Risk culture perceptions in a government financial institution

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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: Chapter 1: Introduction (Research project overview); Chapter 2: Article; and Chapter 3: Conclusions, limitations and recommendations (Reflection).

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

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

ABSTRACT

Risk culture as a research subject emerged after the 2007–2009 global financial crisis. It is widely believed that losses realised during the financial crisis were not due to inadequate risk management systems but were related more to the practices and cultures of risk management. To manage risks effectively, an institution has to establish a sound risk culture and the public sector is no exception. The aim of the study was to investigate the risk culture perceptions held in a South African public institution by comparing those of head office and regional offices as well as those of management and non-management. The government financial institution are responsible for the wellbeing of its stakeholders. It is therefore important to assess the risk culture within the organisation to instil stakeholder confidence. The data were collected using the UARM Risk Culture Scale (RCS). The RCS measured two factors: Factor 1 – perceived level of integration of risk in decision-making processes; and Factor 2 – comfort with own risk management role. 102 valid sample responses were analysed. The results indicated that risk culture perceptions between head office and regional offices did not differ, whereas there was a difference between management and non-management employees. Surprisingly, there were high levels of “I do not know” responses in non-management and at head office; particularly about rewards and penalties for taking risks. Recommendations from participants point to useful opportunities to improve accountability and enhance risk communication. A third of participants felt that accountability for inclusion of risk when making decisions, will contribute most to improve risk management culture and could form the basis for further research.

Keywords: risk culture, government financial institution, accountability, risk, decision-making

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CHAPTER 1: INTRODUCTION (RESEARCH PROJECT OVERVIEW)

The study is based in a government institution that administers pensions. It is particularly of great value to conduct this study in a government institution, since risk management in public sector is mandatory as per Public Finance Management Act of 1999 with the aim to assist in achieving service delivery objectives. The organisation has a risk management business unit that is based in the head office. The South African public sector has adopted best-practice guidelines such as the COSO framework, ISO31000 and King IV in the implementation of risk management processes. However, to be able to manage risks effectively, the institution had to establish a sound risk culture, hence the need to assess the risk culture perceptions within the organisation to reduce risk exposure. No similar study had been conducted in the organisation prior to this one.

The study aimed to investigate risk culture perceptions in the organisation in order to identify any risk culture gaps for improvement. The study focused on comparing perceptions held in head office with those in regional offices, as well as comparing perceptions held by management with those held by non-management. To fulfil the aim of the study, I used the UARM Risk Culture Scale to collect data. The scale afforded me the opportunity to statistically analyse the data according to the two factors that it covers (Factor 1 – perceived level of integration of risk in decision-making processes; and Factor 2 – comfort with own risk management role). A number of gaps were identified, with recommendations for the organisation to consider.

Target audiences

This study is aimed at academia and industry professionals who have an interest in risk culture in government institutions. The results of the study create an opportunity for the executive management and the risk management unit of the financial government institution to know what risk culture challenges the organisation was facing and what the opportunities were for implementing necessary measures to improve the risk culture of the organisation. The results contribute to the body of knowledge and have value for academic researchers who are considering further research in this field.

Selection of journal

The accredited *Journal of Corporate Governance* – an international review (ISSN: 1467-8683) – was selected for potential publication of this research project. The authors' guidelines are found at

https://onlinelibrary.wiley.com/page/journal/14678683/homepage/forauthors.html

The journal focuses on studies relating to corporate governance issues based on theoretical background and practice. Similar risk culture studies, such as Sheedy and Griffin (2018), were published in this journal. I acknowledge that more research may need to be conducted, prior to submission for publication of this article. The structure of the article accords with the UARM specifications and therefore may need to be changed to suit the journal's preferred format.

