



Leveraging risk work to improve risk-based decision-making in a Namibian electricity utility

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PREFACE

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

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

The primary study supervisor permitted the student to submit this mini-dissertation for examination.

ABSTRACT

This study aimed to explore how risk work could be improved to enhance the inclusion of risk in decision-making in a Namibian electricity utility. The study followed a survey-based, mixed-methods study design that combined elements of both quantitative and qualitative research. Data was collected from a total of 53 participants – 26 managers and 27 non-managers – with a survey response rate of 20%. The study found that both groups identified risk leadership as the risk area that needed the most attention to improve the inclusion of risk in the decision-making of the organisation. Managers were keen to change the risk communication and risk management framework, while non-managers mainly wanted to change risk accountability and risk understanding. In their qualitative, explanatory responses, decision-makers identified challenges to incorporating risk in decision-making, including not being held accountable for not including risk in decisions, blurred risk accountability lines, a lack of risk understanding, inadequate buy-in and commitment from the top leadership of the organisation, inadequate risk management guidance, a silo approach to risk management, and risk-culture-related challenges. The board of directors, senior leadership, and risk management practitioners of the Namibian electricity utility can benefit from the results of this study, as it highlighted the risk work areas that needed to be improved and the related challenges decision-makers faced to more effectively consider risk when making decisions. This will allow the organisation to enhance its risk-based decisions by designing specific actions to address the priority risk areas identified in this study. This study addressed the lack of literature on risk work in the Namibian context and the Namibian electricity sector, in particular. The study has, therefore, also contributed novel insights into the global body of risk management knowledge.

Keywords: risk work, risk-based decision-making, electricity utility, Namibia

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RESEARCH PROJECT OVERVIEW

This mini-dissertation contains a research project overview, an article, and reflection sections. The appendices provide additional information that may be of interest to the reader. This brief research project overview aims to provide the reader with contextual guidance on how to appreciate the rest of this dissertation.

The main aim of a mini-dissertation study at a master’s degree level is to teach the student how to conduct research and write a research report. This study allowed the student (“the researcher”) to learn how to perform applied research in a business context, within an established risk management research program. The study explored how risk work could contribute to improving risk-based decision-making in a Namibian electricity utility. The study used a quantitative and qualitative mixed methods study design to explore how risk work can be improved, by obtaining views from managers and non-managers in the organisation. The researcher selected this specific topic because this question has not yet been studied in Namibia, specifically regarding the contribution of active inclusion of risk in decision-making to achieving the electricity utility’s objectives. Therefore, the researcher saw the need to explore how the selected Namibian entity can leverage risk work to improve risk-based decision-making to enable the achievement of its objectives.

This study contributes to the body of academic knowledge on risk management, with its specific focus on risk-based decision-making in a Southern African context. The study also contributed to practice by informing the leadership of the studied organisation about risk work priority areas that should be improved to allow decision-makers to more effectively include risk in decision-making. This is expected to contribute to the achievement of the organisation’s objectives. Additionally, this study provided the researcher with an opportunity to learn how to do an applied research project to demonstrate mastery of research at the master’s degree level within a research team context. The responsibilities of the different role players in this research project are described in Table 1 below.

Table 1: Role players in the study “Leveraging risk work to improve risk-based decision-making in a Namibian electricity utility”

#	Team Member	Role
1.	Researcher	Conduct the study and write the dissertation article.
2.	Supervisor: Prof H. Zaaiman	Provide guidance, and advice on the study and assisted with interpreting the results. Provided technical and critical review of the dissertation. She was assisted in this process by Lebo Modisagae as part of her training to become a supervisor.
3.	Editor	Edit language and grammar of the dissertation before submission for examination.

ARTICLE

Leveraging risk work to improve risk-based decision-making in a Namibian electricity utility

Abstract

This study aimed to explore how risk work could be improved to enhance the inclusion of risk in decision-making in a Namibian electricity utility. The study followed a survey-based, mixed-methods study design that combined elements of both quantitative and qualitative research. Data was collected from a total of 53 participants – 26 managers and 27 non-managers – with a survey response rate of 20%. The study found that both groups identified risk leadership as the risk area that needed the most attention to improve the inclusion of risk in the decision-making of the organisation. Managers were keen to change the risk communication and risk management framework, while non-managers mainly wanted to change risk accountability and risk understanding. In their qualitative, explanatory responses, decision-makers identified challenges to incorporating risk in decision-making, including not being held accountable for not including risk in decisions, blurred risk accountability lines, a lack of risk understanding, inadequate buy-in and commitment from the top leadership of the organisation, inadequate risk management guidance, a silo approach to risk management, and risk-culture-related challenges. The board of directors, senior leadership, and risk management practitioners of the Namibian electricity utility can benefit from the results of this study, as it highlighted the risk work areas that needed to be improved and the related challenges decision-makers faced to more effectively consider risk when making decisions. This will allow the organisation to enhance its risk-based decisions by designing specific actions to address the priority risk areas identified in this study. This study addressed the lack of literature on risk work in the Namibian context and the Namibian electricity sector, in particular. The study has, therefore, also contributed novel insights into the global body of risk management knowledge.

Keywords: risk work, risk-based decision-making, electricity utility, Namibia

Introduction

Risk has become an integral part of organisations, affecting a wide range of organisations across various sectors. The term 'risk work' refers to the actual risk-related behaviour through which the risk management and governance practices of the organisation are constructed (Hardy et al., 2020). The risk management framework of an organisation specifies how such risk work is expected to occur. However, the actual risk management activities within the organisation determine how expected risk management contributes to achieving the objectives of the organisation (Hardy & Maguire, 2016). Such added value may be seen in how risk is included in decision-making, enabling the achievement of the objectives of the organisations (Zaaiman, 2024). Risk-informed decision-making is, therefore, even more critical today than ever before.

Managers at all levels in organisations must make decisions that affect the organisation, its employees, and other stakeholders (Hensman & Sadler-Smith, 2011; Negulescu & Doval, 2014). Strategic decision-making is usually the responsibility of top management, while operational (day-to-day) decision-making falls to the hands of lower-level management (Said, 2006). When making decisions, various factors should be considered, including the objectives to be met, risks that would prevent the achievement of such objectives, alternative solutions available to achieve the objectives, the costs and benefits of each solution, as well as all relevant information available to support the decision (Negulescu & Doval, 2014). These considerations are necessary to ensure that optimal decisions are made that are consistent with objectives and that consider relevant risks to achieving the objectives of the organisation. Management decisions, therefore, influence the achievement of the objectives of the organisation (Fülöp, 2005). Thus, risks associated with such decisions should be considered in the decision-making process to allow for the achievement of the objectives of the organisation (COSO, 2004; Ersdal & Aven, 2008). While it has been noted that the consideration of risk during the decision-making process is a natural, human process, even in organisations without formalised decision-making processes (Crovini et al., 2020; Negulescu & Doval, 2014), explicit attention to the inclusion of risk in decision-making can be expected to strengthen such decisions.

Organisational objectives should direct the risk management objectives of the organisation, which, in turn, prescribe the formal risk management structures of the organisation, which specify the risk work expected to allow the organisation to reach its objectives (Zaaiman, 2024). However, the actual risk-related behaviours in an entity represent practice-based solutions used to navigate the risk-related challenges of the organisation (Hardy & Maguire, 2016). This means that the actual risk work may differ from the expected risk work as specified in the formal risk management frameworks of the organisation (Zaaiman, 2024). The link between organisational objectives and risk management objectives and how these direct the risk management structures of the organisation and the actual

risk work is explained by Zaaiman (2024), as shown in Figure 1. The actual inclusion of risk in decision-making indicates how stakeholders value risk work in an organisation. However, how risk work may contribute to reaching the objectives of an organisation is still a developing academic research area.

