk culture is essential for effective risk management within an organisation, and it should be integrated into all departmental processes.

Key Words: Risk Culture, Risk Management, Leadership support, Risk awareness.

DECLARATION

I, Madiagane Rahab Marota declare that this research report is my own work except as indicated in the references and acknowledgements. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in this or any other university.

Name: Madiagane Rahab Marota

Signature: 

Signed in Johannesburg

On the 29 day of February 2024

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CHAPTER 1. INTRODUCTION

1.1 Statement of purpose

The purpose of the study was to assess how risk culture affects the adoption of risk-management strategies and the importance of leadership support in promoting a strong risk culture within the Gauteng Provincial Government (GPG).

1.2 Background of the study

Numerous corporate scandals and financial crises that led to the failure of multiple financial institutions have demonstrated the need for effective risk management (Sheedy & Canestrari-Soh, 2023). The concept of risk management gained momentum in the 1990s, a decade that was characterised by well-known corporate scandals and business failures (Alawattagama, 2022). Risk management is believed to be the cornerstone of good governance and a viable solution to economic issues in both the public and financial sectors (Huber & Scheytt, 2013). Risk management was initially embraced by financial institutions; however, it is now extensively employed by a range of organisations, including the public sector (Palermo, 2017; Huber & Scheytt, 2013).

Enterprise Risk Management (ERM) was developed to augment the traditional approach to risk management. ERM uses coordinated approach to risk management as opposed to handling various risks in "silos" and gives leaders confidence in risk response, strategic planning, and resource allocation (Alawattagama, 2022; Prewett & Terry, 2018). ERM is becoming more popular as a means of managing and reducing risks in many industries, with the potential to enhance corporate governance and ensure accountability (Hassan & Yazid, 2019).

Effective risk management solutions rely on a strong risk culture that encompasses all facets of risk management (Kanu, 2022). The absence of risk culture in an organisation greatly limits its ability to manage risks and affects the achievement of strategic and operational goals (Domańska-Szaruga, 2020). An effective risk

management process relies on a robust risk culture, while a poor risk culture might undermine its effectiveness (Sheedy & Canestrari-Soh, 2023).

Risk management frameworks such as the Committee of Sponsoring Organisations (COSO) and the International Organisation for Standardisation (ISO 31000) were established to guide risk management processes (Sityata et al., 2021). In the South African public sector's context, the National Treasury developed a risk management framework in line with the Public Finance Management Act (PFMA), 1999, which requires the accounting officers and authorities to maintain effective, efficient, and transparent systems of risk management to mitigate the risks to an acceptable level and identify opportunities. National Treasury established risk management framework which is aligned to the COSO framework and the ISO 31000. The Gauteng departments adopted the National Treasury framework to guide risk management processes in the province.

1.3 Context of the study

The main responsibility of the public sector is to deliver essential social services, including but not limited to healthcare, public safety, education, social welfare, and housing. There is a global demand for enhanced understanding of risk management in the public sector, especially in emerging and developing countries (Ahmeti & Vladi, 2017). The South African public sector faces numerous obstacles such as backlog in infrastructure projects, excessive bureaucracy, silo mindset and conflicting objectives (National Treasury, 2010). The public sector is required to properly tackle these obstacles to reduce their negative impact on society.

The National Treasury developed a public sector risk management framework that sets the tone when it comes to risk management in the public sector (Moloi, 2016). National Treasury recognises that institutions are heterogeneous, and that the framework will not be able to cover all the intricacies of the organisations; as a result, the framework is principle-based rather than prescriptive (National Treasury, 2010). The risk management framework allows departments to customise their risk management tools to suit their environment. It is up to the organisations to select the framework that best meets their company's scope and complexity since there is no one-size-fits-all ERM definition that applies to all organisations (Wong, 2020).

1.3.1 Risk culture

Risk culture is defined by Agarwal and Kallapur (2018) as the "tone at the top", and how the culture finds its way to the entire organisation and stakeholders. Risk culture refers to the behaviours and attitudes present across an organisation that influence decision-making about risks (Wong, 2020). Risk culture is the attitude towards risk management in an organisation (Wong, 2020). Underestimating the importance of risk culture could impede the implementation of ERM (Selamat & Ibrahim, 2018). Without a strong risk culture, organisations risk management is likely to be unsuccessful since culture operates separately from policies and processes (KPMG, 2018). It is necessary to evaluate the risk culture perceptions in every organisation to minimise risk exposure.

For ERM to be effective, a robust risk culture needs to be ingrained across the business (Kanu, 2020). A robust risk culture in government is closely linked to delivering services to citizens (KPMG, 2018). To ensure successful implementation of risk management, organisations should adopt a culture of risk consciousness. Soft skills such risk culture can enhance employee risk awareness and boost business success (Grieser & Pedell, 2021).

1.3.2 Enterprise Risk Management

Regardless of the sector, organisations are faced with environmental, financial, compliance, operational, and strategic risks (Sityata et al., 2021; Joel & Vyas-Doorgapersad, 2019). The goal of ERM, is to achieve a company's strategy by integrating all risk management activities into a single integrated and comprehensive framework (Wong et al., 2021). COSO (2017, p. 10) defines ERM as "the culture, capabilities, and practises, integrated with strategy-setting and its performance, that organisations rely on to manage risk in creating, preserving, and realising value". ERM in the public sector helps integrate and address risks comprehensively, moving away from the old silo approach.

The enactment of the PFMA necessitated the public sector institutions to apply basic risk management processes, which include the establishment of risk management units, risk management strategies and policies. According to Selamat and Ibrahim (2018), risk management has various benefits, such as value creation, understanding

the competency of the business, and decisions made based on meticulous judgement. A strong risk culture is required for organisations to execute a proactive risk management plan (Selamat & Ibrahim, 2018).

1.3.3 Leadership support - Tone at the top

The success of risk management depends strongly on leadership support (Oliveira et al., 2018). Senior management is thought to have a significant impact on determining the organisation's overall risk governance (Kabuye et al., 2019). The level of dedication to having an open, direct, honest, and morally upright corporate culture by management and those responsible for the entity's governance is referred to as the "tone at the top" (Kabuye et al., 2019). The phrase "tone at the top" refers to the belief that, while decisions are made at all levels of an organisation, those at the top are ultimately responsible for the firm's strategic direction, and this idea was highlighted as an important component of risk culture (Osman & Lew, 2020). Leaders should foster a culture of risk by offering decision-making tools and establishing a secure environment for risk reporting (Osman & Lew, 2020).

1.4 Research problem

Several studies suggest that the organisation's failure to incorporate risk into all aspects of its operations is due to weak risk culture (Agarwal & Kallapur, 2018). The financial crises revealed deficiencies in risk culture, together with inadequate risk management systems and controls, leading to significant losses and institutional collapses (Ghafoori et al., 2023). Some of the major disasters, whether in the public or private sector, are due to undesired culture (KPMG, 2018). Risk culture is a crucial element of organisation risk management but is often overlooked (KPMG, 2018). According to The Institute of Risk Management South Africa (IRMSA) South Africa is dealing with a variety of interconnected risks that, if not properly addressed, might cause the nation to fail (IRMSA, 2022). The public sector established risk management structures; however, these processes are not fully embraced by the public institutions, and as a result, the value add is not recognised. Organisations struggle with risk management because competing priorities take precedence.

Contrary to the banking sector, research reveals that management in the public sector avoids taking risks to avoid being held accountable (Bracci et al., 2021).

The Auditor-General South Africa (AGSA) noted several challenges, such as delayed service delivery, breaches of laws and regulations resulting in irregular expenditure, and the lack of progress in audit outcomes (AGSA, 2022). It is critical for the public sector to establish a strong risk culture to be able to mitigate the risk associated with the non-delivery of services to citizens.

Challenges in implementing ERM include the absence of support from management, conflicting priorities, cultural barriers, insufficient knowledge of risk management, the perception of risk management as an optional activity rather than a strategic necessity, limited awareness of the benefit of risk management, and a lack of ownership just to name a few (Moshesh et al., 2018; Joel & Vyas-Doorgapersad, 2019).

1.5 Research questions

The primary question that this study seeks to address is how risk culture (leadership support, risk behaviour, and risk awareness and communication) influences risk management implementation within the GPG. In addition, it seeks to establish, to what extent does leadership promote the risk culture within the GPG.

1.6 Research Objectives

The objective of this research is to evaluate whether risk culture influence the implementation of risk management and to establish leadership's support in promoting the risk culture within the GPG.

1.7 Rationale of the Study

Organisational risk culture is the most critical aspect of effective risk management practises and is strongly impacted by leadership characteristics (Aziz & Manab, 2020). Hussaini et al. (2018) stated that several scholars such as Kpodo and Agyekum

(2015), Asree, Zain, and Razalli (2010), and Ahmed and Shafiq (2013), have recognised a relationship between risk culture and organisational performance. Furthermore, Saeidi et al. (2020) cited that various studies were conducted on the relationship between ERM and organisational performance such as Chen et al. (2019), Florio and Leoni (2017), Hanggraeni et al. (2019), Ojeka et al.(2019), Teoh et al. (2017) and Zungu et al. (2018), however, the research on the effect of organisational culture on ERM effectiveness is limited.

The concept of risk culture has not been thoroughly investigated (Moczyłowska et al., 2023). Research on risk culture mostly focuses on the financial sector (Grebe & Marx, 2023; Moczyłowska et al., 2023). Agarwal and Kallapur (2018) also assert that there is insufficient study on how risk culture is created. As a result of insufficient body of work on whether risk culture has an impact on risk management, a study is needed to assess the impact (Kanu, 2022). This study provides useful insights on the importance of risk culture in implementing risk management in the public sector. The analysis could help the senior managers of GPG in seeing an opportunity to develop a robust risk culture for the successful execution of risk management strategies. Moreover, to help risk officers evaluate the department's risk culture and recommend best practices.

1.8 Delimitations of the study

The study concentrates on GPG only, with participation restricted to senior management as they are the risk owners. Thus, the conclusions may not be universally applicable to the entire public sector. The study does not delve deep into the organisational culture or the impact that risk management has on the department's performance. An online survey was utilised to collect data for the study, which aims to understand senior management's perspective of risk culture rather than observing their actual behaviour. Six departments were randomly selected for this study.

1.9 Assumptions

This study assumed that participants possess expertise in risk management and comprehend related concepts. Furthermore, senior managers are aware of the

advantages of risk management and the need of leadership backing in executing risk management strategies.

1.10 Summary

Regardless of the sector, organisations encounter risks. ERM integrates and standardises all risk management methods into a cohesive and comprehensive framework, ensuring effective risk management. Many organisations encounter risk. Without a strong risk culture, an organisation's risk management initiatives are likely to be unsuccessful, as culture operates separately from policies and processes. Most studies on risk management and risk culture have been focused on the financial sector, with a limited amount of research undertaken in the public sector. The study seeks to assess the impact of risk culture on the execution of risk management and the extend of leadership support in the GPG.

1.11 Structure of the Dissertation

The study is divided into 6 chapters which are detailed below:

Table 1 : Structure of the Dissertation

Chapter 1	Outlines the background of the study, the context of the study, research problem, research questions, research objectives, rationale of the study, delimitation of the study
Chapter 2	The chapter provides literature review and addresses the research questions and objectives, also provide the theoretical and conceptual framework
Chapter 3	The chapter outlines research methodology, the research design, the approached used to collect, sample and procedures employed for data collection. Including data analysis and possible limitation.

	Lastly quality assurance, ethical consideration and proposed schedule and timelines
Chapter 4	The chapter aims to describe the study's findings in accordance with the hypotheses proposed in chapter 2
Chapter 5	The chapter highlights the most significant results obtained from the survey.
Chapter 6	The final chapter deals with the conclusion and the recommendations.

CHAPTER 2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

The study's context was presented in Chapter 1, this chapter aims to offer an overview of the study topic and examine pertinent literature based on the research's scope and primary questions. The study aims to investigate the influence of risk culture on risk management implementation in the GPG and evaluate the leadership's dedication to promoting a strong risk culture. In addition, a conceptual framework is outlined which is based on the literature review.

2.2 Definition of topic or background discussion

In this study, an introduction to the concepts of risk, organisational culture, risk culture, ERM and tone at the top is provided to establish the conceptual and theoretical context for the research.

2.2.1 Risk

The financial crisis and occurrences such as the COVID-19 pandemic have underscored the criticality of risk management for all organisations. (Bracci et al., 2021). The term risk refers to "an unwanted outcome, actual or potential, to the institution's service delivery and other performance objectives, caused by the presence of risk factor(s) (National Treasury, 2010, p. 15). Uncertainty regarding the outcomes of an action in respect to anything that both individuals and organisations value and manage is referred to as risk (Ghafoori et al., 2023). Risk refers to the uncertainties of events, whether positive or negative, that may have an impact on the business (Grieser & Pedell, 2021). If risks are not well managed, they could negatively affect the reputation of the organisations and lead to poor judgement, which affected some of the large companies such as KPMG, McKinsey, and Steinhoff (Osman & Lew, 2020).

Risks have two aspects: the upside, which involves seizing opportunities, and the downside, which pertains to threats and missed opportunities (Moloi, 2016). Risk

can be explained as "you don't know for sure what will happen", while uncertainty would refer to "you don't even know the odds of what will happen" (Jankensgård, 2019, p. 92), meaning that risk can be measured, and uncertainty is immeasurable. There is no single definition of risk that captures all possible risk interpretations because risk is context-dependent (Whittle & Nel-Sanders, 2022). The downside of risks impede businesses from achieving their objectives, hence it is imperative to consistently monitor the risks facing the organisation.

2.2.2 Organisational Culture

According to Kanu (2021) an employee's decisions and behaviours within an organisation are impacted by the organisation's culture. Ghafoori et al. (2023) asserts that culture refers to individuals' attitudes, beliefs, and shared values that manifest in an organisation. According to Umrani et al. (2017), even though there is no single, widely agreed-upon definition, most studies define culture as a "shared collection of values, beliefs, and practises". Culture is referred to as "the way we do things around here" (Lee, 2019). Culture is learned; it's not acquired or handed down (Ring et al., 2014).

Some studies associate a strong organisational culture to good risk management, while others find no correlation. Wong (2020) asserts that Muralidhar (2010) argues that unfavourable organisational culture is a barrier to the implementation of ERM. KPMG (2018) also asserts that culture is a major barrier to implementing effective risk management. However, Chen et al. (2019) reported an insignificant correlation between organisational culture and the maturity of risk management. Saeidi et al. (2020) also asserts that there is no substantial influence of organisational culture on ERM. Kanu (2022) argues that positive organisational culture does not translate to a sound risk culture due to management's perception of risk management as a compliance tool.