CHAPTER 2: ARTICLE

Risk culture perceptions in a government financial institution

Abstract

Risk culture as a research subject emerged after the 2007–2009 global financial crisis. It is widely believed that losses realised during the financial crisis were not due to inadequate risk management systems but were related more to the practices and cultures of risk management. To manage risks effectively, an institution has to establish a sound risk culture and the public sector is no exception. The aim of the study was to investigate the risk culture perceptions held in a South African public institution by comparing those of head office and regional offices as well as those of management and non-management. The government financial institution are responsible for the wellbeing of its stakeholders. It is therefore important to assess the risk culture within the organisation to instil stakeholder confidence. The data were collected using the UARM Risk Culture Scale (RCS). The RCS measured two factors: Factor 1 – perceived level of integration of risk in decision-making processes; and Factor 2 – comfort with own risk management role. 102 valid sample responses were analysed. The results indicated that risk culture perceptions between head office and regional offices did not differ, whereas there was a difference between management and non-management employees. Surprisingly, there were high levels of “I do not know” responses in non-management and at head office; particularly about rewards and penalties for taking risks. Recommendations from participants point to useful opportunities to improve accountability and enhance risk communication. A third of participants felt that accountability for inclusion of risk when making decisions, will contribute most to improve risk management culture and could form the basis for further research.

Keywords: risk culture, government financial institution, accountability, risk, decision-making

Introduction

The South African Public Finance Management Act No.1 of 1999 (PFMA) prescribes that each government institution must embed and maintain effective, efficient and transparent systems of risk management and internal control (South Africa, 1999) in order to fulfil its accountability of delivering service to the public. The South African public sector has also adopted best-practice guidelines, such as the COSO framework, ISO31000 and King IV, in the implementation of risk management processes (COSO, 2004; ISO31000, 2009; King code IV, 2016). To be able to manage risks effectively, each institution has to establish a sound risk culture and the public sector is no exception. The focus on risk culture as a research subject emerged after the 2007–2009 global financial crisis (Australian Prudential Regulatory Authority, 2016; Palermo, Power, & Ashby, 2017; Roeschmann, 2014). It is widely believed, for example, that losses realised during the financial crisis were due less to inadequate risk management systems and more to the practices and cultures of risk management (BCBS, 2013; Financial Service Board, 2014; Roeschmann, 2014). An unfavourable risk culture may allow behaviour that undermines an entity's own policies and fulfilment of its mission, which ultimately can detrimentally affect stakeholder confidence (Sheedy & Griffin, 2018). There is therefore a need to assess the risk culture perceptions within any organisation in order to reduce risk exposure. Some studies have explored the risk culture concept, mainly focusing on definitions of the term 'risk culture' and its role in financial institutions. There has, however, been little work conducted on assessing risk culture perceptions in government institutions and none conducted at the entity studied here.

According to (Power, 2004), the UK public sector has since 1995 – the year that Barings bank collapsed and Shell experienced reputational damage – undertaken risk management initiatives to support the delivery of services. Palermo (2014) also noted that the public sector adopted private sector risk management processes after the financial crisis. There are however, few guidelines in the literature that specifically assess risk culture in government institutions.

In this study, I investigated perceptions of risk culture in a government institution by using the North-West University Centre for Applied Risk Management (UARM) Risk Culture Scale (RCS)(Zaaiman et al. (In progress) as an instrument to collect and evaluate the data to answer the research question; How is risk culture perceived in this government institution by head office and regional offices employees as well as by management and non-management employees? The hypotheses are stated below:

- Hypothesis 1,0: Risk culture perceptions of head office and regional offices are the same.

- Hypothesis 1,A: Risk culture perceptions of head office differ with that of regional offices.
- Hypothesis 2,0: Management's perception of risk culture are the same as non-management's perception.
- Hypothesis 2,A: Management's perception of risk culture tends to be more optimistic than non-management's perception.

The rest of the article is organised as follows: the Background section presents a literature review relating to the concept of risk culture; the Method section reports the methods used to collect and evaluate the data; the Results and Discussion section discusses the findings in terms of application of the UARM RCS; and the Conclusion elaborates on the conclusions drawn, the practical implications, the limitations, and the recommendations emerging from the study.