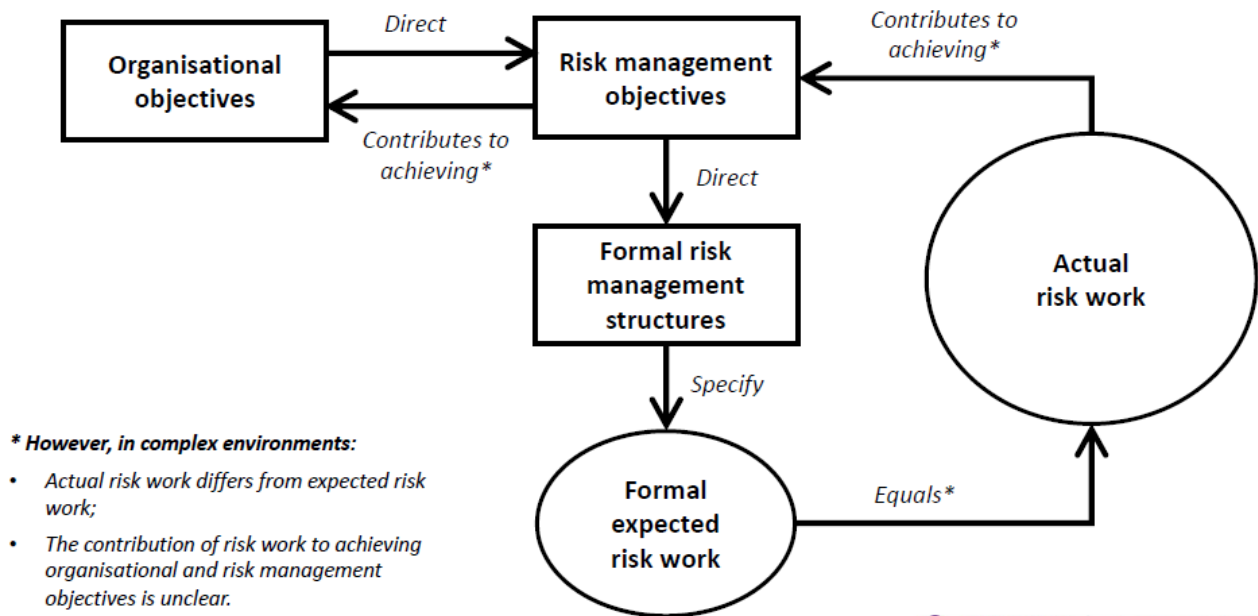


Figure 1: Ideal formalised risk work process (Zaaiman, 2024)

This study, therefore, focused on an organisation-specific instance of this problem, namely, that there was inadequate clarity on how actual risk management work contributed to reaching the organisational objectives in a selected Namibian electricity utility, and how to improve this contribution. This study aimed to explore how risk work could be improved by enhancing the inclusion of risk in decision-making in a Namibian electricity utility. The objectives of this study were threefold: (1) to identify which risk work area(s) had to be given priority to be able to improve the inclusion of risk in the decision-making processes of the organisation; (2) to identify the priority area-related challenges faced by decision-makers to be able to include risk in decision-making; and (3) to understand how improvements to priority risk work area(s) could contribute to optimal decision-making in a Namibian electricity utility. This study, therefore, aimed to answer the following key question: how can risk work contribute to improving risk-based decision-making in a Namibian electricity utility?

This question had not yet been studied in Namibia, specifically as it related to the contribution of the active inclusion of risk in decision-making to achieving the objectives of an electricity utility. Therefore, there was a need to explore how the Namibian electricity utility could leverage risk work to improve risk-based decision-making and enable the achievement of its objectives. Furthermore,

no published studies could be found that explored how risk work contributed to the objectives of an organisation in the Namibian context. This study area also had links to international research gaps on how to improve the contribution of risk work to organisational success, as identified by Hardy et al. (2020).

This study is expected to benefit the researched organisation and the electricity industry as well as contribute a valuable, applied, academic example of how such research could be undertaken. Firstly, this study provides the senior management and the board of directors of the organisation with insights into which of the risk work areas of the electricity utility need to be improved, as well as why those are the priority areas, and makes suggestions for such improvement. Additionally, risk management practitioners at the Namibian electricity utility are expected to benefit from the study findings, as the study identified key priority risk work areas that had to be improved. Secondly, the study addressed the lack of published literature on risk work in the Namibian context and the Namibian electricity sector, in particular. A study of this nature also contributes novel insights into the global body of risk management knowledge and is especially relevant to the Southern African region.

This study followed a survey-based, mixed-methods design, combining the elements of quantitative and qualitative research. Merging the strengths of quantitative and qualitative research methods allowed for a more comprehensive understanding of the research question, as explained in this paper.

Background

This section first defines key terms relevant to this study. It is followed by a review of the relevant literature regarding risk and decision-making, challenges to including risk in decision-making, and how the inclusion of risk in decision-making can be improved.

Definition of terms

Risk

The International Organization for Standardization (ISO) defines risk as “*the effect of uncertainty on objectives*” (ISO, 2018, p.1). This study focused on the potential negative impact of uncertain future events on achieving the objectives of an organisation.

Risk management

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) defines risk management as:

“a process, effected by an entity’s board of directors, management, and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives” (COSO, 2004, p.2).

Decision-making

This study adopted the following definition of decision-making:

“... identifying and choosing alternatives based on the values and preferences of the decision maker. Making a decision implies that there are choices to be considered, and in such a case we want not only to identify as many of these alternatives as possible but to choose the one that best fits our goals, objectives, desires, values, and so on” (Fülöp, 2005, p.1).

Risk and decision-making

The literature suggests that there has been a transformation in the way business decisions are made from the 18th century up to the early 21st century (Nura et al., 2012). With this evolution, decision-making has shifted from being consultative to predictive and, more recently, to more intuitive. A common thread throughout this period, however, is that decisions have been made with limited data, risk, and uncertainty (Nura et al., 2012).

Decisions are made following a structured or unstructured approach. On the one hand, structured decisions, also referred to by Dean and Sharfman (1993, p.588) as “rational decisions”, are usually made following well-defined processes and routines. This decision-making process has been described widely in the literature, and the decision-making process generally involves the following steps: (1) defining the problem; (2) determining or understanding the requirements; (3) establishing goals; (4) identifying alternatives; and, finally (5), defining the criteria (Elbanna, 2006; Fülöp, 2005; Lunenburg, 2010). Unstructured decisions, on the other hand, are rather complex in that they involve some creative way of making a decision and in that they follow an undefined process (Jonsson et al., 2022). Interestingly, decisions are mostly based on facts, but when faced with uncertainty, decision-makers avoid logical reasoning and instead tend to base their decisions on intuition (Elbanna, 2006; Hensman & Sadler-Smith, 2011; Jonsson et al., 2022). Hence, risk-informed decision-making becomes difficult when faced with limited information and uncertainty (Watson & Mullen, 2020).

Making business decisions is an important and risky responsibility because making a bad decision can ruin the organisation (Soll et al., 2023). Various psychology and decision-making papers suggest that decisions are subject to several biases (Hammond et al., 2023; Noyes et al., 2012; Power, 2009; Soll et al., 2023). For example, Power (2009) argues that when faced with risk and uncertainty, decisions are subject to framing and biases, which occur when people make decisions based on how information is presented and not on the facts. Similarly, even when decision-makers are presented with a clear process, information, and the tools needed to make decisions, they may still make bad decisions, mainly attributable to the decision-makers’ frame of mind (Hammond et al., 2023; Jonsson et al., 2022). Relying on intuitive and automatic judgement, decision-maker reasoning often results in cognitive biases, which lead to inappropriate decisions (Hammond et al., 2023; Soll et al., 2023). Such mistakes are caused by decision-makers resorting to making decisions quickly, thereby failing to explore the risks and uncertainties related to the goals and objectives of the organisation. Awareness of decision-making biases and heuristics and understanding available tools and techniques to overcome decision biases may expand the decision-maker’s ability to make better and more informed decisions (Soll et al., 2023).

Despite all of the above, decision-making remains a crucial component of an organisation, and it is important for decision-makers to include risk in decision-making by considering its impact on the achievement of the objectives of the organisation (Zhu et al., 2023). Therefore, for risk management to be effective, there is a need for continuous alignment between the organisation and its risk management function, which includes incorporating enterprise risk management (ERM) into the decision-support process of the organisation (Zhu et al., 2023).

This study aimed to explore how risk work could be improved by enhancing the inclusion of risk in decision-making in a Namibian electricity utility. The above discussion is important for understanding the inherent decision-making approaches of an organisation. Furthermore, the existing literature explains how the availability of information or risk data, uncertainty, decision-maker biases, and heuristics influence the way decisions are made. The following section discusses the literature that highlights the practical challenges that inhibit the inclusion of risk in the decision-making of an organisation.