According to the EY survey, 80% of organisations that are leaders in risk management frequently or always discuss the culture required to support the organisation's strategy during board meetings (EY, 2021). A well-defined corporate culture including statutory requirements and social norms all play a role in how risk management is adopted (Bracci et al., 2021). According to Ghafoori et al. (2023) it

is critical to understand the culture within the organisation to effect necessary change. Leaders should comprehend and manage the organisational culture and implement strategies to mitigate associated risks, as it significantly impacts the organisation's outcomes (Hassan & Yazid, 2019).

2.2.3 Risk Culture

The study on organisational culture offers a complementary viewpoint to define risk culture (Osman & Lew, 2020). The difference between organisational culture and risk culture is that the former outlines the broad historical context that may give rise to the specific risk culture (Chen et al., 2019). While organisational and risk culture are somewhat related, risk culture is more complex to evaluate since it has its own biases, as employees may interpret risk as personal failures and opposed to taking risks (Grieser & Pedell, 2021). According to Ho et al. (2024) it is difficult to measure an organisation's risk culture due to its intangible character. The way risks are managed differs from one organisation to another and has an impact on risk culture (Grieser & Pedell, 2021).

Risk culture is defined as "the collection of recommended and accepted behaviours, concepts, judgements, and attitudes towards taking and managing risk in an organisation" (Wong, 2020). In general, risk culture describes the way people manage risks in a particular social setting, such as an organisation (Streicher et al., 2018). Risk culture is significantly influenced by a leader's leadership style, which is linked to the culture of the organisation and reflects what the organisation values most (Osman & Lew, 2020). Mid-level management and other employees play a crucial role in shaping risk culture, not just senior management (Grieser & Pedell, 2021; Wong, 2020). The definitions presented by Wong (2020) and Streicher et al. (2018) are considered pertinent since the study aims to determine whether the risk culture influences the successful implementation of risk management in the GPG.

Risk culture enables business units to manage risks and track residual risks by assessing their effect and probability using a consistent approach across the entire organisation (Selamat & Ibrahim, 2018). Risk culture offers numerous benefits in that it can foster an environment of risk awareness, encourage communication, and highlight the necessity of risk management (Grieser & Pedell, 2021). Risk culture

may hold the key to answering the numerous instances of organisations that fail despite their investment in risk management policy and governance (Raab, 2022). Organisations with strong risk cultures typically perform better as a whole, discover opportunities, and foster teamwork to lower overall risk (Raab, 2022; Kanu, 2021; Osman & Lew, 2020).

Even though the institution's resilience is dependent on its risk-taking attitude, research have demonstrated that theoretical and empirical studies on risk culture are inadequate (Raab, 2022; Kanu, 2021). Risk culture is a complicated issue that is still developing from any perspective and the literature does not provide measurement of risk culture (Grieser & Pedell, 2021). Wong (2020) posits that ERM is widely recognised; however, little has been done to investigate how risk culture influences ERM.

Hussaini et al. (2018) identified four indicators of risk culture, with the first being "tone at the top," which refers to the board and senior management comprehending their duties and responsibilities in risk management. ii) Accountability which includes risk management activities into job descriptions. iii) Promote open communication and transparency among the board, management, and personnel to ensure successful communication. iv) To incentivize individuals that excel in controlling risks, methods such as performance assessment and career promotion can be utilised.

2.2.3.1 Indicators of Risk culture

2.2.3.1.1 Leadership support-tone at the top

Critical to risk culture, is the tone at the top (Sheedy & Canestrari-Soh, 2023). The engagement of senior management is crucial for the success of ERM. Without their assistance, the organisation's performance is compromised (Selamat & Ibrahim, 2018; Agarwal & Kallapur, 2018). The term "tone at the top" pertains to the executives' response to adverse outcomes, their degree of endorsement for risk management activities, and their allocation of resources for adopting risk management strategies (Agarwal & Kallapur, 2018; Whittle & Nel-Sanders, 2022).

The support of leadership in embedding the risk culture within the organisation is crucial to ensuring effective risk management (Oliveira et al., 2018; Hassan & Yazid, 2019; Raab, 2022; Grieser & Pedell, 2021). According to Alawattegama (2022), some of the contributing factor to risk management failure is lack of support from the leadership. Inconsistencies in leadership may develop counter-subcultures that operate against organisations (Raab, 2022). A strong sense of accountability motivates executives to model and positively reinforce risk management behaviours on a consistent and continuous basis (Sheedy & Canestrari-Soh, 2023). According to the AGSA, auditees that demonstrate excellent leadership at the highest level tend to achieve favourable audit outcomes (AGSA, 2022).

2.2.3.1.2 Risk awareness and communication

Risk awareness is a vital component of risk culture (Sekaran & Bougie, 2016). While the concept of "risk culture" remains unclear, there is a consensus that one of its fundamental components is risk awareness (Braumann et al., 2020). Establishing a risk culture within the organisation is essential for improving awareness and understanding of risk-related concerns (Oliveira et al. 2018). Risk awareness is essential to ERM success as a cultural component of risk management (Braumann, 2018). Promoting risk awareness involves ensuring that all employees proactively manage and communicate crucial risks (Braumann, 2018).

Risk awareness, as described by Braumann (2018), refers to employees, particularly senior management, demonstrating risk awareness when considering the potential repercussions of their actions on the organisation. Risk awareness assist managers discover and assess corporate strategic risks (Braumann, 2018). Employees who are risk-aware can discover risks that provide value to the firm. Recent studies highlight the limitations of formal risk-management tools due to information overload, rationality constraints, and complex risks. Creating an appropriate risk culture, with risk awareness as a key component, is crucial. (Braumann et al., 2020).

To develop a strong risk awareness, it is essential for the leadership to provide complete support, build risk-related behaviours, and ensure effective communication

channels (Braumann et al., 2020). While risk awareness is recognised as a crucial aspect of risk culture, there is currently no clear correlation between risk awareness and risk management, and research in this area is limited (Braumann, 2018b). Effective communication among the stakeholders in risk management procedures is crucial for ERM efforts (Oliveira et al., 2018). According to Raab (2022), there are three key contributing factors when it comes to risk management implementation: i) leadership; ii) communication; and iii) organisational culture. These factors can make or break the implementation of risk management in an organisation. Communication and monitoring are crucial technique for sharing knowledge and comprehending risk management decisions (Kajwang, 2022).

2.2.4 ERM implementation

Organisations are operating in a volatile, uncertain, complex, and ambiguous (VUCA) world, necessitating strong planning and risk management to promote integration and eradicate silo thinking (Kanu, 2022). ERM is defined as a holistic strategy for detecting, assessing, and managing risks in such a way that they are dealt with collectively rather than individually (Chen et al., 2019). Blunden and Thirlwell (2013) define ERM as the culture, procedures, and instruments used to discover strategic opportunities and reduce uncertainty. The definition of ERM by COSO (2017) and Blunden and Thirlwell (2013) recognises the importance of culture in executing risk management strategies. Organisations should pay attention to its risk culture as it can provide competitive advantage.

ERM eliminates the silo mentality and approaches risk holistically, moving from traditional risk management to a more comprehensive approach (Hassan & Yazid, 2019). The concept of risk management has become more crucial to managing reputational risks and risks associated with strategic and operational aspects of the organisation (Osman & Lew, 2020; Wong, 2020). ERM is growing in popularity among public sector because of public demand for efficiently run government (Vergotine & Thomas, 2016). To achieve organisational goals, various decisions need to be made, and each decision has some level of risk. According to Streicher et al. (2018), risk management's purpose is to assess the likelihood and severity of potential harm and devise mitigating techniques to reduce the impact, not eliminate

risks. Management competency is key to rolling out risk management activities throughout the organisation (Selamat and Ibrahim, 2018).

According to Bracci et al. (2021), there are three building blocks for risk management: i) the development of a risk culture that prioritises organisations risk management with long-term goals and risk awareness; ii) clearly define roles and responsibilities; a top-down and bottom-up risk approach is needed, and political leadership should promote risk culture. iii) Technology: risk management is interconnected, and using technology to manage risks reduces silos.

Oliveira et al. (2018) conducted a study that highlighted ten critical success factors in improving risk culture. This study will focus on top five namely: i) risk identification, analysis, and response; ii) significant commitment to risk processes by management; iii) key personnel dedicated to facilitating risk management within the organisation; iv) improvement of ERM processes and activities; v) promotion of risk consciousness. Hassan and Yazid (2019) identified two success factors in risk management: i) leadership understanding of risk management techniques; ii) competencies, qualifications, and experience of leaders. The identified success elements aim to enhance risk culture and, consequently, risk management throughout the organisation.

Research undertaken by The Institute Risk of Management (IRM) found that in general, 44% of identified risks were not properly managed. Some of the reasons include i) anxiety to deal with complex risks, ii) ignoring complex risks, iii) lack of statistical data to predict risks, iv) failure to pay attention to the risks that really matter and v) risk management activities are being viewed as a tick-box exercise (IRM, 2023). Moloi (2016) asserts that, generally, there are inadequate risk management strategies employed by the National Departments, which is not ideal as these departments are vehicles for service delivery. Despite some advancements in risk management studies, research suggests that there remains a lack of comprehensive study on risk management in the public sector. (Bracci et al., 2021; Chen et al., 2019).

2.2.5 Legislative framework

According to the Public Finance Management Act No.1 of 1999 (PFMA), sections 38(i)(a) and 51(1)(i)(a), the accounting officer or authority is required to establish risk management and internal control systems within the departments and public entities. Unlike the banking sector, which is based on strong regulations such as Basel Committee (Sheedy & Griffin, 2017), there is no regulation governing the public sector other than the PFMA and the King code which advocate for good governance practices. In the public sector, risk management is compliance driven as outlined by the legislative framework.

2.2.5.1 Audit committee

Treasury Regulation, 2005, Section 3.1, required that the accounting officer appoint an audit committee for non-shared services, or the relevant Treasury appoint an audit committee for shared services. According to Treasury Regulation 3.1.10, the audit committee, as part of their duties, must review the adequacy of the risk management within the organisation and internal and external audits, and these risk areas should form part of the audit. In addition, the committee must report on the effectiveness of risk management in the annual report. The audit committee heavily depends on senior management to execute the risk management strategies.

2.3 Theoretical and conceptual framework

2.3.1 Theories of culture

The public sector's responsibility is to improve the lives of its citizens, meaning it is service driven. According to the AGSA (2022), despite the existence of well-designed processes with clear responsibilities the public continues to experience a lack of service delivery. The AGSA also noted insufficient financial management, non-compliance with laws, and fraud and corruption. Risk identification alone is not adequate; commitment from different stakeholders and an adequate risk culture are essential. The theories utilised for this study are listed below

2.3.1.1 Culture Theory of Risk

Culture Theory provides a framework for comprehending how social groups perceive risk and develop trust or mistrust for the institutions responsible for generating and controlling risk (Tansey & O’riordan, 1999). McEvoy et al. (2017, p. 853) posit that “the theory focuses on collective, social, and shared conventions that influence individuals' perceptions”. The theory argues that the risks are socially selected and designed to serve the social groups of people who observe and understand them (Johnson & Swedlow, 2019).

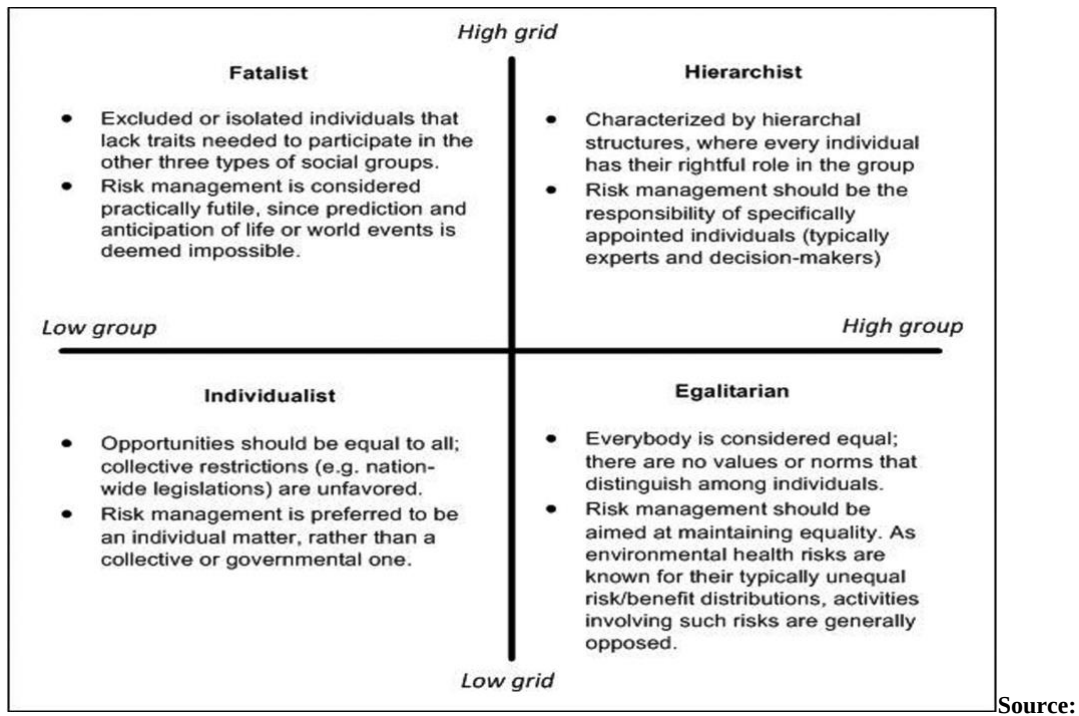
According to Johnson and Swedlow (2019), cultural theory, which is based on grid/group analysis, is a cultural bias that affects views of which risks are high or low and how to handle them. The "grid group" concept makes it easier to understand how four separate social groups with differing core principles influence people's perceptions and actions. Later research refined and clarified the four types of culture influenced by the "grid-group" paradigm . Zeng et al., 2020; Johnson and Swedlow (2019) posits that Douglas (1982) identified four types of culture, namely: i) hierarchy (high group, high grid), which is driven by position; ii) individualism (low grid, low group), driven by market forces and rivalry; iii) egalitarianism (high group, low grid), resulting from group solidarity; and iv) fatalism (low group, high grid), caused by restricted mobility. Most academics appear to understand the significance of culture theory when discussing culture and its connection to risk analysis (Johnson & Swedlow, 2019).