Background

The organisation overview

The financial institution that is the subject of this study administers the pensions of state employees on behalf of government. The institution is prone to different types of risk, such as financial, operational, fraud, and compliance risks. The organisation has an Enterprise-Wide Risk Management business unit as part of a strategy to facilitate risk management programmes to assist in the management of risk exposure and ultimately to promote a healthy risk culture. The risk management function is centralised and based at head office. The staff complement at the time of the study consisted of 1 112 employees, inclusive of head office and all regional offices. Each province had 2 or 3 offices and, for the purpose of the study, a province is defined as a region of the country. The staff structure consists of executives, senior management, middle management, and non-management employees. Executives, senior management and middle management are grouped together for this study. The organisation's operating structure is divided into seven sub-programmes: corporate services, finance, business enablement, strategic support, governance, employee benefits, and client relations management. For the purpose of this study, the sub-programmes are classified in terms of operations, governance, and support functions. Crucially, the regional offices consist of only one sub-programme, namely, client relations management (referred to as "operations" in this study).

To achieve the study's research objective, I first briefly reviewed the historical development of risk culture.

Historical development of risk culture

After the financial crisis, regulatory bodies such as the Basel Committee on Banking Supervision (BCBS), expected financial institutions to improve risk governance, risk data and risk management reporting. Different researchers, regulators and practitioners have explored the nature of risk culture since the global financial crisis. In South Africa, government introduced regulatory requirements for risk management practices through the PFMA and developed guidelines on how to implement risk management programmes by developing the public sector risk management framework (South Africa, 1999). The Institute of Risk Management devised a risk culture framework that serves as a guideline for understanding risk culture in an organisation. This framework indicates that risk culture emanates from personal predisposition to risk, then develops into personal ethics, which then influences behaviours that will form part of the organisational culture and ultimately create a risk culture (Institute of Risk Management, 2012).

Researchers tend to focus on externally observed governance mechanisms such as regulatory requirements while neglecting internal factors such as decision making processes, which influence behaviour of staff and eventually the organisation's performance (Sheedy & Griffin, 2018). Sheedy, Griffin, and Barbour (2017) noted that, "While academic research has given the internal risk environment little attention, the practitioner/consulting community is developing a wide variety of ideas regarding the characteristics of desirable risk environments in financial institutions and continues to debate whether objective assessment is possible and how this might be achieved". Furthermore, the Financial Service Board (2014) identified the influencers of risk culture as "effective risk governance, effective risk appetite frameworks and compensation practices that promote appropriate risk taking behaviour". The Institute of Risk Management (2012) developed a way forward of a turnaround strategy to deal with a poor organisational risk culture: organisations must first assess their current risk status quo, develop the target culture that will be acceptable for the organisation, and then introduce change management strategies on how to implement the target culture. The strategies will then be subject to continuous monitoring (Sheedy & Griffin, 2018).

Understanding risk culture

According to Hofstede (2015) culture is a way whereby human beings coordinate the social world. Owing to globalisation, it is important for organisations to understand culture. As much as there is culture in human groups, there is also culture in organisations (Hofstede, 2015). Roeschmann (2014) finds risk culture to be the practical phase of the developed risk frameworks, policies and procedures. It is where the formal and informal risk management practices meet. She states that risk culture is

rooted in the past experiences of an organisation, meaning that it is the behaviour that is encouraged in practice—how the organisation has experienced what works and what does not work—taking into account the defined risk policies and frameworks. Risk culture influences the effectiveness of risk management processes. However, according to Yihui, Siegel, and Tracy Yue (2017), risk culture is considered to represent the common preferences with regard to risk-taking decisions by executive management. It is mainly associated with the risk-taking attitude of the founders of an organisation, which may be passed on to other generations. Risk culture is made up of shared perceptions held by employees regarding risk-related matters (Australian Prudential Regulatory Authority, 2016; Financial Service Board, 2014; Institute of Risk Management, 2012; Sheedy et al., 2017). There is a common understanding that risk culture involves the psychological aspect of the members of an organisation and may relate to its organisational culture. In this study, I consider the meaning of risk culture as follows: the risk culture of an organisational group is manifested by the importance given to considering risk when the group makes decisions. The level of explicit inclusion of risk in decision-making represents the implicit, subjective value afforded to risk by the group (Zaaiman et al., In progress). Risk culture therefore represents common perceptions held by employees concerning the risk management in the organisation.