Challenges to including risk in decision-making

Understanding the context in which decisions are made and the factors that may influence the decisions being made is critical in comprehending how risk work could be improved by enhancing the inclusion of risk in decision-making. Table 2 presents literature-based themes related to practical challenges experienced when including risk in decision-making. Aspects of these themes and sub-themes are also expected in the results of this study.

Table 2: Literature-based thematic codebook on challenges when including risk in decision-making

Main themes	Description	Sub-themes	Literature sources
Risk accountability	How decision-makers are held accountable for including risk when making decisions	<ul style="list-style-type: none"> ▪ Time unavailable to make decisions ▪ Uncertainties around the decision being made ▪ The decision-maker's inexperience ▪ Hierarchical level and authority ▪ Team dynamics ▪ Organisational culture 	Hensman and Sadler-Smith (2011)
Risk communication	How risk is communicated in the organisation to optimise the inclusion of risk in decision-making	<ul style="list-style-type: none"> ▪ Quality of information to support the decision-making process ▪ Inadequate information 	Dahmani et al. (2020) and Osman and Lew (2020)
		<ul style="list-style-type: none"> ▪ Inability of decision-makers to speak up ▪ Not being transparent with the information 	Lamola (2021), Moodley (2019), and Osman and Lew (2020)
		<ul style="list-style-type: none"> ▪ Inadequate data or information 	Cooper et al. (2011) and Nura et al. (2012)
Risk leadership	How the leaders of the organisation demonstrate their commitment to actively including risk when making decisions	<ul style="list-style-type: none"> ▪ Management's perception of the value and importance of the decision being made 	Dean and Sharfman (1993), Corvellec (2010), Ganangaram (2020), and Moodley (2019)
		<ul style="list-style-type: none"> ▪ Lack of resources, for example, financial constraints 	Zhu et al. (2023)
		<ul style="list-style-type: none"> ▪ Uncertainty about the future 	Nura et al. (2012), Elbanna (2006),

			Jonsson et al. (2022), and Watson and Mullen (2020)
Risk management framework	How the risk management framework of the organisation facilitates the inclusion of risk in decision-making	<ul style="list-style-type: none"> ▪ Traditional approaches to risk management resulting in silos rather than integrated approaches to decision-making 	Zhu et al. (2023)
Risk understanding	How decision-makers understand the concept of risk	<ul style="list-style-type: none"> ▪ Human decision biases and heuristics affecting decision-making ▪ Decisions not based on facts 	Hammond et al. (2023), Noyes et al. (2012), Power (2009), and Soll et al. (2023)

Improving the inclusion of risk in decision-making

Table 3 provides the results of a thematic analysis of the literature found on aspects to consider in order to improve the inclusion of risk in decision-making. It was expected that similar themes would be found in this study. The themes are presented with their sources from the literature in Table 3.

Table 3: Literature-based thematic codebook on aspects to consider when improving the inclusion of risk in decision-making

Main themes	Description	Sub-themes	Literature sources
Risk culture	Employees' perceptions of their colleagues' prioritisation and attitude, specifically towards risk management approaches, including values and understanding of risk-related practices	<ul style="list-style-type: none"> ▪ Risk culture of the organisation 	Cooper et al. (2011), Lamola (2021), Zhu et al. (2023), and Zou et al. (2010)
		<ul style="list-style-type: none"> ▪ Norms of the organisation ▪ Risk perception ▪ Attitude towards risk management 	Zou et al. (2010)
Enterprise risk management	Holistic and integrated company-wide approach to risk	<ul style="list-style-type: none"> ▪ ERM approach to risk ▪ Increased risk maturity 	Renault et al. (2016) Zhu et al. (2023)
Risk management process	The process of identifying, assessing, monitoring, and managing potential risks facing the organisation	<ul style="list-style-type: none"> ▪ Risk identification ▪ Risk assessment techniques ▪ Process standardisation 	Zhu et al. (2023)
		<ul style="list-style-type: none"> ▪ Continuous improvement of process suitability ▪ Adequacy and effectiveness of the risk management process 	ISO (2018)
		<ul style="list-style-type: none"> ▪ Risk integration 	ISO (2018) and Renault et al. (2016)
Risk leadership	Improvements in how the leaders of the organisation demonstrate their commitment to actively including risk when making decisions	<ul style="list-style-type: none"> ▪ Leadership from the top ▪ Decision support 	Cooper et al. (2011), Gangaram (2020), and Moodley (2019)
		<ul style="list-style-type: none"> ▪ Implementing the adopted risk management framework ▪ Issuing and endorsing risk policy statements ▪ Assigning authority and responsibilities for risk 	ISO (2009)
		<ul style="list-style-type: none"> ▪ Decision support system 	Zhu et al. (2023) and Negulescu and Doval (2014)
Communication	How risk is communicated in the organisation to optimise the inclusion of risk in decision-making	<ul style="list-style-type: none"> ▪ Ability to challenge risk information ▪ Quality of risk information 	Moodley (2019)

To conclude, it can be deduced from the reviewed literature that the risk management areas that can be improved and that can eventually contribute to enhancing risk-based decision-making in the organisation are interrelated and cannot be addressed in isolation. Hence, even in the literature,

these areas are not discussed in isolation. Improvements in aspects such as ERM, risk management frameworks, risk management processes, risk culture, risk leadership, and risk awareness (understanding) can lead to risk maturity, and hence, these areas cannot be improved in isolation to enhance risk-based decision-making in the organisation. Therefore, specific organisational circumstances will dictate what risk areas need to be improved to effectively improve the inclusion of risk in decision-making. In addition, identified areas such as risk culture, leadership, risk management processes, risk understanding, and risk information do not necessarily indicate which area-specific aspects need to be improved and how such improvements can contribute to the inclusion of risk in decision-making and, hence, optimal decision-making.

Insights from the literature reviewed, which are presented in the background section, including the understanding of risk and decision-making, challenges to including risk in decision-making, and aspects to consider when aiming to improve the inclusion of risk in decision-making, informed the methodology of this study, which is discussed in the next section.

Method

Study design

This was an exploratory study, since little was known about how risk was included in the Namibian electricity utility decision-making processes. This study followed a mixed-methods study design that combined quantitative and qualitative research elements (Bryman et al., 2014). Such an approach combines the strengths of quantitative and qualitative research methods to gain a more comprehensive understanding of the research question (Brannen, 2005; Leech & Onwuegbuzie, 2007).

Research instruments

The study used a secure online web survey (Microsoft Forms) that was approved by the organisation for the collection of study data. The survey enabled the researcher to obtain an overview of the topic being explored, from a sample of respondents, which allowed for the generalisation of the study outcomes (Burton & Mazerolle, 2011). An online web survey was selected because it provided options to specify predefined lists of answer choices for quantitative items, and respondents typed their responses directly in a text box for qualitative, open-ended questions. This allowed for immediate electronic capturing of survey responses, thus eliminating the daunting task of capturing data from a large number of manual questionnaires (Bryman et al., 2014). The survey included demographic questions to suit the context of the entity in which the survey was administered and three survey questions. The online form was set up so that the respondents could not be traced to maintain anonymity. The three non-demographic survey questions consisted of one quantitative response item followed by two qualitative items allowing for clarification of the quantitative response, leading to a deeper understanding of the phenomenon being studied (McKim, 2017). The survey is provided in Appendix A.

After obtaining ethics clearance for the study and formal permission from the organisation to conduct the study, the survey was distributed to participants by a project sponsor, an executive member of the management team in the organisation under study, who sent out the email with a web link to the survey. The survey ran for three weeks and was closed after that. Two reminders were sent out to participants to complete the survey.

Data collection

The survey was sent to all managers and a selected group of non-managers in the organisation. All managers were included, since they were primarily responsible for decision-making. Non-managers, specifically those two levels below management, were chosen to participate in the survey because

of their operational roles. Eligible non-managers needed access to a company email and a computer to complete the survey.

All participants were required to give consent before participating in the survey. Consent was given by selecting 'Yes/No' to the first question included as part of the demographic questions of the survey, which required participants to indicate whether they agreed or disagreed to voluntarily, anonymously, and freely participate in the study. As mentioned above, the survey is provided in Appendix A. The responses of the two participants who selected 'No' to the consent question were excluded from the analysis of the survey data, even though they responded to the survey questions. Survey anonymity did not allow the researcher to enquire why they had selected 'No' or to find out whether they wished to have their responses considered as part of the study.