McEvoy et al. (2017) define the four types of culture highlighting that Individualists place a greater emphasis on and advocate market-based solutions and are more interested in personal responsibility and freedom. Individuals tend to dismiss the risks associated with technology and the environment for personal gain. In contrast to individualism, egalitarianism favours collaboration and cooperation, wants the law to be applied equally to all people, and seeks to shield the weak from technological and environmental risks. However, smaller organisations are preferred by egalitarians who dislike external hierarchical interference. Hierarchists function in a highly regulated environment with high hierarchical structures, distinct responsibilities, promote social distinction, and have incredibly strong social ties among themselves. Lastly, Fatalists are peripheral members of society with minimal

social bonds, but they are subject to a variety of societal influences beyond their control. Figure 1 depicts the relationship between each group and risk management, beginning with fatalists who do not consider risk management to be a key factor, individualists who believe risk should be managed in silos, hierarchicalists who believe there should be a dedicated person to deal with risk, and egalitarians who believe proper risk assessments should be taken for the benefit of others.

According to Tansey and O’riordan (1999), the theory has its own challenges as identified by Gross and Rayner (1985), highlighting that this model does not rule out psychological theories that describe how various personality types may lean more towards certain social contexts than others. According to McEvoy et al. (2017, p. 855), Douglas does not claim that the typology will identify pure types but can provide an understanding of how an individual is embedded in a cohesive cultural theory based on perceptions of risk, responsibility, and competence.

The relationship between cultural theory and risk culture is evident through the defined groups or grid within the working environment that impact the organisation's perception of risks. This research applies the cultural theory of risk to evaluate the risk culture in the Gauteng departments using the grid typology proposed by Douglas. The theory is linked to the risk attitudes of employees, as it helps to assess the department’s risk mindset and the level of accountability among employees.



Clahsen et al. (2018, p. 8)

Figure 1: Cultural Theory of Risk's grid-group typology, using the "grid" and "group" concepts.
Organisational culture theory

Organisational culture

Organisational Culture Theory involves the organisation's process, technology, and people for interaction towards risk management procedures and triggers culture risk within an organisation (Streicher et al., 2018). The Organisational Culture Theory provides a significant influence on risk management through its discipline and capability in analysing risk behaviour within an organisation's performance

Organisational culture refers to how common assumptions, artefacts, and professed ideals influence the functioning of an organisation (Schein & Schein, 2018). The organisational culture consist of artifacts, espoused beliefs and values, and basic assumption (Schein & Schein, 2018).

i) Artifacts

According to Streicher et al. (2018, p. 235), artifacts encompass all visible, explicit, and accessible behaviours, structures, norms, processes, and similar elements. Members are cognizant of artifacts, and these artifacts are readily apparent to

outsiders. Artifacts are easily observable and quantifiable however, organisations should not solely rely on artefacts to assess organisational culture as they are easily visible but challenging to interpret (Raab, 2022).

ii) Espoused beliefs and values

Espoused beliefs and values reflect “the strategies, agendas, goals, philosophies, and principles associated with risks. Employees are aware of them, yet they are not necessarily observable from the outside” (Streicher et al., 2018, p. 236). Raab (2022) posit that espoused beliefs and values might be conflicting since they are so abstract and frequently fail to explain the actions of employees. Values and beliefs can greatly impact the perception and management of risks within the departments.

iii) Basic Assumption

Basic assumption relates to “feelings, affects, un-or subconscious influences of personality and temperament, cognitive states and representations, thoughts, implicit group norms, hidden agendas, and shared implicit learning experiences” (Streicher et al., 2018, p. 236). Raab (2022) argues that conventional methods influence an organisation's culture and might lead people to respond incorrectly to a circumstance based on past success. Individuals who propose a new mechanism for nonconformance may be excluded from the group”(Raab, 2022). Senior management may choose to maintain reliance on current risk mitigation strategies due to their proven effectiveness, rather than exploring new methods, which could result in catastrophic outcomes if the established methods were to fail.

2.3.1.2 Risk management theoretical framework

Principal-agent relationship

The principle-agent relationship represents the conflict between the principal's interest and the agent's interest, (Munika, 2021). Munika (2021) asserts that the principle demands high returns on their capital, and management desires fair compensation for achieving objectives. The board of directors frequently employ ERM to handle conflicts of interest under the principal agency theory (Jankensgård,

2019). Agency theory encourages senior management to continuously commit to ERM to ensure its implementation (Selamat & Ibrahim 2018).

According to Phelps (1996) agency theory focuses on encouraging the agent to give their all and take calculated risks, in this case the employee commit to give their all to the organisation to ensure service delivery. The agency theory places a strong emphasis on the use of risk management by agents on behalf of the principle. The theory can be linked to COSO framework, which requires management to implement risk management strategies on behalf of the governance bodies. According to this theory, a conflict of interest is likely to arise between the principle and agent due to differing perspectives on risk management. The theory is pertinent to the study as it examines how leadership ensures that risk management activities are integrated into the organisation and that management is completely responsible for the decisions made.

2.3.2 Risk management framework

ERM is an all-encompassing and integrated framework used to control and minimise unexpected volatility, achieve business objectives, and increase a company's value (Wong, 2020). Raab (2022) emphasised that while COSO and ISO 31000 both offer risk management frameworks, COSO addresses culture by focusing on behaviour, whereas ISO 31000 defines an organisation's culture but lacks explicit guidance on assessing or cultivating a positive culture. Nevertheless, these frameworks offer the most effective approach to risk management. According to Vergotine and Thomas (2016) a comprehensive risk management framework should include a combination of structures, processes, systems, methodology, and people within the specific context of the organisation. The COSO framework is used by several scholars as the risk management framework for financial and non-financial institutions.

2.3.2.1 COSO framework

The COSO framework identified 5 interrelated concepts to guide institutions in implementing risk management activities (COSO, 2017). The concepts are briefly discussed below.



Figure 2: COSO framework: 2017

Step 1 - Governance and Culture: (Structures)

Governance outlines the responsibilities for overseeing ERM, setting the organisational tone, and ensuring the necessary skills and capacity to fulfil the oversight duties. Senior management significantly impacts risk governance and culture via a top-down strategy (COSO, 2017). Agarwal and Kallapur (2018) argue that capabilities play a crucial role in risk management by highlighting the significance of cultivating skills inside the organisation to address uncertainty.

Step 2 - Strategy and Objective-Setting (Internal Environment and Objective Setting)

Risk activities are strategic, and strategic goals and objectives must be in place before the identification of risks. Organisations should establish risk appetite and tolerance levels that are in line with their strategy (COSO, 2017). Risk appetite and tolerance are crucial elements of a culture of risk management. Regular utilisation of risk policy and appetite/tolerance by employees demonstrates a robust risk culture (Wong et al., 2021). Implementing risk appetite and tolerance levels demonstrates leadership commitment to integrating risk strategies into strategic goals and objectives.

Step 3 – Performance (Risk Identification, control activities and assessment)

The ERM framework typically consists of five successive processes, namely: i) risk identification; ii) risk assessment; iii) risk evaluation; iv) risk treatment; and v) monitoring and reporting (Wong, 2020; Streicher et al., 2018, IRM 2023).

Figure 3

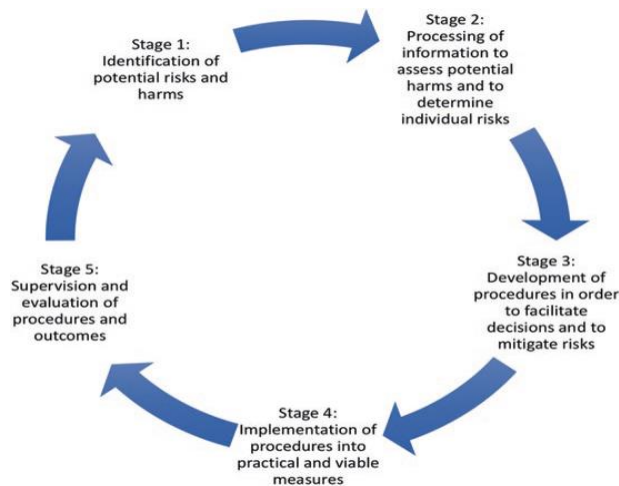


Figure 3: Risk management process:

Source: Streicher et al.(2018)

a) Risk identification

Risk identification is about analysing what can go wrong with the strategic objectives set by the organisation (IRM, 2023). National Treasury (2010) highlights that the public sector should identify strategic, operational, project, fraud, safety and environmental risks. The identification stage involves interviewing employees and analysing financial and non-financial information such as policies and the firm's operations (Jankensgård, 2019). This is a critical step to ensure that adequate risks are identified.

b) Assessment and prioritisation of Risk

Risks are rated according to how probable they are to materialise and how they might affect certain institutional goals (COSO, 2017). The likelihood that the threat would materialise and the severity of it are the main concerns in assessment or evaluation (IRM, 2023). The step gives the organisation vital information and helps determine the level of attention that specific risks may require (Jankensgård, 2019). Effective implementation of ERM depends on the identification of significant risks that may hinder the achievement of the objective and the development of mitigating plans through which the organisation can either transfer, tolerate, treat, or terminate the risks altogether. Rana et al. (2018) posits that during risk evaluation, risks are

categorised depending on the organisational goals and objectives; some may require treatment, and some may not. Factors such as technical, financial, social, and other aspects can influence the chosen treatment (Wong, 2020).

Table 2: Risk treatment.

Category	Description
Peruse	Manage the risk. Management undertakes to implement actions that are designed to reduce the likelihood, impact, or both.
Transfer	Steps taken to shift the loss of liability to third parties such as insuring and outsourcing.
Avoid	Management takes action to remove the activities that gave rise to the risks.
Accept	Management accepts the risk. Informed decision to accept both the impact and likelihood of the risk.
Share	Organisations can share the risk of new opportunities by inviting the participation of another partner

Step 4 - Review and Revision (Monitoring)

Regular risk monitoring is crucial, and risk owners must provide monthly and quarterly updates on the status of risk action plans, focusing on control effectiveness and new risks (COSO, 2017). Monitoring is used to evaluate the effectiveness of risk treatment based on recommendations and actions taken (Wong et al., 2021).

Step 5 - Information, Communication and Reporting

Organisations use different channels to communicate risk data and information to internal and external stakeholders. Information systems supply the company with data and information that helps in ERM. Risk reporting provides the necessary

information for decision-making and enables governance authorities to meet their risk supervision duties. (COSO, 2017). Effective risk communication is crucial for organisations to enhance risk management.

2.3.3 Conceptual Framework

The conceptual framework is founded on the cultural theory of risk, organisational culture, and principal-agent theory. Risk culture refers to how individuals manage risks in a particular social setting, such as a workplace, as indicated in the literature. A strong risk culture has the potential to improve overall outcomes as risks are embraced and benefits are well communicated. Organisational culture and risk culture are interrelated (Osman & Lew, 2020). Kanu (2022) argued that a positive organisational culture does not necessarily result in a positive risk culture. Risk culture has been considered an independent variable as it influences the effectiveness of risk management. The principal-agent theory suggests that senior management must execute risk strategies to reduce the effects of risks on service delivery

The conceptual framework depicts how risk culture influences the implementation of risk management within the public sector.

Conceptual framework:

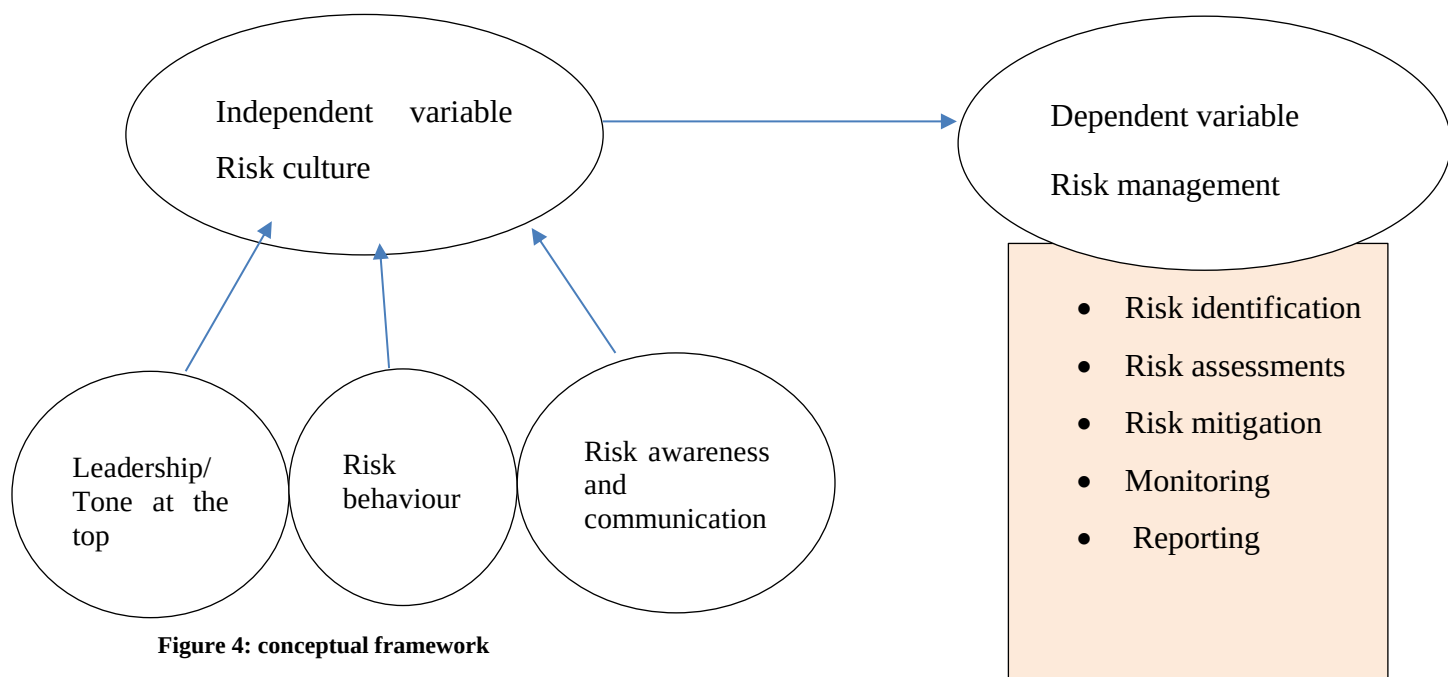


Figure 4: conceptual framework

2.4 Summary

This chapter began with a review of the literature review on risk, organisational culture, risk culture and ERM. In addition, the indicators of risk culture namely, leadership support/tone at the top and, risk awareness and communication were explored. This was followed by legal framework, theories applicable to the study and risk management framework. The literature revealed that risk culture may hold the key to answering the numerous instances of organisations that fail despite their investment in risk management policy and governance (Kanu, 2021). The significance of leadership support cannot be overstated, as the effective implementation of ERM relies greatly on the endorsement and commitment of the leadership. Although the significance of risk culture in risk management is well recognised, there is a lack of comprehensive theoretical and empirical research on risk culture (Raab, 2022; Kanu, 2021).