Perceptions

A number of factors influence perceptions of any given group or Individuals. Cornia, Dressel, and Pfeil (2016) and Wachinger, Renn, Begg, and Kuhlicke (2013) argue that risk perceptions and the way in which people view and manage risks come about because of cultural influences within the specific groups. The cultural influences could be built up by previous experience, values and exposure to news reports. It is important to note that risk perceptions of an individual or group do not directly influence risk mitigation readiness (Wachinger et al., 2013).

In this study, I investigated the perceptions that the employees held concerning risk culture within the studied organisation. The study therefore, focused on how employees view the organisation's current risk management. A number of factors may influence risk culture perceptions, hence the importance of comparing the perceptions of different groups (management vs. non-management and head office vs. regional offices).

Risk culture assessment

Culture is a complex concept because it involves behaviour and beliefs, hence assessing risk culture can pose challenges (Financial Service Board, 2014; Sheedy et al., 2017). It is, however, noted that the use of surveys may be the most reliable risk culture assessment method (Sheedy et al., 2017). For this reason, the UARM Risk Culture Scale was used to assess risk perception reported in this study. The scale is academically validated and therefore deemed reliable in testing the risk culture of different types of organisations, including government institutions. When dealing with a large sample size, it is useful to use an online questionnaire to assist in reaching many participants speedily and to assist in collecting and organising data (Jenny, 2014).

Developing a desirable risk culture

The risk culture of an organisation can be changed to a desirable state by embarking on a change management project (Institute of Risk Management, 2012). The Financial Service Board (2014) observed that risk culture may change due to internal and external changes of the environment to which an organisation is exposed. A desirable risk culture is one where employees understand the risk appetite and tolerance of their organisation and consider these when making decisions for their employer or business unit (Sheedy et al., 2017). An appropriate risk culture does not mean that the organisation's risk exposure or risk appetite is low. The Financial Service Board (2014) noted that risk culture influences the way in which employees of a financial institution take decisions and their attitude towards the stakeholders. The Financial Service Board (2014) identified indicators of a sound risk culture as follows: tone at the top, accountability, effective communication and challenge, and incentives. They recognise that the board and senior managers must lead by example concerning risk management. All employees must understand and adhere to the risk taking values of the organisation; the organisation will then be able to communicate effectively across all stakeholders, and performance in line with the risk framework of the organisation will be recognised.

In summary, the risk related decision making in an organisation is influenced by the risk culture, hence the assessment of risk culture is necessary. The result will therefore inform the organisation on measures to take to improve the risk culture and ultimately to improve the risk decision-making process. In the next section, I explain the data collection process for investigating risk culture perceptions within the organisation.

Method

For large sample sizes, as used in this study, Jenny (2014) recommends the use of questionnaires and notes that they are useful for research that aims to quantify the frequency of occurrence of perceptions and opinions. This study focused on the perceptions of employees of a government institution about risk culture within the organisation.

The online version of the 42-item UARM Risk Culture Scale (UARM RCS-2019) was used. It has two sections: the first requires demographic information (Table 1) and the second covers information used for perceived risk culture. It measures two risk-culture-related factors:

- Factor 1: Perceived level of integration of risk in decision-making processes (24 items);
- Factor 2: Comfort with own risk management role (18 items).