Study population and sample

The studied organisation operates in the generation, transmission, and distribution of electricity in Namibia. The organisation has a staff complement (total population) of 1 011 employees. However, the survey was only distributed to 259 participants, which included all managers and a selected number of non-managers, representing 26% of the total population. It is also important to note that the majority of non-managers excluded from this study were employees without access to computers and that they were mostly those who did manual work in the organisation. They were also far from the decision-making process.

Only 53 of the 259 participants responded to the survey, giving a response rate of 20%. The number of surveys distributed and responses received is presented in Table 4.

Table 4: Number of surveys distributed and responses received

Participant category	Survey distributed	Responses received	Response rate (%)
Managers	74	26	35%
Non-managers	185	27	15%
Total	259	53	20%

A higher percentage of responses was received from the management group (35%) in comparison with the non-managers, whose response rate was only 15%. This might indicate an interest in, and commitment to, the value of the study at management level. In addition, the fact that the survey was distributed by the study sponsor, who was also a member of the executive management of the organisation, might have increased the confidence level of managers in the organisation, encouraging them to participate in the study. The low participation rate by the non-manager group could be attributed to a poor understanding of the topic or feeling that risk management was the

responsibility of management, and non-managers were merely implementors of management decisions.

Although the 20% overall response rate to the survey is rather low, this is not without precedent in organisation-based studies where potential participants may choose whether to participate in the study or not (Anseel et al., 2010). On the positive side, those who cared about the topic responded to the survey. However, the low response rate indicates that more work probably needs to be done at the management level to communicate the importance of the inclusion of risk in decision-making at all levels of the organisation. The study results provide management with a starting point for such communication to the wider organisation.

Data analysis

The quantitative survey responses were analysed descriptively, using frequency tables in Microsoft Excel, to identify management-level priority work risk areas to be improved. The qualitative survey responses were manually thematically analysed by the researcher by coding the data to identify the underlying similarities, differences, and patterns. The researcher interpreted the data based on the research objectives and research questions.

Results and discussion

The results of the study are presented and discussed in this section. The first part of this section presents the demographic profile of the study participants to indicate to what extent the sample represented the study population. The second part presents and discusses the results of the study in line with each of the three study objectives as stated earlier.

Demographic profile of the respondents

This study aimed to explore how risk work could be improved by enhancing the inclusion of risk in decision-making in a Namibian electricity utility. As indicated above, the study obtained the views of all managers and a selected number of non-managers in the organisation. In total, 53 participants responded to the survey. The responses were received from 26 managers and 27 non-managers, achieving a balance of responses from both managers and non-managers. The participants' level in the organisation is presented in Table 5.

Table 5: Participants' position/level in the organisation

Level	Number of participants (% of the sample)
Management	26 (49%)
Non-management	27 (51%)
Total	53

The study received responses from participants with various levels of academic qualifications. Of the study participants, 94% had a bachelor's degree or higher qualification. The majority of participants had a master's degree (23 of 53 participants), representing 43% of the participants, followed by 18 participants, or 34% of the participants, who held honours degrees or a postgraduate diploma. Overall, the participants had a good enough level of educational qualifications to be able to understand the questions and give meaningful responses fairly. Participants' qualifications are presented in Table 6.

Table 6: Participants' qualifications

Row Labels	Diploma (NQF level 5-6)	Bachelor's degree or Advanced diploma (NQF level 7)	Honours degree or Post- graduate diploma (NQF level 8)	Master 's degree (NQF level 9)	PhD (NQF level 10)	Grand Total
Management	1	2	9	12	2	26
Non-management	2	6	9	10		27
Grand Total	3	8	18	22	2	53

Responses were received from participants representing all business units (BUs) in the organisation, hence obtaining a fair view from the whole organisation on how risk work could be improved by enhancing the inclusion of risk in decision-making. Most employees who participated in this study were from the Transmission Business Unit, representing 30% of the total number of employees who responded to the study. This business unit was followed by the Finance Business Unit, with 10 participants, or 19% of the total responses received, and in the third place, the Chief Operating Officer Business Unit, with nine responses, or 17% of the total responses received. This was expected because the Transmission Business Unit is the core of the operations of the organisation and employs the majority of personnel in the organisation. Seven, or 13%, of the responses were received from the Generation Business Unit, coming in at fourth place in the response rate. This was not unexpected because the Generation Business Unit is the second largest business unit in the organisation in terms of the number of employees. Table 7 indicates the participants' business unit affiliation.

Table 7: Participants' business units

Row Labels	Office of the							Grand Total
	Finance BU	Generation BU	Human Capital BU	Modified Single Buyer BU	Chief Operating Officer	Office of the Managing Director	Transmission BU	
Management	3	2	3	1	5	4	8	26
Non-management	7	5	1		4	2	8	27
Grand Total	10	7	4	1	9	6	16	53

Most study participants (29 participants, or 55%) had been with the organisation for more than 10 years, while 25% of the participants had been with the organisation for a period of between five and 10 years. Only 21% of the study respondents had been with the organisation for less than five years (*total above 100% due to decimal rounding effect*). Interestingly, 18 management participants (or 69%) had been with the organisation for longer than 10 years. Generally, the data indicated that the study participants had significant organisational experience based on the number of years with the study organisation. This could mean many things, but in the context of this study, it could mean that the participants had a good understanding of the risk management practices and decision-making processes of the organisation to enable them to provide valuable information about how risk work in the organisation could be improved. The number of years the participants had been with the organisation is presented in Table 8.

Table 8: Participants' number of years with the organisation

Row Labels	5 years or less	More than 5 years up to 10 years	More than 10 years	Grand Total
Management	3	5	18	26
Non-management	8	8	11	27
Grand Total	11	13	29	53

Priority risk work areas that could improve the inclusion of risk in decision-making processes

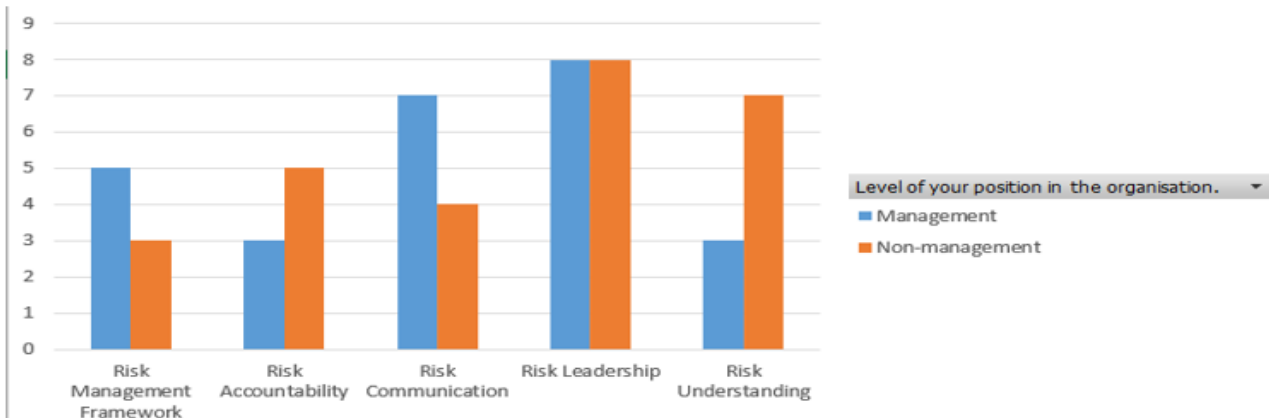
In line with the first objective of this study, study participants were asked the following question: *what must change first to allow managers to include risk in their decision-making process more effectively?* This section presents and discusses the responses received from participants.

Managers and non-managers agreed that risk leadership was the highest priority area to change to allow for the inclusion of risk in the decision-making process. Managers were more enthusiastic about changing the risk communication and the risk management framework of the organisation than non-managers. This was probably because these were the areas over which they felt they had control. Non-managers were less enthusiastic regarding changes to the risk management framework and risk communication. This could be because non-managers were expected to execute management ideas on how risk had to be included in decision-making and that such processes were not well communicated in the existing risk management frameworks. Furthermore, non-managers would like to see greater accountability for including risk when decisions were made than managers. Similarly, non-managers seemed more eager to improve risk understanding. This could be an indication that they felt that the understanding of risk in the organisation was poor.