The public sector risk management is regulated under the PFMA. The study identified three pertinent theories: the Culture Theory of Risk, Organisational Culture Theory (related to risk culture), and Principal-Agent (relevant for ERM). Finally, the implementation of ERM was explained by employing the COSO framework to give context to the importance of risk culture in executing risk management

2.5 Conclusion of Literature Review

The chapter provided an overview of the key components of the study, specifically focusing on risk culture, which included leadership/tone at the top, risk behaviour, risk awareness and communication. Risk culture is recognised as a fundamental aspect in adopting risk management throughout an organisation. The lack of risk culture has been highlighted as one of the primary root causes of numerous organisations' demise as risks were not adequately managed.

Several studies have confirmed the link between organisational culture and risk culture, as well as the link between ERM and organisational performance. However, little research has been conducted to assess the impact of risk culture on risk management implementation, particularly in the public sector. The creation of hypotheses was informed by the existing literature on the pertinent variables, as well

as the research objectives and inquiries. The conceptual model, crucial for formulating hypotheses, is also provided.

2.6 Hypothesis

- 2.5.1 H.1) A strong tone at the top (leadership/ senior management) support has a positive influence on the implementation of risk management.
- 2.5.2 H.2) A positive risk behaviour has a significant influence on risk management
- 2.5.3 H.3) Risk Awareness and communication positively influence the implementation of risk management

CHAPTER 3. RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research approach, design, including the research population, sampling strategy, survey instrument design, and data collection method. The chapter also examines the reliability and validity of the research study, along with its limitations and any ethical considerations.

3.2 Research approach

Developing a comprehensive research paradigm/philosophy that resonates with the researcher is an essential component of successfully doing any research. Quantitative research is a commonly used research method in academic fields that involves the use of numerical data for data collecting and analysis. A quantitative study focuses on gathering and analysing structured data that may be represented numerically, and uncovers behaviours and trends (Goertzen, 2017). The primary rationale for selecting this strategy is its capacity to provide accurate measurement and rigorous statistical analysis of the hypotheses formulated by the researcher.

“Positivism relies on the hypothetico-deductive method to verify a priori hypotheses that are often stated quantitatively, where functional relationships can be derived between causal and explanatory factors (independent variables) and outcomes (dependent variables)” (Park et al. 2020, p. 960). Utilising a quantitative approach will assist in determining the relationship between variables (Williams, 2011).

In contrast to post positivists and constructivists, positivist researchers are more likely to focus on cause-and-effect correlations, sometimes even in correlational studies that don't support such conclusions (Leedy et al., 2019) . “Positivists argue that knowledge can and must be generated objectively, free of the values of the researchers or participants” (Park et al., 2020, p. 961). With positivism, researchers are concerned about the reliability of the data, the quality and repeatability of the study, and the generalizability of the conclusions (Sekaran & Bougie, 2016). The theory is founded on logical reasoning and uses a predetermined study approach and objective metrics (Sekaran & Bougie, 2016).

Munika (2021) contends that, in contrast to interpretivism and pragmatism, positivism maintains respondent anonymity, which is critical in the data and response gathering for this study. The theory is most suited for this study since it attempts to draw a link between risk culture and the implementation of risk management without compromising the anonymity of the participants.

3.3 Research design

The research design provide the overall structure for the procedures the researcher follows, the data the researcher collects, and the data analyses the researcher conducts; simply put, research design is planning (Leedy et al., 2019, p. 92). The research design delineates the internal procedures for collecting the necessary data to address the research question (Selamat and Ibrahim 2018). The study employed a quantitative research approach, allowing researchers to use surveys to address descriptive, variable relationships, and predictability of variables questions over time (Creswell & Creswell, 2017). "A survey is a system for collecting information from or about people to describe, compare, or explain their survey system knowledge, attitudes, and behaviour" (Sekaran and Bougie, 2016, p. 97).

To gather the necessary information, a cross-sectional study was followed. Cross-sectional studies refer to data collected at a given point (Sekaran & Bougie, 2016). As compared to other designs, online surveys are efficient and inexpensive, provide participant flexibility, and can reach individuals who are difficult, if not impossible, to reach (Sekaran & Bougie, 2016). A self-administered questionnaire was disseminated to senior executives from the six designated departments through Microsoft Form software to collect the necessary data to assess the influence of risk culture on risk management.

3.4 Data collection methods

It is crucial that the data collection method employed accurately reflects the study hypothesis, research aim, and the required resources for the data gathering procedure. The study uses a structured questionnaire with closed-ended questions, which allows the researcher to obtain quantitative data. Survey questions must be unambiguous,

precise, and standardised to guarantee accurate and valuable data from all participants. (Msomi, 2018). The questions developed for the study were thought to be simple and easy to comprehend, with no ambiguity. Primary data for the study was gathered using an online survey. Primary data, as defined by Sekaran and Bougie (2016), is information obtained for the first time for a particular study and is considered original data gathered by the researcher.

A questionnaire was created specifically for this research project to gather the required data for the investigation. The goal of employing a questionnaire is to come to an agreement through the exchange of questions and responses (Msomi, 2018). The self-administered questionnaire is relevant for the study since it collect data systematically to assess the influence of risk culture on risk management within the GPG.

3.5 Population and sample

Population refers to the complete group of individuals, events, or subjects that a researcher intends to study (Sekaran & Bougie, 2016). A population, according to Munika (2021), is a clearly defined group of people or things that are the subject of a research and share certain traits. Participants in the study were mainly senior managers in the selected Departments. The participants hold various academic qualifications which allows the participants to respond appropriately to the self-administered questionnaire.

3.5.1 Population

There are 14 departments in the Gauteng Province, categorised into three clusters: social sector, economic, and governance and planning. Some departments serve in multiple clusters based on their nature or structure (Mphendu and Holtzhausen, 2017). Six departments were selected across: Human Settlement, Treasury, Office of the Premier, Infrastructure Development, Economic Development, and Agriculture, Rural Development and Environment with approximately 300 senior managers.

Table 1.2: Clusters in Gauteng Province

Social Sector Cluster	Governance and Planning Cluster	Economic Cluster
• Education • Health • Social Development • Human Settlements • Community Safety • Sports, Arts, Culture and Recreation • Cooperative Governance and Traditional Affairs • Office of the Premier • Treasury	• Treasury • Finance • Office of the Premier • Cooperative Governance and Traditional Affairs • Roads and Transport	• Economic Development • Agriculture and Rural Development • Infrastructure Development • Human Settlements • Roads and Transport • Office of the Premier • Treasury

Figure 4 : Clusters in Gauteng Province: Source, Mphendu and Holtzhausen (2017)

3.5.2 Sample and sampling method

Sampling is the practice of selecting certain participants, items, or events to represent a larger population (Sekaran & Bougie, 2016). A random sampling was employed to obtain the desired sample. Systematic random sampling is applicable when the study population is relatively large (100 or more) and a list of all the members is available (Omair, 2014). This method has been commonly used in management and business research. The total sample for the study is approximately 172 based in the population of 300, which is in line with Bartlett et al. (2001). The study focused on the senior management team due to their involvement in decision-making.

3.6 Research instrument

The research study utilised a survey questionnaire to collect the necessary data. The questionnaire consists of three main themes, section A centres on gender, qualifications, and years of experience. Sections B to F address questions concerning risk culture, behaviour, awareness, and risk management. The data regarding risk culture and risk management were gathered using a 5-point Likert scale, which ranged from a rating of 1 indicating strongly disagreement to a rating of 5 indicating strongly agree. A total of 35 questions were distributed, with an extra six designed specifically for Chief Risk Officers (CRO) to assess the support they received from leadership.

Leedy et al. (2019) emphasise the importance of conducting pilot research to assess the validity of the questions. A pilot study with ten (10) individuals was carried out

to assess the research tools. The pilot study aimed to minimise failure by creating a tool that can thoroughly assess the impact of risk culture on risk management.

3.7 Procedure for data collection

An online self-administered questionnaire was distributed through email to senior management in the selected departments, and responses were gathered anonymously. The survey was deemed effective for data collecting due to its cost-effectiveness and convenience (Sekaran & Bougie, 2016). Consent was acquired from employees and department heads to conduct the survey, and participants were briefed on the study's purpose. The cover letter outlined the primary objective of the research project and instructions for conducting the survey. The survey was distributed during November and December 2023 via email and WhatsApp platforms. Non-respondents were gently prompted weekly to finish the survey to enhance response rates.

3.8 Data analysis strategies and interpretation

The collected data was scrutinised for errors, outliers, and missing values using SPSS (Sekaran & Bougie, 2016). Data validation and structuring are crucial to ensuring that the findings are reliable and valid. The information was analysed after the data gathering was completed. The first portion of the survey was to collect information about the research participants, such as their years of experience and level of education. The negatively phrased questions on the scale were reversed before the analysis by assigning new values: 1=5, 2=4, 3=3, 4=2, 5=1.

Descriptive statistics define the appearance of the data, such as where its centre or midpoint is, how widely distributed it is, how closely two or more variables within the data are intercorrelated, and so on (Leedy et al. 2019). Descriptive statistics offer a summary of the sample being studied without relying on probability theory for drawing conclusions (Kaliyadan & Kulkarni, 2019). To summarise the survey data, descriptive statistics such as percentages, frequencies, means, and standard deviations will be employed

Inferential statistics was used to establish correlations between variables and generate conclusions (Sekaran & Bougie, 2016). Inferential statistic such as regression

analysis, correlational studies and analysis of variance were employed for this study. The Kaiser-Meyer-Olkin measure (KMO) and Bartlett's Test of Sphericity were conducted to assess the sampling adequacy of the research data. Factor analysis was performed to detect patterns of correlations among a group of observed variables. The SPSS software was employed for all data analysis.

3.9 Possible limitations and challenges of the study

Determining the right sample size for quantitative research is a significant challenge given that it needs to accurately reflect the population under study and yield reliable, accurate data. The results may not be applicable to the entire target if the sample size or representation are insufficient to fairly represent the larger target population. Bias can still have an impact on the study process and findings, even though researchers strive for objectivity in their investigations. Cause and effect cannot be determined due to the study's cross-sectional and nonexperimental design (Sekaran & Bougie, 2016). Research design, data collection techniques, and analysis approaches can all be impacted by the researcher's prejudices or ideas about the topics under study.

3.10 Quality Assurance

Variable measurements in a research study rarely have complete (100%) validity and reliability, but some measures are more valid and reliable than others. Measures with high validity and reliability are more likely to generate statistically significant results in research initiatives (Leedy et al., 2019). The validity and reliability of the assessment strategies will influence the extent to which one can (a) legitimately learn something about the phenomenon you are studying, (b) obtain statistical significance in any quantitative data analyses you conduct, and (c) draw meaningful conclusions from the data (Leedy et al. 2019, p. 123). It is necessary to construct reliable and valid metrics to ensure that the researcher did not ignore any crucial dimensions or features. The extent to which a test measures what it claims to measure is referred to as validity, whereas reliability is the extent to which a measurement and process can be duplicated or yield the same results consistently throughout time in different research (Msomi, 2018).

3.10.1 External validity

External validity refers to how generalizable or transferrable the findings from the lab environment are to genuine organisational or field settings (Sekaran and Bougie, 2016). The study utilised a probability sampling approach to ensure that every part of the population was represented in the sample, which is essential for external validity.

3.10.2 Internal validity

Internal validity is a concept commonly used by quantitative researchers to evaluate the credibility of research findings (Leedy & Ormrod, 2015). The appropriateness of the methodology chosen to answer the research question, the appropriateness of the methodology's design, the appropriateness of the sampling and data analysis, and the appropriateness of the results and conclusions for the sample and context are all factors for validity. To ensure that the internal validity of the data and instruments is maintained, the Kaiser-Meyer-Olkin (KMO) index will be used to measure sampling adequacy (Munika, 2021).

3.10.3 Reliability

Reliability is the measure of how consistently a measuring tool assesses the concept it is intended to test (Sekaran & Bougie, 2016). According to Ngwenya (2017) a research instrument is considered reliable when it is possible to replicate the results of the study using an identical methodology. The researcher employed Cronbach's alpha, a widely used metric for assessing internal consistency and reliability, to enhance the questionnaire's reliability. According to Taber (2018), there is variability in what is regarded as an acceptable Cronbach's alpha score; however, most academics consider 0.70 to be suitable for reliability. A score of 0.7 or higher was acceptable to assure data reliability.

3.11 Ethical considerations

Conducting research requires not only knowledge and diligence but also honesty and integrity. The adoption of suitable ethical principles can prevent or minimise harm

(Ngwenya, 2017). Data collection did not commence until receiving approval from the ethics committee. Participants were explicitly notified that their involvement in the study was optional, and they had the freedom to withdraw their participation at any point. To adhere to ethical guidelines and maintain anonymity, the research instrument did not solicit the participant's name or their respective departments of employment. The collected data was treated as confidential and exclusively utilised for research purposes. All books, journals, papers, and other references from different authors and organisations that were used in the research process were acknowledged by the researcher using the APA referencing style.

3.12 Summary of the chapter

The chapter primarily centres on the research methodology and approach. This chapter outlines the research design, research population, sampling strategy, survey instrument design, and data collection method. The research study's reliability and validity were assessed, considering limitations and ethical considerations. Survey questionnaires were the instruments utilised to gather and analyse data for this research.

CHAPTER 4. PRESENTATION OF THE RESULTS

4.1 Introduction

The chapter aims to describe the study's findings in accordance with the hypotheses proposed in chapter 2, as well as the research methodology as outlined in chapter 3. The chapter commences with the description of the data screening procedure, followed by the presentation of the sample characteristics, and subsequently the descriptive statistics concerning the rating qualities of the constructs. Additionally, the study presents the construct validity and reliability of the scales, followed by the findings of hypotheses testing. The chapter concludes with a summary, highlighting the key findings.