The scale also contains diagnostic question: “To improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving...” The responses to these questions offer opportunities for suggestions on the way forward for improving the risk culture of the organisation. According to Jenny (2014), two limitations of questionnaires are uncertainties as to whether respondents have understood all the items as intended and whether they made an effort when answering. To cater for respondents who do not know what the item is about or do not know how to answer an item, the UARM RCS employs a five-point Likert scale and an “I do not know” option.

In order to analyse the data by management level, the item “level of your current role in your organisation” was included among the demographic details. The respondents had to indicate their position within one of three employment categories: executive/senior management, middle management, and non-management. However, for analysing the data, senior management was combined with middle management and referred to as “management”. The second demographic variable that was added to the scale was “participation function” to allow for collection and understanding of the background of the responses in terms of work function. Eight options were provided, which were later collapsed into three categories: governance, operations, and other support functions like Human Resources, Finance, Information and Communication Technology, etc. The third demographic variable collected responses according to geographical location (head office, Eastern Cape, Free State, Gauteng, Kwa-Zulu Natal, Limpopo, Mpumalanga, Northern Cape, North West, and Western Cape). For the purpose of analysis, these were arranged to form two categories: head office and regional offices.

Population

Purposive sampling was used. The total population consisted of 1 112 (Table 1). Participation was voluntary and it was clearly communicated to respondents that they could withdraw from the study at any time if they so wished. The survey link was sent to the total population and the anonymous responses were collected via the secure online survey tool (research.net) with data accessible only to NWU UARM staff that assist with statistical analyses.

Table 1: Study population size and respective responses to questionnaire by province*

Population and response rate				**Provinces***								
	Total employees	**Head office**	**Regional offices**	**EC**	**FS**	**GP**	**KZN**	**LIM**	**MP**	**NC**	**NW**	**WC**
Population size	1 112	920	192	32	17	27	32	20	15	10	23	16
Actual response frequency	102	64	38	1	1	24	3	1	2	3	1	2
Response rate %	9.2	7.0	19.8	2.6	5.9	88.9	9.4	5.0	13.3	30	4.4	12.5

*EC: Eastern Cape, FS: Free State, GP: Gauteng, KZN: Kwazulu-Natal, LIM: Limpopo, MP: Mpumalanga, NC: Northern Cape, NW: North West, WC: Western Cape.

The RCS link was tested in the organisational environment in a pilot and all test data were removed before the questionnaire was sent. The communications unit of the institution e-mailed the RCS link to all the potential respondents in August 2019 and followed up through three weekly reminders. Owing to the low response rate by senior managers and the staff at the regional offices, I sent an email reminder, two weeks after the initial email was sent, to all regional office managers and senior managers at head office with the RCS link to encourage participation. All reminders clearly included the voluntary aspect of the participation. The initial distribution of the RSC through the organisation's own communications unit may adversely have affected the response rate, as there is a culture among staff members of not reading organisation-wide emails/announcements. Furthermore, there is general survey fatigue because of the high number of surveys carried out in the organisation. However, the results are sufficiently representative for the exploratory investigation of the kind conducted here and are therefore considered valid.

Response bias

The results may contain response bias with an element of self-enhancement. Response bias may be due to the selection criteria of the sample where the results are influenced by location of the

participants or how the participants were recruited (Morrison, Lee, Gruenewald, & Marzell, 2015). Self-enhancement is seen when individuals perceive themselves to be better and more competent than they are perceived to be by the outside world, and they tend to take credit for any good work as well as avoiding acceptance of failures (Teoh & Yazdanifard, 2015).

Analysis

The UARM-appointed statistician used the most recent version of the SAS® statistical software to analyse the UARM RCS responses using descriptive and inferential statistics. Significant differences between groups were tested at the 5% significance level using non-parametric Mann-Whitney U tests. Non-parametric tests were used since the factor distributions were not bell-shaped as expected under normality.

The "I do not know" answers were not included in the factor analysis, and only participants with fewer than 30% of "I do not know" answers (per factor) were included in the calculation of the factor scores. This means that each participant had to answer at least 16 of the items in Factor 1 and 12 of the items in Factor 2 to be included in the inferential analysis. For Factor 1, 99 participants were included and for Factor 2 100 participants were included.