These results are similar to the results of the Gangaram (2020) and Moodley (2019) studies, which also found that 'risk leadership' was the priority risk area to improve the inclusion of risk in decision-making. Table 9 presents a summary of the study responses regarding what must first change to allow managers to include risk in decision-making.

Table 9: Priority risk work areas that must first change to allow managers to include risk in decision-making

Count of Level of your position in the organisation. <input type="button" value="Column Labels"/>			
Row Labels	<input type="button" value="Management"/>	Non-management	Grand Total
Risk Management Framework	5	3	8
Risk Accountability	3	5	8
Risk Communication	7	4	11
Risk Leadership	8	8	16
Risk Understanding	3	7	10
Grand Total	26	27	53



Priority-related challenges faced by decision-makers to be able to include risk in decision-making

In line with the second objective of this study (to identify the priority area-related challenges faced by decision-makers to be able to include risk in decision-making), this section presents and discusses the qualitative results of the responses from the study participants. The data was analysed and coded into themes and sub-themes as presented, in summary, in Appendix B.

Risk accountability

Risk accountability was a main theme that considered how decision-makers were held accountable for including risk when making decisions. One sub-theme under this theme is discussed below.

Risk accountability and role definition

Both managers and non-managers indicated that decision-makers were not held responsible for not including risk in decision-making. In addition, managers indicated that decision-makers, including top leadership, were not held responsible for decisions they made. Managers also expressed the

view that the responsibility and accountability for risk management were left to the risk management function in the organisation; hence, a suggestion was made to include risk as part of the decision-makers' performance management agreement. Participants said the following:

“The risk office should take lead by educating the employees on the importance of risk management and top management should include it in their performance management agreements of all risk owners” [P21].

“The main challenge is mostly that decision-makers are allowed to make important decisions that are sometimes not logical or fully motivated and when things go haywire, no one holds them accountable for the decisions they made.” [P31]

While this study raised challenges relating to decision-makers not being held accountable for not including risk in the decisions they made and decision-makers not being held responsible for the decisions they made, existing studies noted issues of time availability, uncertainty, decision-makers' experience, and team dynamics as some of the challenges preventing decision-makers from including risk in decision-making (Sandler-Smith, 2011). Interestingly, this study raised one challenge that was not mentioned in the available literature, namely, that there was a blurred line regarding risk roles and responsibilities between the chief executive officer, the board of directors, and the shareholder when it came to risk responsibility.

Risk understanding

Risk understanding was another theme that came out of the survey data. This theme dealt with how decision-makers understood the concept of risk. The related sub-themes are discussed below.

Lack of understanding of risk management and its value

Lack of understanding of risk was a common theme that posed a challenge to including risk in decision-making. Generally, most managers and non-managers indicated that there was a low or limited common understanding of risk management and its benefits to the organisation. The results, furthermore, indicated that there were opposing views between managers and non-managers on how they viewed each other's understanding of risk. On the one hand, managers were of the opinion that the concept of risk was not well understood by employees at lower levels, and hence, they did not know how to respond to risks. This view might be supported by the low participation rate of the non-manager group as indicated in the method section. On the other hand, non-managers were of

the opinion that there were varying levels of risk understanding among the top leadership of the organisation. The following views were shared by some study participants:

“So many managers see risk as something to be avoided rather than something that has to be managed.” [P17]

“... There is a need for more understanding of what risk entails, and how it should be addressed.” [P54]

“The main challenge in this area is lack of understanding because of ignorance, and the belief that risk management is a ‘nice to have’ and not a priority for the organisation.” [P18]

“The risks are not properly understood because many decision-makers don’t have a practical understanding of the core of The organisation and what it takes to make it work.” [P12]

Prior studies identified risk understanding and aspects such as biases, heuristics, and availability of information as factors that could result in a challenge to include risk in decision-making (Hammond et al., 2023; Noyes et al., 2012; Soll et al., 2023; Power, 2009). The responses from the study participants around risk understanding shared a common thread, namely, that the understanding of risk in the organisation posed a challenge to decision-makers to include risk in the decision-making process.

Contrary to the view above, one manager shared strong and optimistic views about the understanding of risk within the organisation. No other, similar view was expressed by any other participant in this regard. A participant noted the following:

“OrganisationName is fortunate to have some of the sought-after skills in risk management, but they are not utilizing it fully.” [P42]

Risk understanding in prior literature is mentioned in the context of how decision-makers understand the concept of risk and as a priority area that needs to be improved by enhancing the inclusion of risk in decision-making (Gangaram, 2020; Moodley, 2019). However, this study identified another perspective on risk understanding, namely, that decision-makers lacked an understanding of the business (operations) of the organisation and what it took for the organisation to succeed. This was key because if decision-makers did not have a good understanding of the business or the industry, they might not be able to identify risks associated with the decisions they made.

Risk management perception

Participants were of the opinion that some of the challenges that impeded the inclusion of risk in decision-making were the perceptions among some managers and non-managers that risk management was a tick-box exercise, that it was unnecessary, and that it added no value to the organisation. One of the participants indicated that risk was unnecessary and was not for the participant's type of organisation:

"I believe risk management is not necessary or it is an imaginable thing and is not for our market." [P52]

Managers also attributed this view to a lack of understanding of, and appreciation for, the value of risk management, as can be seen from the following participant response:

"Currently risk management is treated as a tick-box exercise with no impact on decision-making. I believe this is due to lack of understanding, communication, and leadership commitment." [P6]

The findings of this study on risk perception are consistent with challenges identified in the existing literature, which speaks to management's perception of the value and importance of decisions being made (Dean & Sharfman, 1993; Corvellec, 2010; Zou et al., 2010). Furthermore, as the above opinion was shared mostly by those in the manager category, it implies that there are serious issues related to understanding the concept of risk in the organisation that need to be investigated further and resolved by senior management.

Risk leadership

This main theme dealt with how the leaders of the organisation demonstrated their commitment to actively include risk when making decisions. Two sub-themes under this theme are discussed below.

Inclusion of risk in decision-making

The results indicated that decision-makers in the organisation did not always consider relevant risks when making decisions. Decision-makers decided when and when not to include risk in their decision-making processes. Furthermore, the results indicated that the complexity of risk information, information overload, late communication, or inconsistent communication of risk posed

a challenge to the inclusion of risk in decision-making. Participants were quoted as saying the following:

“Decisions are made without factoring the risk challenges the organization is likely to face.”
[P46]

“Risks might have been identified at the management level but have not been properly communicated to everyone.” [P26]

“The main challenges include the complexity of risk information, inconsistent communication channels ... and information overload.” [P36]

These results are similar to, and consistent with, challenges highlighted in previous studies (Cooper et al., 2011; Nura et al., 2012; Dahmani et al., 2020; Osman & Lew, 2020) on the quality of risk information and there being inadequate information to support the decisions being made.

Risk prioritisation, leadership buy-in, and commitment

Managers expressed concern that risk management was not prioritised in the organisation. Furthermore, managers and non-managers indicated that the behaviour of the top leaders did not indicate a commitment to risk work in the organisation. In addition, managers indicated that the organisation focused more on operational risk than company-wide risk management. A participant noted the following:

“Leadership do not take Risk Management as a serious component within OrganisationName.” [P13]

Another participant’s response was as follows:

“I feel like there is no buy-in from management regarding risks.” [P46]

How the leadership of the organisation demonstrates a commitment to risk when a decision is made is also an area that was identified in the literature (Moodley, 2019). However, in the context of this study, the results demonstrated a problem that needed to be addressed by the board of directors, namely, for top leadership to set the correct tone when it came to the seriousness of risk management in the organisation.

Risk management culture

This main theme referred to beliefs, attitudes, values, and behaviours that guided how the organisation organised and managed risk. One sub-theme arose from this main theme (resistance to change), and it is discussed below.

Resistance to change

The results indicated that culture and attitude towards risk were two of the challenges that prevented managers from including risk in decision-making. Participants indicated that decision-makers were reluctant to change and were unwilling to accommodate new risk approaches to decision-making and the inclusion of risk in decision-making. For example, the following responses were provided by participants:

“The Managers are accustomed to existing processes or reluctant to adopt new risk-based approaches.” [P22]

“Cultural differences, variations in cultural attitudes toward risk and uncertainty can lead to different risk perceptions and tolerances.” [P39]

These results also agree with the existing literature that risk culture, especially employees' attitudes towards risk management approaches, can have an impact on the risk maturity of the organisation (Zou et al., 2010; Cooper et al., 2011; Zhu et al., 2023). Decision-makers' reluctance to change could additionally be linked to a poor understanding of the concept of risk and its value to the organisation, as discussed earlier.