4.2 Data Quality and Screening.

The study's total sample size was 172 ($n = 172$). The researcher received 81 responses, resulting in a response rate of 47% which is considered valid. According to Sekaran and Bougie (2016) a response rate of 30% is considered satisfactory and often exceptional in some situations. The data was gathered via an online survey using Microsoft Form software. The data cleaning process was performed to identify and rectify values that were outside the predetermined ranges in the datasets before doing the analysis. No missing values were found in the analysis. The negatively phrased questions on the scale were reversed before the analysis by assigning new values: 1=5, 2=4, 3=3, 4=2, 5=1. Every statistical analysis was conducted utilising version 28 of IBM SPSS.

4.3 Demographic Profile of the respondents

The study evaluated the characteristics of the respondents based on gender, level of qualification, and senior management work experience. The next part discusses the characteristics of respondents.

4.3.1 Gender

The gender distribution is depicted in Figure 5. The data set has 81 respondents, with 51% being men and 49% being women, indicating a balanced distribution across gender.

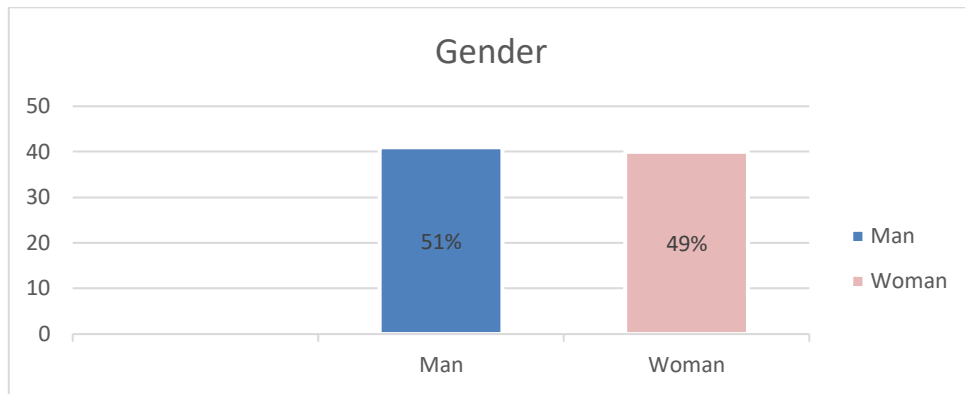


Figure 5: Gender

4.3.2 Level of qualification

Figure 6 depicts that 98% of respondents have obtained a tertiary qualification, while 2% have other qualifications. Most participants have postgraduate qualifications, with 37% holding master's degrees and 37% having honours or postgraduate diplomas. This suggests that the participants possessed the capacity to comprehend and interpret the questionnaires.

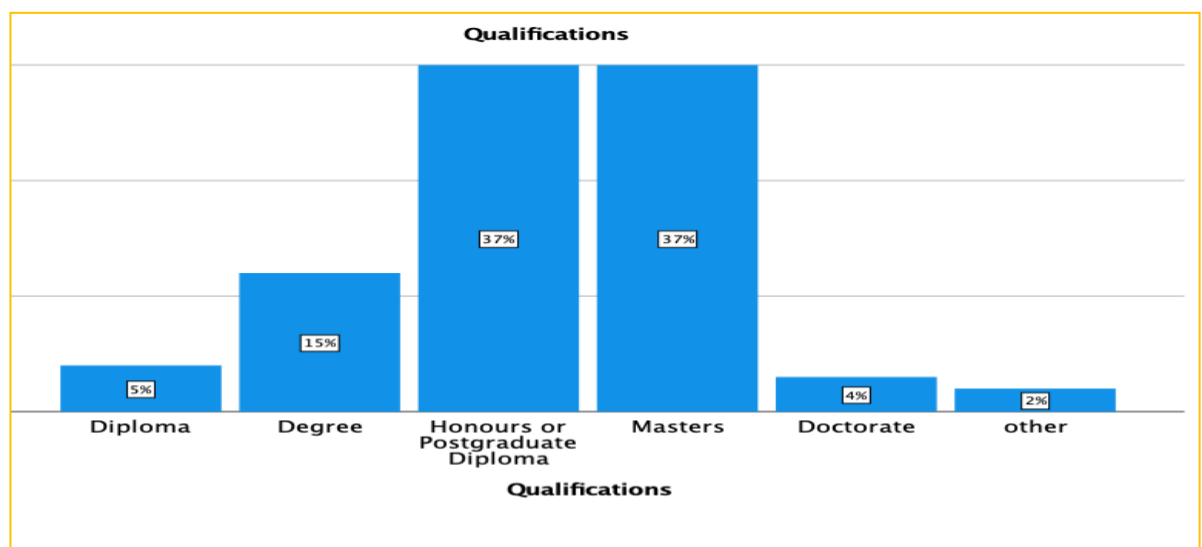


Figure 6: Qualifications

4.3.3 Experience at senior management post

The data presented in Figure 7, indicates that a significant proportion of the respondents (64%) have held senior management positions for 8 years or more, while those who have served for 4 to 7 years make up 11%. Individuals who have served for a duration of 3 years or less constitute 25% percent of the population.

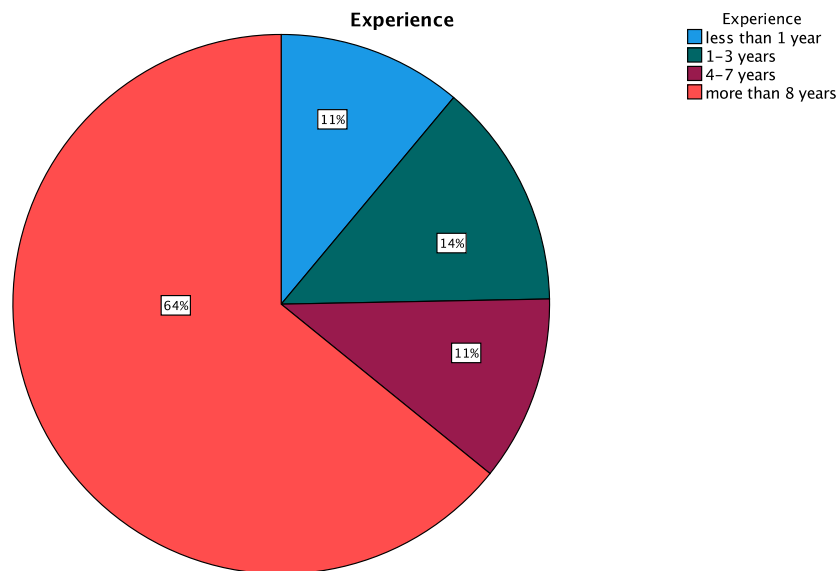


Figure 7: Experience

4.4 Descriptive statistics

This section presented the descriptive statistics pertaining to the study variables, which include tone at the top - leadership support, Risk behaviour, risk awareness and communication (independent variables) and effective risk management (dependent variable). To evaluate the perceived risk culture influence on risk management, descriptive statistics involving the mean and standard deviation were utilised. To determining the degree of agreement or disagreement, participants were required to select responses on a 5-point Likert scale: "Strongly disagree" denoted one point; "Disagree" two; "Neutral" three; "Agree" four; and "Strongly agree" five.

4.4.1 Risk culture (*Tone at the top/ Leadership support*)

The descriptive statistics pertaining to the independent variable, risk culture, are displayed in Table 3. The tone at the top was measured using risk culture on a scale

of 1 to 5 constituting thirteen (13) items. The aggregate mean is 3.8 which is approximately 4 (agree) on the 5-point Likert scale applied for this study. The two highest-rated items, with mean scores of 4.59 and 95% agreement (strongly agree and agree) among respondents, relates to strong risk culture being dependent on leadership support and the understating that without strong risk culture the department will struggle to achieve its goals. The respondents agreed the least that the success of risk culture is not depended only on CRO, with a mean rating of 2.42, which is approximately 2 (disagree).

Table 3: Descriptive Statistics for risk culture (Independent variable)

ID	Item	SD	D	N	A	SA	MEAN	SDEV
Riskculture1	A strong risk culture is dependent on the support and involvement of all senior managers.	3.7	0.0	1.2	23.5	71.6	4.59	.848
Riskculture2	Without a strong risk culture, the department will struggle to manage risks and achieve its strategic goals.	1.2	0.0	0.0	35.8	63.0	4.59	.628
Riskculture3	The success of a risk culture does not depend mainly on the Chief Risk Officer.	21.0	51.9	1.2	16.0	9.9	2.42	1.264
Riskculture4	The department has a risk strategy and policy in place.	0.0	2.5	4.9	51.9	40.7	4.31	.683
Riskculture5	The department has developed a risk appetite statement and tolerance thresholds.	2.5	11.1	12.3	44.4	29.6	3.88	1.041
Riskculture6	The risk appetite statement and tolerance thresholds are	3.7	9.9	16.0	43.2	27.2	3.80	1.066

ID	Item	SD	D	N	A	SA	MEAN	SDEV
	clear and aligned to the mandate of the department							
Riskculture7	Strategic decisions are taken in consideration of the risk appetite and tolerance thresholds	3.7	17.3	21.0	43.2	14.8	3.48	1.062
Riskculture8	Senior management/risk owners are held accountable for risk management activities.	1.2	14.8	8.6	46.9	28.4	3.86	1.034
Riskculture9	My performance 4ment include risk management activities.	3.7	13.6	7.4	33.3	42.0	3.96	1.177
Riskculture10	The governance structures such as risk management committee and the audit and risk committee play an important role in driving a robust risk culture.	1.2	2.5	6.2	33.3	56.8	4.42	.820
Riskculture11	The department encourages the reporting of unethical conduct.	1.2	4.9	4.9	50.6	38.3	4.20	.843
Riskculture12	The department is capable of dealing with extraordinary events/situations (e.g. natural disasters, technological failures, pandemics, other unforeseen incidents)	8.6	24.7	14.8	39.5	12.3	3.22	1.204
Riskculture13	Adequate resources are allocated to the risk	4.9	38.3	17.3	28.4	11.1	3.02	1.151

ID	Item	SD	D	N	A	SA	MEAN	SDEV
	management unit to effectively execute risk management activities (budget and personnel).							
N=81, SD =Strongly disagree, D= Disagree, N= Neutral, A= Agree, SA=strongly agree Ave mean: 3.8								

4.4.2 Risk Behaviour/attitude

Table 4 shows the descriptive statistics for the independent variable, risk behaviour, measured on a scale of 1 to 5 constituting eight items. The aggregate mean score is 3.7 which is approximately 4 (agree) on the 5-point Likert scale applied for this study. The highest-rated items, with mean scores of 4.49 and the 97% agreement (strongly agree and agree) among respondents, relates to understanding the value of risk management and its benefits. The respondents agreed the least on item pertaining to reward system for management of risk, with a mean rating of 2.26, which is approximately 2 (disagree).

Table 4: Descriptive Statistics for risk behaviour (Independent variable)

	ITEM	SD	D	N	A	SA	MEAN	SDEV
Behaviour1	Risk management activities are time consuming with no value add.	0.0	6.2	4.9	42.0	46.9	4.30	.828
Behaviour2	Risk management is seen as a strategic imperative in my department	1.2	7.4	14.8	51.9	24.7	3.91	.897
Behaviour3	I understand the value of risk	0.0	1.2	1.2	44.4	53.1	4.49	.594

	ITEM	SD	D	N	A	SA	MEAN	SDEV
	management and the benefits it brings to the department.							
Behaviour4	I take full responsibility for risks that are in my area of work.	0.0	2.5	2.5	49.4	45.7	4.38	.663
Behaviour5	Failure and risks are perceived negatively in my department.	13.6	37.0	18.5	22.2	8.6	2.75	1.199
Behaviour6	Risk management processes are proactive in my department	1.2	16.0	23.5	40.7	18.5	3.59	1.010
Behahieur7	Senior managers express their views about risk management freely.	3.7	6.2	12.3	56.8	21.0	3.85	.950
Behaviour8	Senior managers who effectively identify and manage risks are rewarded.	23.5	39.5	28.4	4.9	3.7	2.26	.997
N=81SD =Strongly disagree, D= Disagree, N= Neutral, A= Agree, SA=strongly agree Ave Mean: 3.7								

4.4.3 Risk awareness and communication

Table 5 shows the descriptive statistics for the independent variable, risk awareness and communication, measured on a scale of 1 to 5 constituting eight items. The aggregate mean score is 3.9 which is approximately 4 (agree) on the 5-point Likert

scale applied for this study. The highest-rated items, with mean scores of 4.31 and the 94% agreement (strongly agree and agree) among respondents relates to awareness of risks and opportunities. The item with the lowest rating, mean of 3.42, relates to constant engagement between risk management unit and the business units.

Table 5: Descriptive Statistics for risk awareness and communication (Independent variable)

ID		SD	D	N	A	SA	MEAN	SDEV
Awareness andcommunication1	I am aware of the risks and opportunities that are facing my department.		1.2	4.9	55.6	38.3	4.31	.625
Awareness andcommunication2	Risk management awareness assist in identifying opportunities and minimising the impact of unwanted results.	1.2	1.2	4.9	54.3	38.3	4.27	.725
Awareness andcommunication3	Emerging risks and possible mitigations are discussed during the senior management meetings.	3.7	3.7	7.4	56.8	28.4	4.02	.922
Awareness andcommunication4	I have received the necessary training to identify and manage key risks.	7.4	12.3	11.1	43.2	25.9	3.68	1.202
Awareness andcommunication5	Regular engagements are held with the risk management unit to discuss emerging	4.9	9.9	9.9	46.9	28.4	3.84	1.101

ID		SD	D	N	A	SA	MEAN	SDEV
	risks and those that have materialised/near misses.							
Awareness and communication 6	The risk management unit is invited to our branch/directorate monthly/quarterly meetings.	6.2	25.9	9.9	35.8	22.2	3.42	1.264
Awareness and communication 7	Senior managers are encouraged to identify risks in the department.	1.2	2.5	9.9	51.9	34.6	4.16	.798
Awareness and communication 8	Senior managers have clear roles and responsibilities pertaining to risk management.	2.5	12.3	11.1	45.7	28.4	3.85	1.050
N=81 SD = Strongly disagree, D= Disagree, N= Neutral, A= Agree, SA=strongly agree Ave mean: 3.9								

4.4.4 *Effective risk management*

Table 6 shows the descriptive statistics for the dependent variable, effective risk management, measured on a scale of 1 to 5 constituting five items and the aggregate mean of 3.9 which is approximately 4 (agree) on the 5-point Likert scale applied for this study. The highest-rated items, with mean scores of 4.12 and the 90% agreement (strongly agree and agree) among respondents, suggests that senior managers gives priority to risk management within the departments. The item with the lowest rating,

mean of 3.59, relates to capacity within the risk unit. Suggesting that the risk unit should be capacitated.