The UARM RCS factor score was used to analyse the results (Table 2). The factor scores were calculated as the average of the responses over the items making up the factor.

Table 2: UARM RCS-2019 factor scores explanation (FS=factor scores)(Zaaiman et al., In progress)

		1.0 <= FS < 1.5	**1.5 <= FS < 2.5**	**2.5 <= FS < 3.5**	**3.5 <= FS < 4.5**	**4.5 <= FS <= 5.0**
	Item response options related to the level indicate group perception associated with the level	Very low level: never and not at all	Low level: infrequently and not well	Medium level: sometimes and moderately well	High level: well and usually	Very high level: always and perfectly
Factor 1	Perceived level of integration of risk in decision-making processes	Very low level of perceived integration	Low level of perceived integration	Medium level of perceived integration	High level of perceived integration	Very high level of perceived integration
Factor 2	Comfort with own risk management role	Very low level of comfort	Low level of comfort	Medium level of comfort	High level of comfort	Very high level of comfort

Ethical considerations

This research was conducted with ethics approvals as required. The North-West University (NWU) Ethics Committee reviewed the study proposal and ensured that an ethical approach was followed. I obtained written approval in advance from the organisation's Chief Executive Officer to conduct the study in the organisation. The NWU Ethics Committee approval was obtained (Ethics Clearance No. NWU-00394-19-A4). All participants were aged 18 years or older, voluntarily participated in the study, and remained anonymous in that the information collected did not specify from whom it came. Participants could withdraw at any time, and only those who provided informed consent were included.

Results and Discussion

The test for reliability of the data was performed using the PROC CORR procedure in SAS®. The results showed a high Cronbach's alpha of 0.98, indicating that the risk culture scale for this sample was reliable. A total of 64 (63%) respondents out of the total sample were located at head office and 38 (37%) at regional offices, which was to be expected as the organisation's head office has more employees than all the regional offices combined. In addition, 62 (61%) of the respondents were employed at non-management level, while 40 (39%) were employed at management level.

Factor analyses

Factor 1: Organisation's perceived level of integration of risk in decision-making processes

For all participants who completed the survey, the Factor 1 score was 3.2, which indicates a "medium" level of perceived integration of risk in the decision making process for the organisation according to the UARM Risk Culture Scale (Table 2). The score equates to responses such as "sometimes" or "moderately well" for staff members across items revealing that their perception of risk was integrated in decision making. To provide a deeper understanding of the results, the following sections analyse the results by geographical location and by level in the organisation.

Factor 1: head office versus regional offices results

Averages

The head office score was 3.3 and the regional office score was a similar 3.1, which indicates a "medium" level of perceived integration for both. However, I would not have expected the similarity in results for the two types of geographical location, because head office mainly works on improving the control environment, while the regional offices focus on business operations.

Distributions

The majority of head office responses rated "high" on the scale for Factor 1, which provided a skew distribution to the left; the majority of the responses from regional offices, however, were more normally distributed with most responses on the "medium" level (Figure 1). Although there were no "very low" level scores for regional offices, 26% of the participants rated responses "low" on the scale in contrast with only 13% at head office. There are several general risk awareness activities taking place in the organisation, which could explain why 74% of regional offices participants chose "medium" to "very high" responses on the scale.