Risk management framework

This main theme was about how the risk management framework of an organisation facilitated the inclusion of risk in decision-making. Three sub-themes are presented and discussed below.

Organisational risk management structure and decisions

Participants indicated that organisational risk management processes were fragmented and not coordinated. Risk management in the organisation was dealt with in silos and not in an integrated manner. Two participants commented on this:

“Risk seems to be treated in silos and interdependencies or cross-learning may be overlooked. An integrated risk-based approach seems to be lacking.” [P16]

“Siloed decision-making ... different departments may not effectively communicate or share risk information, leading to fragmented decision-making.” [P24]

Zhu et al. (2023) and Renault et al. (2016) found that a silo approach to risk management could pose challenges to the inclusion of risk in decision-making. Therefore, in this context, the above results are consistent with prior studies.

Risk management guidance

Both managers and non-managers held the view that the risk management framework adopted by the organisation did not adequately guide or facilitate how managers could include risk in decision-making. In addition, managers indicated that it was not clear when and how decision-makers had to include risks in the decisions they made. Participants were of the opinion that decision-making in the organisation did not follow a logical process, decisions were not made after a thorough interrogation of the options, and the rationale for decisions was not given. Respondents indicated that decision-makers struggled to understand the statistical data and probabilistic models used in the risk assessment process. This is what some respondents had to say:

“The risk management framework currently does not explain nor does it facilitate the inclusion of risk in decision-making. Thus the challenge is there is no framework guiding and informing management to include risk in the decisions of the organisation.” [P9]

“It is not clear when in the decision-making process decision-makers are supposed to consider relevant risks about the decision being explored.” [P28]

Risk responses

The study found that managers held the view that risks were not appropriately and adequately responded to. Risks were ignored and remained active without mitigation actions being implemented. In addition, decision-makers rushed to make decisions, took shortcuts, and ignored risks. While the existing literature cites the lack of time available to make a decision as a reason why decision-makers may not include risk in decision-making (Hensman & Sadler-Smith, 2011), it was not clearly expressed in this study whether or not decision-makers simply omitted including risk in their decisions because of time pressure.

Other priority-related challenges

Non-managers also shared the additional priority decision-making challenges presented in Table 10.

Table 10: Other priority-related challenges to including risk in decision-making

Risk-related challenges	Managers' views	Participants who mentioned this	Reference to existing literature reviewed
Resource availability	The policies and lack of financial resources of the organisation stifled risk management efforts.	P12, P24	Zhu et al. (2023)
Risk data and information	There was a lack of risk data to enable informed decision-making.	P24, P39	Dahmani et al. (2020), Osman and Lew (2020), and Cooper et al. (2011)
Decision biases	There were biases in decision-making.	P24	Hammond et al. (2023), Soll et al. (2023), and Noyes et al. (2012)

How improvements in priority risk work areas could contribute to optimal decision-making

The third objective of this study was to understand how improvements to the priority risk work area(s) could contribute to optimal decision-making in a Namibian electricity utility. The participants' views are presented below per priority area.

Risk understanding

Participants felt that, to improve risk understanding, decision-makers, including the board of directors, had to be provided with adequate training and that awareness had to be created regarding appreciating the concept of risk and why it was crucial to include risk in decision-making. This would assist in the achievement of organisational objectives. Participants believed that understanding risk would, furthermore, lead decision-makers to make decisions and not avoid making risk-informed decisions. In addition, participants felt that all stakeholders in the organisation had to be empowered through skills development to understand the concept of risk, its purpose, and how risk-informed decisions facilitated the achievement of the objectives of the organisation. This would encourage decision-makers and all other stakeholders in the organisation to participate in the risk management process, thereby maturing the risk processes of the organisation. A good understanding of risk management in the organisation would assist decision-makers in making risk-informed decisions, and this would protect the organisation against unexpected risks that could derail the achievement of set objectives. In addition, participants felt that a clear understanding of risk in the organisation, especially by decision-makers, would enable them to allocate adequate resources to the management of identified risks by prioritising the most critical risks facing the organisation.

Risk accountability

With respect to risk accountability, participants were of the view that risk management had to be included in the performance management agreements of all employees, especially those responsible for making decisions and those responsible for managing the risks on a day-to-day basis. Apart from including risks as key performance indicators in the decision-makers' performance agreements, decision-makers had to be held liable for failure to include risk in the decisions they made, as this would foster accountability. Furthermore, participants were of the opinion that the board of directors had to take their risk oversight role seriously, starting with demarcating risk responsibilities between the board, senior management, the risk management function, and all other stakeholders in the organisation. Improvements in risk accountability would enable decision-makers to be more focused on ensuring that risk was included in all the decisions they made and that the risk management processes of the organisation were indeed managing the risks facing the organisation. Finally, participants felt that risk had to be integrated into strategy planning and execution to allow for the identification of risks in the chosen strategy and the development of mitigation strategies to enable the achievement of organisational strategic objectives.

Risk management framework

Participants were of the belief that the risk management framework, including policies, methodology, and procedures, had to spell out how risk would be treated in the organisation. The risk management framework had to equally guide decision-makers on when and how to include risk in their day-to-day decision-making. In addition, participants indicated that a general awareness had to be created in the organisation of the adopted risk management framework, especially among those involved in making decisions. Furthermore, participants were of the opinion that the organisation had to adopt and implement advanced data collection, analysis, and reporting tools and techniques to provide decision-makers with sufficient and reliable information that would enable them to make informed decisions.

Risk leadership

Participants shared the view that leadership had to first fully understand and interrogate the strategic objectives of the organisation as well as their related risks. Leadership had to, furthermore, demonstrate commitment through leading by example by including risk in decision-making and taking ownership of all the risks and risk mitigation strategies under their respective businesses. In addition, participants indicated that leadership had to be at the forefront of risk management in the

organisation by taking the lead in risk assessment forums, owning the risk registers of their business units, and involving their subordinates in the formulation of risk mitigation plans and how identified risks could be managed.

Risk management culture

Participants indicated that culture could be addressed through a culture change management process. Participants were of the opinion that the leadership of the organisation could influence employees' behaviours when they prioritised risk management. This would encourage employees to consider and manage risk in their day-to-day work, set the tone, and build a positive culture throughout the organisation. Moreover, participants believed that the leadership had to foster a culture that promoted open and transparent risk discussions, proactive risk communication, and management.

Conclusion

This study aimed to explore how risk work could be improved to enhancing the inclusion of risk in decision-making in a Namibian electricity utility. It found that risk leadership was the key priority risk area that needed the most attention when improving the inclusion of risk in decision-making in the organisation. Managers were more enthusiastic about changing risk communication and the risk management framework, while non-managers were enthusiastic about changing risk understanding and risk accountability. This study, furthermore, found that decision-makers faced challenges related to including risk in decision-making. These included decision-makers not being held accountable for failing to include risk in decisions, blurred lines of risk accountability, a lack of risk understanding, a lack of buy-in and commitment from the top leadership of the organisation, a lack of risk management guidance, a silo approach to risk management, and a risk culture.

This study benefits the researched organisation, the electricity industry, as well as academia. Firstly, this study benefits senior management and the board of directors by providing insight into understanding the risk work areas of the electricity utility that need to be improved and why these are the priority areas. It provides them with specific risk work areas on which to focus and the challenges that need to be addressed when enhancing the inclusion of risk in decision-making in the organisation. Value from this study can be derived by the leadership of the organisation by taking appropriate actions to improve the risk work areas and the challenges identified. Secondly, the study addresses the lack of literature on risk work in the Namibian context and the Namibian electricity sector, in particular. This study contributes insights to the global body of risk management knowledge. Specifically, the study provides a different perspective on risk understanding, namely, that decision-makers not only need to understand the concept of risk, but that they equally need a good understanding of the business and objectives of the organisation and the industry in which it operates. This will assist decision-makers to identify and consider relevant risks to include in the decisions they make. Finally, risk management practitioners of the Namibian electricity utility will benefit from the results of this study because it highlights the risk work areas that need to be improved and the related challenges decision-makers face when including risk in decisions. Risk practitioners can assist organisational leadership by facilitating the improvement of the risk management framework, methodologies, and practices, as well as assisting with risk awareness creation in the whole organisation.