Table 6: Descriptive Statistics for risk awareness and communication (Dependent variable)

ID	ITEM	SD	D	N	A	SA	MEAN	SDEV
RM1	There are adequate systems to identify, assess, monitor and report risks, including emerging risks.	2.5	8.6	13.6	55.6	19.8	3.81	.937
RM2	In my department, senior managers participate in the identification of key risks and provide collective mitigations strategies.		8.6	4.9	56.8	29.6	4.07	.833
RM3	My department prioritises and manages key risks.		3.7	11.1	54.3	30.9	4.12	.748
RM4	The risk management unit is well capacitated with relevant skills and knowledge to advise management	1.2	18.5	16.0	48.1	16.0	3.59	1.010
RM5	My department has adequate risk management system to ensure effective and seamless reporting.	1.2	16.0	17.3	44.4	21.0	3.68	1.023

ID	ITEM	SD	D	N	A	SA	MEAN	SDEV
N=81SD =Strongly disagree, D= Disagree, N= Neutral, A= Agree, SA=strongly agree Ave Mean: 3.9								

4.4.5 CRO support

Additional data was gathered from the CROs to assess the support received from leadership. The descriptive statistics were omitted to preserve anonymity of the participants due to the small sample size of six. However, the overall outcome was that there are clear roles and responsibility with appropriate reporting structures. Improvement should be given to risk capacity and adequate risk management system.

4.5 Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) is suitable for researchers who want to understand the underlying latent constructs or dimensions of observable variables. Factor analysis is used to simplify data complexity by examining connections between observed variables to uncover hidden patterns, enabling researchers to extract valuable information and gain deeper insights (Kyriazos & Poga, 2023). The underlying premise of factor analysis is that all variables exhibit a certain degree of correlation (Shrestha, 2021). The primary variables in this study comprising leadership support, risk behaviour, and risk awareness and communication. Before conducting factor analysis, researchers are required to assess the appropriateness of their data for exploratory factor analysis by analysing the number of variables, correlation coefficient, missing data, sample size, multicollinearity, singularity, and other relevant factors. According to Crawford et al. (2010) researcher may utilise PA-PAF when multiple factors that are at least moderately correlated are anticipated.

4.6 Validity of the construct

Table 7 and Table 10 displays the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy and Bartlett's test for sphericity for both dependent and independent

variable. Evaluating the suitability of independent and dependent variables for factor analysis separately ensures that the analysis accurately reflects the underlying structure of these variables and to avoid cross loading of dependent and independent variable.

4.6.1 Dependent variable - EFA

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was $0.802 > 0.5$, and the p-value of the Bartlett's Test of Sphericity was $0.000 < 0.05$. Thus, the minimum requirements to conduct EFA were met.

Table 7: KMO and Bartlett's Test - Dependent variable

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.802
Bartlett's Test of Sphericity	Approx. Chi-Square	153.033
	df	10
	Sig.	.000

The dependent variable retained one factor with all the original items as expected by the researcher. The retained factor explained 60.075% of variation in the original five items. The dependent variable was a valid construct. Additionally, The Scree Plot results indicate that just one factor has an eigenvalue of 1 as illustrated by Figure 9.

Table 8: Total Variance Explained - Dependent variable

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.035	60.705	60.705	2.570	51.398	51.398
2	.737	14.749	75.454			

3	.549	10.979	86.433			
4	.385	7.691	94.125			
5	.294	5.875	100.000			
Extraction Method: Principal Axis Factoring.						

Figure 8. shows the scree plot, which corroborated the total variance explained in Table 8. The number of factors extracted exceeded one eigenvalue.



Figure 8: Scree plot - Dependent variable

Factor Matrix

All the items had high factor loadings, implying a valid dependent variable.

Table 9: Factor Matrix - Dependent variable

	Factor Matrix^a		
Construct	Variable Name	Factor	Item
		1	
Effective risk management	RM_D	.841	My department has adequate risk management system to ensure effective and seamless reporting.
	RM	.748	There are adequate systems to identify, assess, monitor and report risks, including emerging risks.
	RM_B	.707	My department prioritises and manages key risks.
	RM_A	.662	In my department, senior managers participate in the identification of key risks and provide collective mitigations strategies.
	RM_C	.605	The risk management unit is well capacitated with relevant skills and knowledge to advise management
Extraction Method: Principal Axis Factoring.			
a. 1 factors extracted. 7 iterations required.			

4.6.2 Independent Variables- EFA

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy was $0.839 > 0.5$, and the p-value of the Bartlett's Test of Sphericity was $0.000 < 0.05$. Thus, the minimum requirements to conduct EFA were met.

Table 10: KMO and Bartlett's Test Independent variable

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.839
Bartlett's Test of Sphericity	Approx. Chi-Square	869.248
	df	171
	Sig.	.000

Total Variance Explained Independent variable

The independent variables EFA retained five factors, which explained 70.850% of variation in the original items.

Table 11: Total Variance Explained - Independent variable

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7.816	41.138	41.138	7.448	39.202	39.202	5.534
2	1.786	9.400	50.538	1.403	7.383	46.585	5.602
3	1.468	7.728	58.266	1.197	6.300	52.885	4.159
4	1.289	6.785	65.051	.933	4.910	57.795	4.497
5	1.102	5.798	70.850	.696	3.663	61.458	3.589

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
6	.790	4.156	75.005				
7	.730	3.840	78.845				
8	.668	3.514	82.359				
9	.555	2.919	85.278				
10	.481	2.534	87.812				
11	.425	2.235	90.047				
12	.391	2.059	92.106				
13	.328	1.724	93.830				
14	.296	1.559	95.389				
15	.241	1.270	96.658				
16	.207	1.090	97.749				
17	.175	.923	98.672				
18	.146	.769	99.440				
19	.106	.560	100.000				

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
Extraction Method: Principal Axis Factoring.							
a. When factors are correlated, sums of squared loadings cannot be added to obtain a total variance.							

Figure 9. shows the scree plot, which corroborated the total variance explained in Table 11. The number of factors extracted exceeded one eigenvalue. The scree plots confirms that there were 5 constructs for the independent variables.

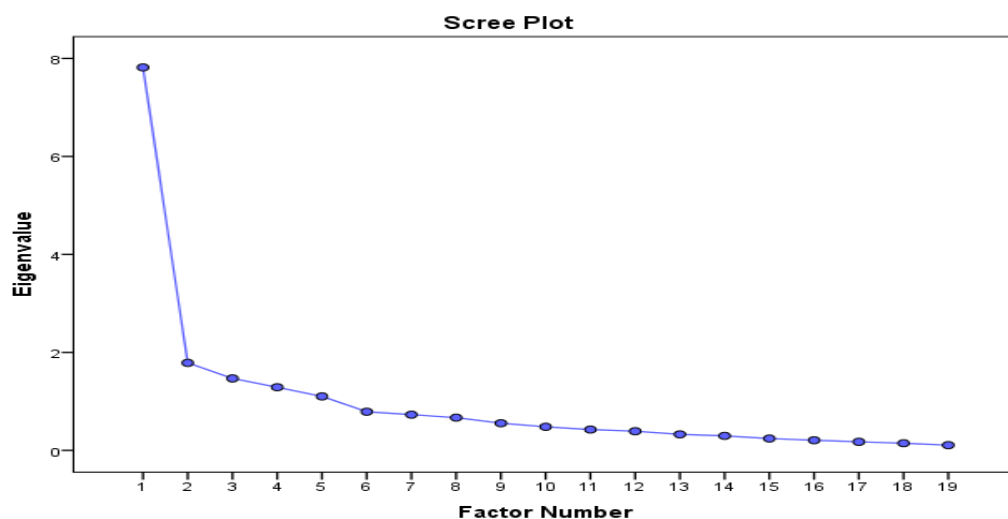


Figure 9: Scree plot - Independent variables

The Scree test indicates that the data should be analysed for 5 factors. The Factor names, items within each factor and factor loadings are presented in Table 12. All items loaded highly to their respective factors. Therefore, there were five valid independent variables constructs

Table 12: Pattern Matrix - Independent variables

			Factor				
Construct	Variable Name	Item Description	1	2	3	4	5
Communication	Awareness5	Regular engagements are held with the risk management unit to discuss emerging risks and those that have materialised/near misses.	.999				
	Awareness4	I have received the necessary training to identify and manage key risks.	.741				
	Awareness6	The risk management unit is invited to my branch/directorate monthly/quarterly meetings.	.706				
	Awareness3	Emerging risks and possible mitigations are discussed during the senior management meetings.	.678				
Risk behaviour/ attitude	SMsupport10	The governance structures such as risk management committee and the audit and risk committee play an important role in driving a robust risk culture.		.962			
	Attitude3	I understand the value of risk management and the benefits it brings to the department.		.650			
	SMsupport4	The department has a risk strategy and policy in place.		.546			
	Attitude1	Risk management activities are time consuming with no value add.		.541			
	SMsupport11	The department encourages the reporting of unethical conduct.		.535			
Risk Awareness	Awareness2	Risk management awareness assist in identifying opportunities and minimising the impact of unwanted results.			.878		
	Awareness1	I am aware of the risks and opportunities that are facing my department.			.652		
	Attitude4	I take full responsibility for risks that are in my area of work.			.646		
	Awareness7	Senior managers are encouraged to identify risks in the department.			.485		
Tone at the top/ Leadership support	SMsupport6	The risk appetite statement and tolerance thresholds are clear and aligned to the mandate of the department				.920	
	SMsupport5	The department has developed a risk appetite statement and tolerance thresholds. (Appetite statement" refers to the amount				.813	

			Factor				
Construct	Variable Name	Item Description	1	2	3	4	5
		and type of risk that an organisation is willing to accept in pursuit of...					
	SMsupport7	Strategic decisions are taken in consideration of the risk appetite and tolerance thresholds				.437	
Accountability	SMsupport8	Senior management/risk owners are held accountable for risk management activities.					.594
	SMsupport9	My performance agreement include risk management activities.					.567
	Attitude6	Risk management processes are proactive in my department					.554

4.7 Reliability

Cronbach's alpha is often utilised to assess the internal consistency of a measurement tool. Cronbach's alpha values range from 0 to 1, and a reliability score of 0.7 or above is deemed acceptable (Heale & Twycross, 2015). The implementation of Cronbach's alpha is based on the assumption that multiple items are measuring the same underlying construct (Shrestha, 2021).

All six constructs had Cronbach's Alpha values greater than 0.7 as illustrated in Table 13, therefore confirming validity of all six constructs, that is one dependent and five independent variables. Communication (4 items, $\alpha = 0.853$), Risk behaviour (5 items, $\alpha = 0.824$), Risk awareness (4 items, $\alpha = 0.814$), tone at the top/senior management support (3 items, $\alpha = 0.829$), Accountability (3 items, $\alpha = 0.730$), and effective risk management, dependent variable, (5 items, $\alpha = .833$).

Table 13: Reliability level

Construct	Cronbach's Alpha	N of Items	Reliability Level
Communication	.853	4	Good
Risk behaviour/ attitude	.824	5	Good
Risk Awareness	.814	4	Good
Tone at the top/ Leadership support	.829	3	Good
Accountability	.730	3	Acceptable
Effective risk management	.833	5	Good

4.8 Correlation Analysis

Correlation analysis assesses the degree of connection or link between two variables. A correlation value of 0 shows no linear link between two continuous variables, while -1 or $+1$ indicates a perfect linear relationship (Mukaka, 2012). This study employed Pearson's Correlation analysis to assess the relationship among the study variables

Table 14 illustrate the correlation between dependent and independent variables. It is observed that Effective Risk Management and each of the independent variable, Communication ($r = 0.715$, $p\text{-value} < 0.001$), Risk Behaviour / Attitude ($r = 0.636$, $p\text{-value} < 0.001$), Risk Awareness ($r = 0.484$, $p\text{-value} < 0.001$), Tone at the top ($r = 0.635$, $p\text{-value} < 0.001$), and Accountability ($r = 0.604$, $p\text{-value} < 0.001$), shows that there is correlation between the dependent and the independent variable, which suggest that there is no indication of multicollinearity. Furthermore, the independent variables are not highly correlated amongst themselves which indicate that there is no evidence of multicollinearity.

Table 14: Descriptive Statistics and Pearson's Correlation

	Descriptive Statistics		Correlation					
Construct	Mean	SD	1.	2.	3.	4.	5.	6.
1.Communication	3.74	.941	1					
2.Risk Behaviour / Attitude	4.34	.582	.594**	1				
3.Risk Awareness	4.28	.565	.490**	.463**	1			
4.Tone at the top/leadership support	3.72	.912	.481**	.593**	.474**	1		
5.Accountability	3.81	.867	.457**	.526**	.531**	.503**	1	
6.Effective Risk Management	3.86	.709	.715**	.636**	.484**	.635**	.604**	1

4.9 Regression Analysis

A regression analysis was conducted to ascertain the degree of influence that each of the independent factors had on the dependent variables. It is crucial to validate the fundamental assumptions regarding the data and the distribution of the scores before commencing the multiple regression analysis. In section 4.8 of this chapter, normality was discussed. Assessments were conducted for multicollinearity using VIF, linearity – testing of coefficient, and homoscedasticity. There is no concern of multicollinearity because none of the independent variables have a correlation coefficient larger than $r=0.8$ according to the Pearson correlation coefficient table.

Normal Error term

The normal error term implies that the residuals, or errors, are assumed to be normally distributed with a mean of zero.

Figure 10 shows a histogram indicating that the data is relatively regularly distributed.