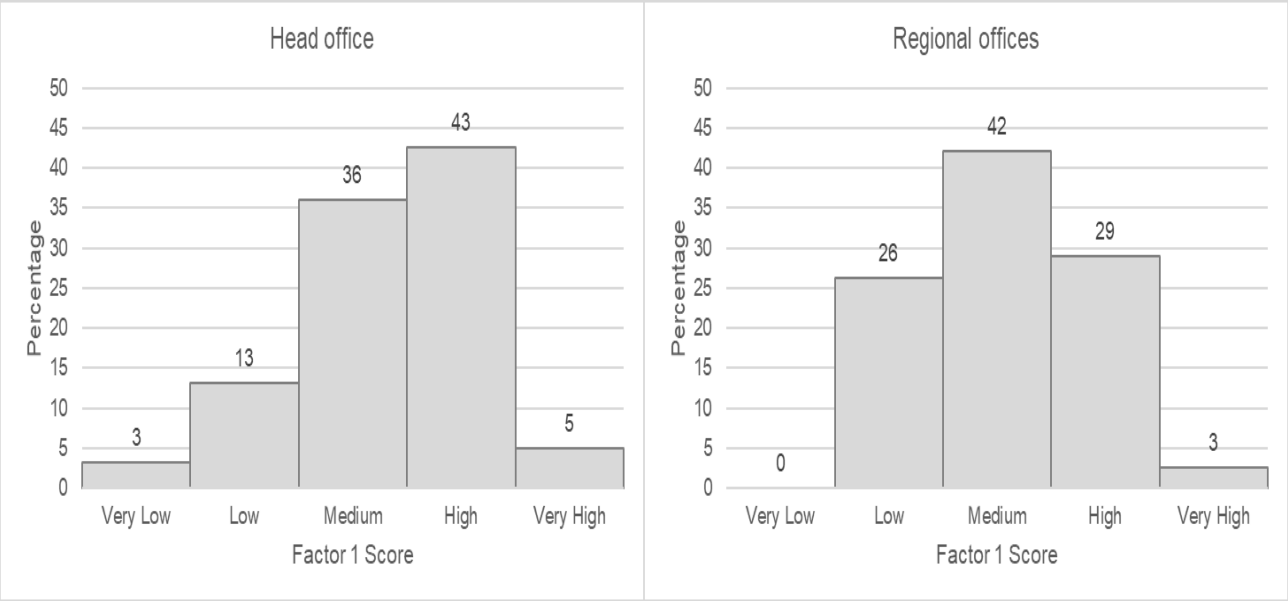

Figure 1: Comparison of head office vs. regional offices perceptions of risk integration.

Testing for significant differences between groups

The Mann-Whitney U Test result in Table 3 shows no significant statistical difference between head office and regional offices. Unexpectedly, these results indicate some form of risk management uniformity across the organisation, despite the geographical dispersion of the regional offices and taking into account that the risk management function is centralised and based at head office. The similarity between the groups can be attributed to the high level of risk awareness activities across the organisation.

Table 3: Factor 1 Mann-Whitney U Test – head office vs. regional offices

Mann-Whitney U Test					
Level of role	**n**	**Wilcoxon Mean Score**	**Chi-square test statistic**	**p-value**	**Significant difference at α=0.05**
Factor 1: Perceived level of integration of risk in decision-making processes					
Head office	61	54	2.55	0.110	No
Regional offices	38	44			

Factor 1: management versus non-management results

Averages

The management Factor 1 score was 3.5, which indicates a “high” level of perceived risk integration in decision-making processes, while the non-management Factor 1 score was 3.1, indicating a “medium” level (Table 2). The high management score demonstrates that risk is better integrated in the decision-making processes at higher positions in the organisation than at non-management levels.

Distributions

Most management responses relating to Factor 1 were on the medium-to-very-high level. Only 8% of management’s responses rated “very low” and “low” in contract with 28% of non-management responses in these low categories. This indicates that risk integration is lower in the organisation for non-management staff, since fewer respondents at management level perceived risk culture to be extremely unfavourable (Figure 2).