While the results of this study are specific and limited to the entity studied, the risk work areas and challenges identified for improvement can provide valuable insight for other organisations trying to improve their risk management process in the electricity sector, other Namibian organisations, and others in the wider region. Another limitation of this study was that the views were only obtained from

all managers and a limited number of non-managers; employees without access to computers and emails in the organisation could not participate in the survey. Employees who could not participate in the study were mostly manual workers in the organisation and were far from the decision-making process of the organisation. However, this study obtained valuable data from employees who were close to the decision-making process.

The findings of this study highlighted the importance and the need for decision-makers to understand the strategy and business environment of the organisation. There is, therefore, an opportunity to explore how, and to what extent, decision-makers' understanding of the strategy of their organisation and the industry would enhance the inclusion of risk in decision-making. Furthermore, there is an opportunity to explore and understand the exact challenges faced by the utility regarding the risk management framework, risk communication, and risk understanding and how these risk work areas can be improved by enhancing the inclusion of risk in decision-making.

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REFLECTION

This study aimed to explore how risk work could be improved to enhance the inclusion of risk in decision-making in a Namibian electricity utility, by answering the key question; How can risk work contribute to improving risk-based decision-making in a Namibian electricity utility? I have obtained the approval of the study proposal by the university and the necessary approval to conduct research within the selected organisation. I have greatly benefited from this research experience, especially from the research process followed, from cradle-to-grave. Therefore, based on the research work done, as presented in the research article above, I am comfortable that the research objectives have been achieved and the central research question of this study has been answered.

The results of this study can therefore be used by the organisation being studied to attend to priority risk work area that need improvement and related challenges found to enhance the decision-makers inclusion of risk in decision-making. The study results of the study will be summarized and shared with the organisation's management team so that appropriate actions will be taken to address the issues raised to improve risk-based decision-making in the organisation. This is where the practical value of this study lies.

I believe a study of this nature and the process followed is susceptible to one challenge or the other. Here, I want to reflect on one of the notable challenges noted and importantly reflect how I overcame it and the learning that came out of it. The responses to the last survey question did not provide optimal data to contribute to my study findings. Study participants did not respond the questions in a way I have expected. I partly attributed this to the way the question was formulated. However, I have obtained sufficient information in the other questions to be able to suggest decision-making improvements to optimise decision-making. This experience allowed me to appreciate the need and value of pilot testing survey items using sufficient test participants.

APPENDICES

Appendix A: Survey Scale

Leveraging risk work to improve risk-based decision-making in a Namibian electricity utility

Dear Participant

You are invited to participate in an academic research study conducted by Aksel Nangolo, an MCom Applied Risk Management student at the Centre for Applied Risk Management (UARM) and Optentia Research Unit, North-West University. (<http://commerce.nwu.ac.za/uarm/> and <https://optentia.co.za/>).

The goal of the study is to obtain an understanding of which areas of risk management must be improved to enhance the inclusion of risk in decision-making at NamPower. The research question for this study is:

- How can risk work contribute to improving risk-based decision making in a Namibian electricity utility?

For the purpose of this study, "risk work" *refers to the actual risk management activities within the organisation*, and we focus on the inclusion of risk in decision-making as indicator of the value of such risk management activities to reaching NamPower's objectives.

Note: The term 'the organisation' in this survey refers to NamPower. Therefore, please answer all the questions with reference to NamPower.

Consent to conduct the research has been obtained from NamPower subject to the following conditions:

1. This is an anonymous survey, which means that you cannot be identified as a participant in this survey.
2. Your participation is voluntary and you may exit the survey at any stage should you no longer wish to continue with the survey.
3. The data will only be reported in an aggregated format, meaning that individual responses will not be reported.
4. The organisation will not be identified in the research report.
5. Anonymised general results of the study may be published in an academic journal subject to permission from NamPower.
6. The study will adhere to and meet the requirements of the South African Protection of Personal Information Act (Act 4 of 2013) (POPIA).

Note:

The survey consists of 6 demographic items (questions) followed by 3 risk-related items.

1. It should take you less than 10 minutes to complete the survey.
2. We want to learn from your experiences of how risk is actually considered and included when decisions are made in the organisation.
3. Please answer all the items as honestly as possible.
4. You must be at least 18 years old to participate in this survey.
5. Please only complete the survey once.

Questions about this survey can be directed to: Aksel Nangolo at email: miggesa@gmail.com and or telephone: +26461-2052402.

1. I have read the information above and consent to anonymously participate in this study on a voluntary basis. I also understand that I may exit this survey at any stage *

Yes

No

2. I have read the information above and consent to anonymously participate in this study on a voluntary basis. I also understand that I may exit this survey at any stage *

Yes

No

3. What is your highest level of formal qualification completed. *

High school (Matric-NQF level 4)

Diploma (NQF level 5-6)

Bachelor's degree or Advanced diploma (NQF level 7)

Honours degree or Post-graduate diploma (NQF level 8)

Master's degree (NQF level 9)

PhD (NQF level 10)

4. Level of your position in the organisation. *

Management

Non-management

5. In which Business Unit (BU) do you work? *

Office of the Managing Director

Office of the Chief Operating Officer

Finance BU

Human Capital BU

Transmission BU

Generation BU

Modified Single Buyer BU

6. Number of years with the organisation. *

- 5 years or less
- More than 5 years up to 10 years
- More than 10 years

7. What must change first to allow NamPower managers to include risk in their decision-making process more effectively?

(Specifically, consider decisions relevant to reaching the organisation's objectives)

To improve the inclusion of risk in decision-making in the organization, I believe we must start by improving: *

- Risk Accountability - How decision-makers are held accountable for including risk when making decisions.
- Risk Communication - How risk is communicated in the organisation to optimise the inclusion of risk in decision-making.
- Risk Leadership - How the organisation's leaders demonstrate their commitment to actively include risk when making-decisions (Tone from the top).
- Risk Management Framework - How the organisation's risk management framework facilitates the inclusion of risk in decision-making.
- Risk Understanding - How decision makers understand the concept of risk.

8. Why did you select this area as the priority area to improve risk inclusion in decision-making? Please explain your choice.

- What are the main challenges in this area?
- Why do the challenges exist?
- What causes these challenges?

*

Enter your answer

9. How can improvements to this priority risk work area contribute to optimal organisational decision-making?

- What needs to change?

*

Enter your answer

Appendix B: Study Results-Based Thematic Codebook

Main Themes	Sub-Themes	Code	Examples of Quotes	Which Participants Mentioned this?
Risk Accountability	Risk accountability and roles definition.	<p>Managers: Risk accountability currently left to the Risk Management function.</p> <ul style="list-style-type: none"> Decision-makers (include top leadership) not held accountable for the decisions they make. Risk accountability not included in CompanyName performance management system. <p>Non-managers:</p> <ul style="list-style-type: none"> Decision-makers are not held responsible for not including risk in decision-making. No consequence management. Blurred line of risk responsibility between, senior management, CEO, Board and the Shareholder in the SOEs.** 	<p><i>“Accountability (risk) is left in the hands of the Risk Management function, yet the function does not take part in meetings and decisions that requires their guidance and input. The risk function is expected to know everything that happens in the organization, yet they are not invited to the table”. [P4].</i></p> <p><i>“Employees (decisionmakers) are not hold accountable when wrong decisions are made”. [P5].</i></p> <p><i>“The main challenge is mostly that decision-makers are allowed to make important decisions that are sometimes not logical or fully motivated and when things go haywire, no one holds them accountable for the decisions the made”. [P31].</i></p> <p><i>“Accountability allows for decision-makers to be intentional about risk activities within the organisation which barely exists in SOEs. 1.No consequence management and not objective management. 2. Blurred lines of role and responsibility between shareholder, board and CEO”. [P41].</i></p>	<p>P4, P50, P27, P54, P32, P49.</p> <p>P5, P31,P41, P55, P45.</p>
	Inclusion of risk in decision-making.	<p>Managers:</p> <ul style="list-style-type: none"> Decisions are made without consideration of risk. Leaders not consistently taking risk into consideration when making decisions. Management decides when and how to include risk in decision-making process. Decisions are not timely communicated. Inconsistent communication. <p>Non-managers:</p> <ul style="list-style-type: none"> Risks not communicated to everyone. Complexity of risk information. Inconsistent risk communication. Risk information overload. 	<p><i>“Decisions are made without factoring the risk challenges the organization is likely to face”. [P46].</i></p> <p><i>“Decisions are made without considering the risks since they are not timely communicated”. [P20].</i></p> <p><i>“Risks might have been identified at the management level but have not been properly communicated to everyone”. [P26].</i></p> <p><i>“The main challenges include the complexity of risk information, inconsistent communication channels,... and information overload”.[P36].</i></p>	<p>P19, P11, P46, P42, P40.</p> <p>P26, P55, P36, P24, P25.</p>
Risk Leadership	Risk prioritisation.	<p>Managers:</p> <ul style="list-style-type: none"> Prioritisation of operational risk efficiency over comprehensive risk management (ERM). Risk management is not prioritised in CompanyName. 	<p><i>“The root causes include..., and the prioritization of operational efficiency over comprehensive risk management”. [P40].</i></p> <p><i>“The main challenge in this area is....the believe that risk management is a 'nice to have' and not really a priority for the organisation.[P18].</i></p>	<p>P40, P18.</p>