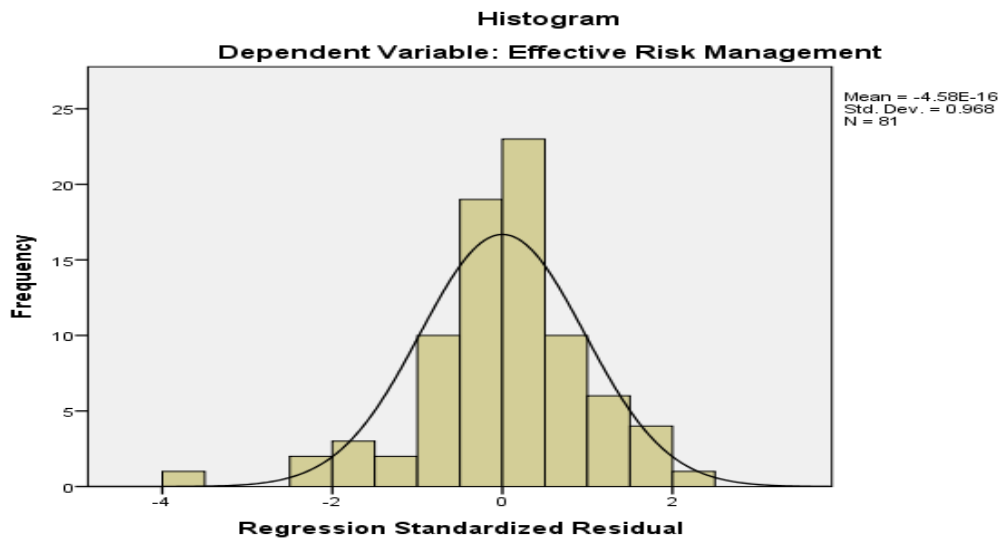


Figure 10: Histogram

Figure 10 shows that Scatter Plots were utilised to assess the homoscedasticity of the independent variables. The scatter plots demonstrate that the residuals plotted against the expected dependent variables are almost identical for all projected scores, signifying that the residual values are distributed randomly.

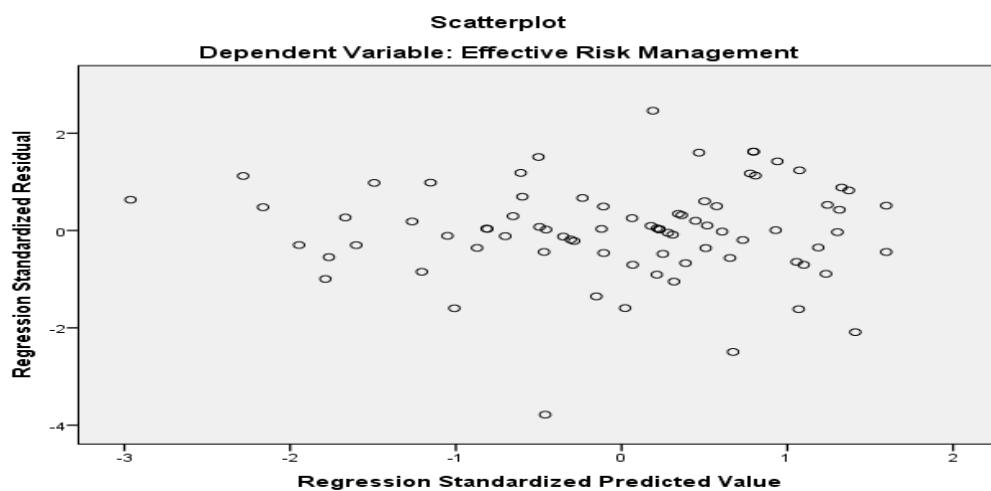


Figure 11: ScatterPlot

Hypothesis Testing

Multiple regression analysis with Effective Risk Management as the dependent variable was conducted to assess the hypotheses. Leadership support, Risk Awareness, and Risk Behaviour / Attitude, Accountability, Communication, explained 67.2% of variation in Effective Risk Management ($r\text{-square} = 0.672$). The $R = 0.819$ meaning there is a strong and positive correlation among the five variables as it is greater than 50%. The Durbin-Watson value of 2.04 suggests that the residuals show minimal to no autocorrelation, aligning with the regression model's assumptions. This indicates that the model effectively represents the connection between the independent and the dependent variable, with no apparent trends in the residuals as illustrated in Table 15.

Table 15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820 ^a	.672	.650	.41978	2.049
a. Predictors: (Constant), Accountability, Communication, Tone at the top, Risk Awareness, Risk Behaviour / Attitude					
b. Dependent Variable: Effective Risk Management					

Table 16 displays the analysis of variance (ANOVA). The model with Accountability, Communication, Tone at the top, Risk Awareness, Risk Behaviour / Attitude was significant in predicting Effective Risk Management ($p\text{-value} = 0.000$) < 0.005 . The significant $p\text{-value}$ suggests that the differences in risk management among the groups are not a result of random variation, but rather signify genuine variations in the population.

Table 16: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	27.043	5	5.409	30.694	.000 ^b
	Residual	13.216	75	.176		
	Total	40.259	80			
a. Dependent Variable: Effective Risk Management						
b. Predictors: (Constant), Accountability, Communication, Tone at the top, Risk Awareness, Risk Behaviour / Attitude						

Table 17 proves coefficients results that addressed the hypotheses. The VIF values are below 10 which suggest that there is no evidence of multicollinearity. The tolerance value are all above 0.1 therefore the multicollinearity assumption is not violated.

The p-values of the coefficients in the regression analysis must be below .05 for the relationship to be considered significant at a 95% confidence level.

Table 17: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.688	.434		1.584	.117		
	Communication	.322	.066	.428	4.898	.000	.574	1.741
	Risk Behaviour / Attitude	.149	.115	.122	1.298	.198	.494	2.025
	Risk Awareness	-.031	.106	-.025	-.293	.770	.614	1.628
	Tone at the top/leadership support	.197	.068	.253	2.883	.005	.569	1.758
	Accountability	.189	.070	.231	2.678	.009	.590	1.694
a. Dependent Variable: Effective Risk Management								

The results from Table 18 above are as follows:

Communication

Communication ($\beta=0.428$, t-value =4.898, p-value = 0.000) has a positive and significant effect on Effective Risk Management. the null hypothesis is rejected Therefore, the hypothesis is supported at a statistical level of $p < 0.05$.

Risk behaviour/attitude

Risk Behaviour / Attitude ($\beta=0.122$, t-value =1.298, p-value = 0.198) has a positive but insignificant effect on Effective Risk Management. The results indicate that there is insufficient evidence to support significant relationship between 'risk behaviour' and effective risk management.

Risk awareness

Risk Awareness ($\beta=-0.025$, t-value = -0.293, p-value = 0.77) has a negative but insignificant effect on Effective Risk Management. Risk awareness" is not statistically significant at the chosen significance level (p -value < 0.05). Insufficient evidence exists to indicate a strong correlation between risk awareness and risk management effectiveness.

Tone at the top/Leadership support

Tone at the top ($\beta=0.253$, t-value = 2.883, p-value = 0.005) has a positive and significant effect on Effective Risk Management. Tone at the top is statistically significant at the chosen significance level (p – value < 0.05). The findings of this study indicate that 'tone at the top' is significantly correlated with risk management effectiveness.

Accountability

Accountability ($\beta=0.231$, t-value = 2.678, p-value = 0.009) has a positive and significant effect on Effective Risk Management. The findings suggest a significant relationship between accountability and effective risk management. The results highlight the crucial role of clear risk roles and responsibilities throughout the organisation, as it seems to greatly impact the efficiency of risk management and could help establish a strong risk management culture inside departments.

4.10 Chapter summary

This chapter included an in-depth examination of the data gathered to evaluate the research hypotheses. All 81 responses were deemed suitable, with no missing data found. The survey gathered feedback from senior managers in the selected departments. Descriptive statistics were used to analyse the demographic characteristics. There was nearly an equal gender distribution among the study participants, with 51% male and 49% female. More than 95% of the respondents acquired either an undergraduate or a postgraduate degree, indicating a significant level of education. 74% of the respondents had 4 or more years of experience as senior managers, whereas 16% had less than 4 years of experience, indicating that the participants have the required expertise to fill out the questionnaire.

To assess convergence validity, an exploratory factor analysis was performed. The independent and dependent variables were subjected to separate KMO tests to minimise the cross loading of variables, The KMO values obtained for the independent and dependent variables were 0.832 and 0.802, respectively, both of which exceeded the acceptable threshold of 0.5. The Bartlett's Test of Sphericity yielded a statistically significant result ($p\text{-value} < 0.05$) for both the independent and dependent variables. The Cronbach alpha coefficient was utilised to evaluate the reliability outcomes. All factors had reliability scores above the threshold of 0.70 on the Cronbach alpha scale.

Three of the initially proposed constructs were expanded to five, while the number of items on the initial scale was reduced from 35 to 24 based on the factor loading. Accountability was identified as one of the key constructs, the risk awareness and communication scale was divided into "risk awareness" and "communication." The updated scales exhibited factor loadings that were deemed acceptable and demonstrated good reliability. The study employed Pearson's Correlation analysis and it observed that Effective Risk Management and each of the independent variable are correlated. The error term/ residuals were considered normally distributed based on histogram of residuals. The scatter plots demonstrated that the residual values are distributed randomly.

CHAPTER 5. DISCUSSION OF THE RESULTS

5.1 Introduction

This chapter offers a comprehensive discussion of the findings reported in chapter 4. After data cleansing, analysis of the 81 responses from senior managers showed no missing information. The descriptive was categorised according to gender, highest level of education, and years of experience at the senior management level. The hypothesis were further discussed in this section.

5.2 Demographic profile of the respondents

Gender

The gender distribution among the study participants was fairly balanced. The gender distribution of respondents is important since the South African government is dedicated to addressing gender inequality. The Women Empowerment and Gender Equality Bill advocates for a 50% quota for women in senior management roles (Khwela et al., 2020).

Qualifications

Regarding education, over 95% of the respondents had obtained either an undergraduate or a postgraduate degree, demonstrating a high level of education. Majority of participants (78%) obtained post graduate qualification. Aligned with The National School of Governance's professionalisation of the public sector framework (TheNSG, 2022), most of the senior management holds a minimum qualification of level 8.

Level of experience

Approximately 74% of the respondents had 4 years or more experience as senior managers, whereas 16% had less than 4 years of experience, suggesting that the participants possess the necessary expertise to complete the questionnaire. Seven percent (7%) of the participants were CRO's. The level of experience aligns with the

criteria for career progression in the public sector, which values experience and length of service (Munika, 2021).

5.3 Descriptive statistics

5.3.1 *Tone at the top - Leadership support*

The tone at the top was identified as the important factor based on the literature review. The leadership acknowledged the pivotal role that support plays in promoting the effectiveness of risk management in the various department. The findings were corroborated by multiple researchers who argued that ERM operations are dependent on senior management support for implementation (Oliveira et al., 2018; Selamat & Ibrahim, 2018; Hassan & Yazid, 2019; Raab, 2022; Grieser & Pedell, 2021). Opinions were divided on whether the CRO is the primary driver of the risk culture. Selamat and Ibrahim (2018) cited that senior management commitment and CRO involvement are associated with effective implementation of risk management. Implying that both senior managers and CRO are essential for effective risk management, rather than one or the other.

5.3.2 *Risk behaviour*

The results showed that the senior management has the appreciation of risk management as they understand its benefits within the department. However, 40% of senior management agreed or strongly agreed that failure and risk are perceived negatively in their department. The finding is consistent with Grieser and Pedell's (2021) analysis, suggesting that employees tend to perceive risk as a form of failure rather than an opportunity for success. Moreover, public sector employees refrain from taking risks to evade blame (Bracci et al., 2021). Some of the factors that influences a good risk behaviour is incentive, particularly in the banking industry (Grebe & Marx, 2023; Hussaini et al. 2018). However, it was found that there is lack of incentive in the public sector. The lack of incentives may persist for a while as there is a push to reduce the public wage bill to lower the high debt-to-equity ratio (National Treasury, 2021).

5.3.3 *Risk awareness and communication*

The results indicated that senior management is cognizant of the risks confronting their departments, demonstrating a positive risk culture. Risk awareness managers can set goals by predicting and ranking risks and opportunities through risk awareness (Bracci et al., 2021). Oliveira et al. (2018) contend that although risk awareness is crucial in risk management, its influence on the successful execution of management activities may not be substantial. Effective communication among the stakeholders in risk management is crucial for ERM efforts (Oliveira et al., 2018). Over 30% of senior managers indicated that the risk management unit and the business units do not engage regularly on risk related matter.

5.4 **Validity of the construct**

The respondent data was evaluated for factor analysis using KMO and Bartlett's Test of Sphericity (Williams et al., 2010). These tests play a crucial role in determining whether the sample is adequate. The KMO index ranges from 0 to 1, with 0.50 being the threshold for pursuing factor analysis. In factor analysis, the Bartlett's Test of Sphericity should have a significant p-value ($<.05$) for the analysis to be appropriate (Williams et al., 2010).

The KMO of both the dependent variable and independent variable exceeded the permissible threshold of 0.5. Five factors accounted for 70.36% of the total variance explained by the 5 components. All five factors mentioned have exhibited reliability, as their values surpass the threshold of 0.70 on the Cronbach alpha scale.

5.5 **Discussion Pertaining to Hypothesis**

Hypothesis 1(H1): *A tone at the top (strong leadership support) has a positive influence on the implementation of risk management.*

Hypothesis test shows that leadership support have a positive impact on effective risk management, the hypothesis was supported and significant. The findings shows a positive and significant relationship between leadership support and effective risk management. Therefore, hypothesis H1 of the current study is supported and accepted. The results are corroborated by prior researchers who found that leadership

support is essential to ensure effective risk management (Oliveira et al., 2018, Selamat & Ibrahim, 2018. Hassan & Yazid2, 2019, Raab, 2022, Grieser & Pedell, 2021). This study is consistent with agency theory (Selamat & Ibrahim, 2018).

Hypothesis 2 (H2): *A positive risk awareness and communication has a significant influence on risk management.*

Initially, risk awareness and communication were considered one concept, but after factors loading, the construct were divided into Risk Awareness and Risk Communication. The original hypothesis H2 was modified to H2.a, and H2.b to account for the two constructs. The constructs align with Oliveira et al.'s (2018) literature, which highlights communication and risk awareness as two critical success factors for risk management implementation, suggesting that they are separate concepts.

Hypothesis 2.a (H2.a): *A positive risk awareness has a significant influence on risk management*

The results shows that there is no strong enough data to suggest that risk awareness has strong correlation with effective risk management. Therefore, hypothesis H2.a is not supported. The results support the findings of Braumann (2020) who found that risk awareness is seen as a cornerstone of risk culture however, there is no definite relationship between risk awareness and risk management (Braumann, 2018b). According to Braumann, 2020, there is little empirical data available on the development of risk awareness, despite its supposed importance.