	Leadership buy-in and commitment.	Managers: <ul style="list-style-type: none"> Low risk buy-in and support from top leadership. Non-managers: <ul style="list-style-type: none"> Lack of buy-in and commitment from the top leadership. 	<i>"I feel like there is no buy-in from management regarding risks".[P46].</i> <i>"Leadership do not take Risk Management as a serious component within CompanyName". [P13].</i>	P46, P53. P13, P21, P45.
Risk Culture	Resistance to change.	Non-managers: <ul style="list-style-type: none"> Decision-makers reluctance to change. Managers are accustomed to old approaches and therefore reluctant to change to (risk-based approaches/ inclusion of risk in decision-making). Employees culture and attitude towards risk. 	<i>"These challenges exist due to a lack of standardization, organizational silos, varying levels of risk literacy, and resistance to change". [P36].</i> <i>"The Managers are accustomed to existing processes or reluctant to adopt new risk-based approaches". [P22].</i> <i>"Cultural Differences-Variations in cultural attitudes toward risk and uncertainty can lead to different risk perceptions and tolerances". [P39].</i>	P22, P36, P39.
	Risk avoidance.	Non-managers: <ul style="list-style-type: none"> Decision-makers avoid taking risks. 	<i>People (decision-makers) tend to avoid risk accountability due to resistance to change.</i>	P22.
Risk Management Framework	Organisational risk management structures and decisions.	Managers: <ul style="list-style-type: none"> Fragmented systems and processes. Silo organisation structure. Silo approach to risk. Non-managers: <ul style="list-style-type: none"> Silo decision-making approach. 	<i>"Risk seems to be treated in silos and interdependencies / cross-learning may be overlooked. An integrated risk-based approach seems to be lacking". [P16].</i> <i>"Siloed decision-making: Different departments may not effectively communicate or share risk information, leading to fragmented decision-making". [P24].</i>	P16, P40. P36, P24.
	Risk responses.	Managers: <ul style="list-style-type: none"> Risks are not appropriately or adequately responded to. Risks are ignored and remain active without actions taken. Decision-makers take short cuts and ignoring risks. 	<i>"The risks are sometimes ignored, and short cuts are being taken which led to ill-discipline as indicated." [P11].</i>	P11, P16.
	Risk management guidance.	Managers: <ul style="list-style-type: none"> The risk framework does not adequately explain, guide (how) to facilitate the inclusion of risk in decision-making. Not clear when and how decision-makers should be included in decision-making. Non-managers: <ul style="list-style-type: none"> Decision-making process is not logical and decisions are not interrogated or motivated. 	<i>"The Risk Management framework currently does not explain nor does it facilitate the inclusion of risk in decision-making. Thus the challenge as there is no framework guiding and informing management to include risk in decision of the organisation". [P9].</i> <i>"It is not clear when in the decision-making process decision-makers are supposed to consider relevant risks pertaining to the decision being explored". [P28].</i>	P9, P28, P30

		<ul style="list-style-type: none"> No guidance on how to include risk in decision-making (operational risk). Lack of company documentary guidance on risk management. 	<p><i>"The main challenge is mostly that decision-makers are allowed to make important decisions that are sometimes not logical or fully motivated and when things go haywire, no one holds them accountable for the decisions the made". [P31].</i></p> <p><i>"The reason for the challenge, I believe is caused by a lack of an internal risk document that explains and makes reference to risk management standard, i.e. PMBOK (provides excellent definitions for project management related risk)". [P20].</i></p>	P31, P14, P20.
Risk Understanding	Lack of risk understanding and its value.	<p>Managers:</p> <ul style="list-style-type: none"> Low appreciation of risk management and its role in CompanyName. Many managers see risk as something that must be avoided rather than something that must be managed. Lack of risk understanding of what risk is and what it entails. Risk not well understood by low level individuals who are executing tasks, hence don't know how to respond. <i>The Organisation has untapped risk management skills not fully utilized (P42).</i> Risk seen as a nice-to-have that adds no value. <i>Risk management is not necessary, is an imaginable thing and is not for our market.**</i> <p>Non-managers:</p> <ul style="list-style-type: none"> Managers lack understanding of risk management. Risk related to decisions being made are not always understood. Limited understanding/ common understanding of risk management. Varying level of understanding among top leadership. <i>Lack of understanding of CompanyName business and its related risks (P12, P26). **</i> 	<p><i>"So many managers see risk as something to be avoided rather than something that has to be managed". [P17].</i></p> <p><i>"...There need to more understanding of what risk entails, and how it should be addressed.[P54].</i></p> <p><i>"The main challenge in this area is lack of understanding because of ignorance, and the believe that risk management is a 'nice to have' and not really a priority for the organisation". [P18].</i></p> <p><i>"CompanyName is fortunate to have some of the sought-after skills in risk management, but they are not utilizing it fully". [P42].</i></p> <p><i>"I believe that risk is not necessary or it's an imaginable thing and not for our market".[P52].</i></p> <p><i>"The Risks are not properly understood because many decision-makers don't have a practical understanding of the core of CompanyName and what it takes to make it work". [P12].</i></p> <p><i>"Not every person in the food chain is aware of possible risks and the associated threat or how it relates to their jobs". [P26].</i></p>	<p>P42, P47, P17, P18, P54, P6, P33, P47.</p> <p>P12, P26, P26, P13, P39, P23, P7, P20, P45.</p>
	Risk management perception.	Managers:		P6

		<ul style="list-style-type: none"> ○ RM is a tick box exercise because of lack of understanding and communication. ○ Risk has no impact on decision-making. <p>Non-Managers:</p> <ul style="list-style-type: none"> ○ Risk management not valued/ viewed not to be critical by top management. 	<p><i>“Currently risk management is treated as a tick box exercise with no impact on decision-making. i believe this is due to lack of understanding, communication and leadership commitment”. [P6].</i></p> <p><i>“Challenges are that top leadership might not be willing to commit themselves to risk management ...risk management might be of less interest to them or simply not valued as critical to include in their decision-making”. [P45].</i></p>	P45
Risk Resources	Resource availability.	<p>Non-managers:</p> <ul style="list-style-type: none"> ○ CompanyName policies, and lack of financial resources stifle the risk response efforts. 	<p><i>“ The main challenges:...Resource Constraints: Limited resources may hinder the ability to thoroughly evaluate and address all potential risks”. [P24].</i></p>	P12, P24.
Risk Data	Risk data and information.	<p>Non-managers:</p> <ul style="list-style-type: none"> ○ Risk assessment information seem to only feed top-management does not feed the decisions being made. ○ Lack of risk data to make informed decisions. 	<p><i>“Lack of Comprehensive Risk Data: Insufficient or incomplete data makes it difficult to accurately assess risks”. [P24].</i></p>	P24, P39.
Biases and Heuristics	Decision biases.	<p>Non-managers:</p> <ul style="list-style-type: none"> ○ There are biases in decision-making. 	<p><i>“...Biases: Decision-makers may underestimate risks due to biases or overconfidence, resulting in poor judgment”. [P24].</i></p>	P24.