Hypothesis 2.b (H2.b): *Risk communication has a significant influence on risk management.*

Hypothesis test shows that risk communication have a positive impact on effective risk management, the hypothesis was supported and significant. The findings shows a positive and significant relationship between risk communication and effective risk management. Therefore, hypothesis H2.b of the current study is supported and accepted. The significant relationship of communication and effective risk management was also supported by Raab (2022), who identified that communication

is amongst the three factors of risk culture when it comes to risk management implementation. Viscelli et al. (2016) supported the idea that communication is essential for ERM implementation and can function separately from risk management activities. Oliveira et al. (2018) cited risk communication as one of the 10 important success criteria in risk management.

Hypothesis 3(H3): *Risk Behaviour/Attitude has a positive but insignificant effect on effective Risk Management.*

Risk Behaviour has a positive but insignificant effect on Effective Risk Management. The results indicate that there is insufficient evidence to support significant relationship between 'risk behaviour' and effective risk management. Therefore, hypothesis H3 is not supported. While 'risk behaviour' did not show statistical significance in our analysis, it is nevertheless important to take into account when studying risk culture. Sheedy and Canestrari-Soh (2023) suggest that behavioural biases can help organisations better manage risks.

Hypothesis 4(H4): *Accountability of senior management has a positive significant influence on risk management.*

Accountability has a positive and significant effect on Effective Risk Management. The findings suggest a significant relationship between accountability and effective risk management. Therefore, hypothesis H4 of the current study is supported and accepted. Executives that have a sense of accountability are more inclined to consistently demonstrate and promote risk management activities (Sheedy & Canestrari-Soh, 2023). In addition, accountability has been recognised by the Financial Stability Board as one of the four indicators of risk culture (Sheedy & Canestrari-Soh, 2023). This theory is well aligned with the culture theory.

5.6 Summary of the results

This chapter discussed the findings as outlined in chapter 4. The results provided significant insights for assessing the impact of risk culture on the execution of risk management in the selected departments. From a demographic perspective, there was an equal distribution of males and females, and most participants had tertiary education and extensive work experience.

From the risk culture perspective, the results revealed that senior management generally have a positive perception and understanding of the risk management regulatory framework. Furthermore, there is an acknowledgment of the importance of providing support to effectively execute risk management across the departments. The research revealed that although there is a general understanding, certain members of the senior management view risk management as solely the responsibility of the CRO. According to the principle of risk management, the responsibility for managing risk lies with every individual within the organisation Bracci et al. (2021). This highlights the necessity for increased collaboration to ensure the effectiveness of risk management. According to Grebe & Marx (2023) and Hussaini et al. (2018), incentives play a crucial role in encouraging favourable risk-taking behaviour. The research findings suggest there is a lack of adequate incentive for risk management and risk-taking within the departments.

5.7 Conclusion

Chapter 5 sought to evaluate the impact of risk culture on the efficiency of risk management through an analysis of tone at the top, risk behaviour, risk awareness, risk communication and accountability. A thorough analysis and reflection were conducted on the empirical findings that were introduced in chapter 4, with careful consideration given to the literature review that was presented in chapter 2. Tone at the top, communication and accountability are well supported and accepted. The three constructs showed a positive and significant relation with effective risk management. The other constructs, risk behaviour and risk awareness, were found to be insignificant and rejected. In conclusion, communication, leadership support, and accountability are significantly correlated with risk management, according to this study, which builds upon prior scholarly research on the determinants of ERM

implementation. The empirical findings presented in chapter 4, were reflected on and comprehensively discussed in relation to the literature review, which is presented in chapter 2.

CHAPTER 6. CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Introduction

The chapter concludes the study by summarising the conclusions reached in accordance with the predetermined objectives of the study. An evaluation of the study's limitations and implications was also included.

6.2 Conclusions of the study

The main aim of the study was to assess the impact of risk culture on the implementation of risk management and to determine the significance of leadership support in fostering a robust risk culture. The study corroborated the findings of previous research, which found that the risk culture has a substantial role in the implementation of risk management in organisations. Kanu (2021) underscored the significance of risk culture in effectively harnessing the advantages of ERM. Risk culture was evaluated with an emphasis on tone at the top (leadership support), communication, accountability, risk behaviour and risk awareness, as supported by the existing literature. The study revealed that leadership support, communication and accountability, which collectively represent the risk culture, significantly influences how risk management is implemented in the organisation. However, there was no substantial correlation observed between risk awareness and risk behaviour towards ERM. The following conclusions were reached:

6.2.1 *Tone at the top – leadership support*

H.1 A tone at the top (strong leadership support) has a positive influence on the implementation of risk management.

According to Alawattegama (2022), the primary obstacle to successfully implementing an efficient ERM system is the absence of support from senior management. The study's findings clearly show a positive and significant relationship between leadership support and effective risk management. The findings are corroborated by previous studies that found that leadership support is essential to ensure effective risk management (Oliveira et al., 2018; Selamat & Ibrahim, 2018;

Hassan & Yazid, 2019; Raab, 2022; Grieser & Pedell, 2021; Oliveira et al., 2018). Senior management acknowledges the importance of providing support to ensure effective implementing risk management throughout the departments. The critical aspect to pay attention to is that risk management is the responsibility of everyone in the department.

6.2.2 Communication

(H2.b): Risk communication has a significant influence on risk management.

Oliveira et al. (2018) and Hussaini et al. (2018) argue that communication has a significant impact on the effectiveness of risk management. The study confirmed that there is a positive and significant relationship between communication and the effective implementation of risk management. The senior managers acknowledged the importance of communication in executing risk management strategies, as part of risk culture.

6.2.3 Accountability

(H4): Accountability of senior management has a positive significant influence on risk management.

Clear roles and responsibilities enhances accountability (Bracci et al., 2021). Weak or unclear accountability systems can result in gaps in risk management oversight, heightening the likelihood of undesirable consequences. The Financial Stability Board has identified accountability as one of the four indicators of risk culture (Sheedy & Canestrari-Soh, 2023). The study confirmed that accountability has a positive and significant effect on the implementation of risk management within the departments.

6.2.4 Risk awareness and behaviour

(H2.a): A positive risk awareness has a significant influence on risk management

(H3): Risk Behaviour/Attitude has a positive but insignificant effect on effective Risk Management

As a measure of risk culture, risk awareness and behaviour demonstrated insignificant correlation with risk management. While these two factors lacked statistical significance in this research study, they still play a vital role in risk management techniques and organisational culture and therefore should not be overlooked. Organisations need to evaluate the human element in risk management since the actions made by the employees influence the organisation's future (Miller, 2022).

6.2.5 Summary

The outcome of the research study clearly indicates that risk culture has a positive impact on how risk management is implemented within the departments. The research findings also emphasised the importance of leadership support, accountability, and communication when it comes to risk culture (Hussaini et al., 2018; Oliveira et al., 2018). The risk culture should not be a once off phenomenon, but rather a continuous process promoted by senior management. (Grebe & Marx, 2023).

6.3 Limitations

The findings of this study should be understood within the scope of the following:

- There was limited availability of publications on risk culture and its influence on ERM in the public sector, which made it difficult to obtain secondary data from related studies.
- The study utilised a cross-sectional design where data was collected at a certain point in time. Cross-sectional surveys lack the ability to establish causality (Braumann et al., 2020).
- Time limitations hindered the collection of sufficient data for the study.
- The study concentrated on six departments in Gauteng Province with 81 participants. The relatively small sample size may limit the generalisation of the findings to other public institutions.

Notwithstanding these limitations, the responses obtained provides a rich opportunity to explore the extent to which risk culture and ERM are empirically related.

6.4 Recommendations of the study

The public sector mandate is crucial and requires the involvement of every employee to ensure success. While the study primarily focused on senior management perception of risk culture, it is crucial for all employees to understand risk culture due to its major impact on departments' capacity to detect and manage risk effectively. The leadership should focus on investing in capacity building in risk management at all levels to promote a strong risk culture.

Even though three factors were interconnected with efficient risk management, identifying and assessing key aspects that contribute to risk culture is a major challenge (Streicher et al., 2023). CROs and senior management should collaborate to discover factors that align with their organisation to enhance the risk culture

6.5 Suggestions for further research

The data for this research study was collected using quantitative research methods. Measuring and managing risk culture can be challenging due to its abstract nature and the difficulty in quantifying it (Alawattegama, 2022). Subsequent studies may use mixed research designs that use both qualitative and quantitative approaches for data collection. Future research in this area should be carried out with a larger sample size from other public sector institutions, which could bring new contributions to the growing empirical research on risk culture and risk management. Further research may be warranted to investigate the effects of risk culture on service delivery in the public sector.

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ANNEXURE A. RESEARCH QUESTIONS

Section A: Demographics

Gender

Female	Male	Non-binary	Prefer not to say
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Highest level of qualification

Diploma	Degree	Honours or post graduate diploma	Masters	Doctorate	other
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Years of experience at senior management level

Less than 1 year	1-3 years	4-7 years	More than 8 years
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Section B: Research questions

A 5-point Likert scale ranging from strongly disagree to strongly agree was utilised. For each of the statement, participants will be requested to indicate the extent to which they agree or disagree:

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
Response from risk culture/tone at the top					
A strong risk culture is dependent on the support and involvement of all senior managers.					
Without a strong risk culture, the department will struggle to manage risks and achieve its strategic goals.					

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
The success of a risk culture depends mainly on the Chief Risk Officer.					
The department has a risk strategy and policy in place.					
The department has developed a risk appetite statement and tolerance thresholds.					
The risk appetite statement and tolerance thresholds are clear and aligned to the mandate of the department					
Strategic decisions are taken in consideration of the risk appetite and tolerance thresholds					
Senior management/risk owners are held accountable for risk management activities.					
My performance 4ment include risk management activities.					
The governance structures such as risk management committee and the audit and risk committee play an important role in driving a robust risk culture.					
The department encourages the reporting of unethical conduct.					

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
The department is capable of dealing with extraordinary events/situations (e.g. natural disasters, technological failures, pandemics, other unforeseen incidents)					
Adequate resources are allocated to the risk management unit to effectively execute risk management activities (budget and personnel).					
Risk behaviour					
Risk management activities are time consuming with no value add.					
Risk management is seen as a strategic imperative in my department					
I understand the value of risk management and the benefits it brings to the department.					
I take full responsibility for risks that are in my area of work.					
Failure and risks are perceived negatively in my department.					
Risk management processes are proactive in my department					

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
Senior managers express their views about risk management freely.					
Senior managers who effectively identify and manage risks are rewarded.					
Risk awareness and communication					
I am aware of the risks and opportunities that are facing my department.					
Risk management awareness assist in identifying opportunities and minimising the impact of unwanted results.					
Emerging risks and possible mitigations are discussed during the senior management meetings.					
I have received the necessary training to identify and manage key risks.					
Regular engagements are held with the risk management unit to discuss emerging risks and those that have materialised/near misses.					
The risk management unit is invited to our branch/directorate monthly/quarterly meetings.					

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
Senior managers are encouraged to identify risks in the department.					
Senior managers have clear roles and responsibilities pertaining to risk management.					
Risk management processes					
There are adequate systems to identify, assess, monitor and report risks, including emerging risks.					
In my department, senior managers participate in the identification of key risks and provide collective mitigations strategies.					
My department prioritises and manages key risks.					
The risk management unit is well capacitated with relevant skills and knowledge to advise management					
My department has adequate risk management system to ensure effective and seamless reporting.					
Risk Management support (applicable to the CRO's only)					

Items Questions	Strongly disagree	Disagree	neutral	Agree	Strongly agree
	1.	2	3	4	5
Are you a Chief Risk Officer					
The Chief Risk Officer report to the highest authority, i.e. Accounting Officer of the Department					
The roles and responsibilities of the Chief Risk Officer are clear with no ambiguity					
It is easy to partner with other senior managers to effectively implement risk management strategies.					
Constant leadership changes hinders the connection and the implementation of risk management.					
Sufficient budget is allocated to the risk management unit to conduct awareness sessions and other risk related activities such as training of the risk management officials.					
Risk management activities are supported and valued in my department.					

ANNEXURE B. ETHICAL CLEARANCE

Graduate School of Business Administration
University of the Witwatersrand, Johannesburg



Wits Business School Ethics Committee
Constituted under the University Human Research Ethics Committee (Non-Medical)

Ethics Clearance Certificate

Ethics protocol number: WBS/BA2626985/676

This certificate is only valid with a legitimate ethics protocol number and signed by the Researcher (below).

This certificate is only valid if accompanied by formal permission from the relevant stakeholder(s).

Project title Risk culture and risk management within Gauteng Provincial Government departments

Investigator / Researcher Mrs Madiagane Rahab Marota

Nature of Project MBA (Research Article)

Decision of the Committee Approved, provided stakeholders and participants are guaranteed confidentiality.

Issue Date of Certificate 2023-07-28

Expiry date Date of submission of the project / research report

Chairperson Dr Pius Oba
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Declaration by Researcher

One copy must be signed by the Researcher and returned to the Chairperson of the Wits Business School Ethics Committee.

I fully understand the conditions under which I am authorized to carry out the abovementioned research and I guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I undertake to resubmit the protocol to the Committee.

Signature

20 August 2023

Date:

ANNEXURE C. COVER LETTER



My name is Madiagane Rahab Marota. I am a Master of Business Administration student at the University of the Witwatersrand, Johannesburg. I am conducting a research study on risk culture within Gauteng Provincial Departments and its impact on risk management activities, under the supervision of Dr Nomusa Mazonde.

The objective of the research is to assess the risk culture within the departments and its impact in rolling out risk management activities.

I am inviting you to take part in the research study by answering an online questionnaire. Your participation in this study will last about 10 minutes. This is a self-administered questionnaire and is conducted online at your convenient place and time.

Your responses to this research study is confidential and your identity is anonymous. All responses will be aggregated for the purpose of the study. If you decide to take part in the research study, it is on a voluntary basis and therefore, you are not obligated to do so. You can stop being part of the study at any time. You do not have to answer any questions if you do not want to. You will not get any direct benefits if you choose to participate in the research study. You will not be penalised in any way if you choose not to participate.

This research study will be written up as a research report. The report will be available on the university library website. If you would like to receive a summary of this report, I will be happy to send it to you. If you have any questions during or afterwards about this research study, feel free to contact me or my supervisor on the details listed below.

If you have any concerns or complaints about the ethical procedures of this research study, you are welcome to contact the University Human Research Ethics Committee (Non-Medical), telephone +27(0) 11 717 1408, email hrecnon-medical@wits.ac.za.

Yours sincerely,

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Supervisor:

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