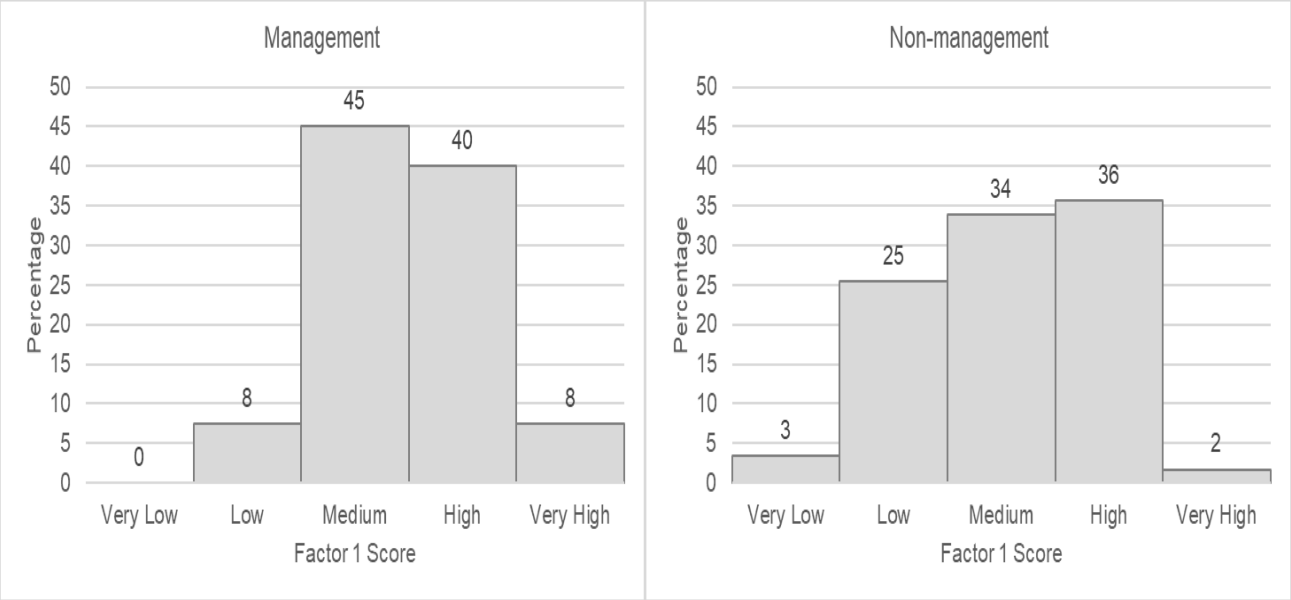

Figure 2: Comparison of management vs. non-management perceptions of risk integration.

Testing for significant differences between groups

The Mann-Whitney U Test result indicated a significant statistical difference between management and non-management for Factor 1 (Table 4). The test result supports the alternative hypothesis that management's perception of risk culture tends to be more optimistic than that of non-management staff. This result was expected, since management is involved in the quarterly risk management reporting to different organisational reporting structures and these employees are responsible for the design of the control environment.

Table 4: Factor 1 Mann-Whitney U Test – management vs. non- management

Mann-Whitney Test					
Level of role	**n**	**Wilcoxon Mean Score**	**Chi-square test statistic**	**p-value**	**Significant difference at α=0.05**
Factor 1: Perceived level of integration of risk in decision-making process					
Management	40	57	4.03	0.045	Yes
Non-management	59	45			

Factor 2: Organisation's comfort with own risk management role

The overall score for Factor 2 was 3.6, which indicates a "high" level of comfort with own risk management role. This result suggests that staff members perceive their own risk management responsibility as "well" and "usually" executed (Table 2). Further analyses of the Factor 2 results are presented by geographical location and by level in the organisation.

Factor 2: head office versus regional offices

Averages

Head office and regional offices had a score of 3.6, which suggests that both head office and regional offices have a "high" level of comfort with their own risk management role (Table 2).

Distribution

The majority of head office respondents (48%) had a "high" and "very high" (14%) level of comfort with their own risk management role (Figure 3), while only 3% indicated a "very low" level. The majority of respondents from regional offices (41%) perceived their own risk management responsibility to be "moderately well" or "sometimes" executed. However, no respondents at regional offices had a "very low" level score. Head office was expected to have a "high" level of comfort with own risk management because they were the main drivers of risk management activities and the operational decision makers.

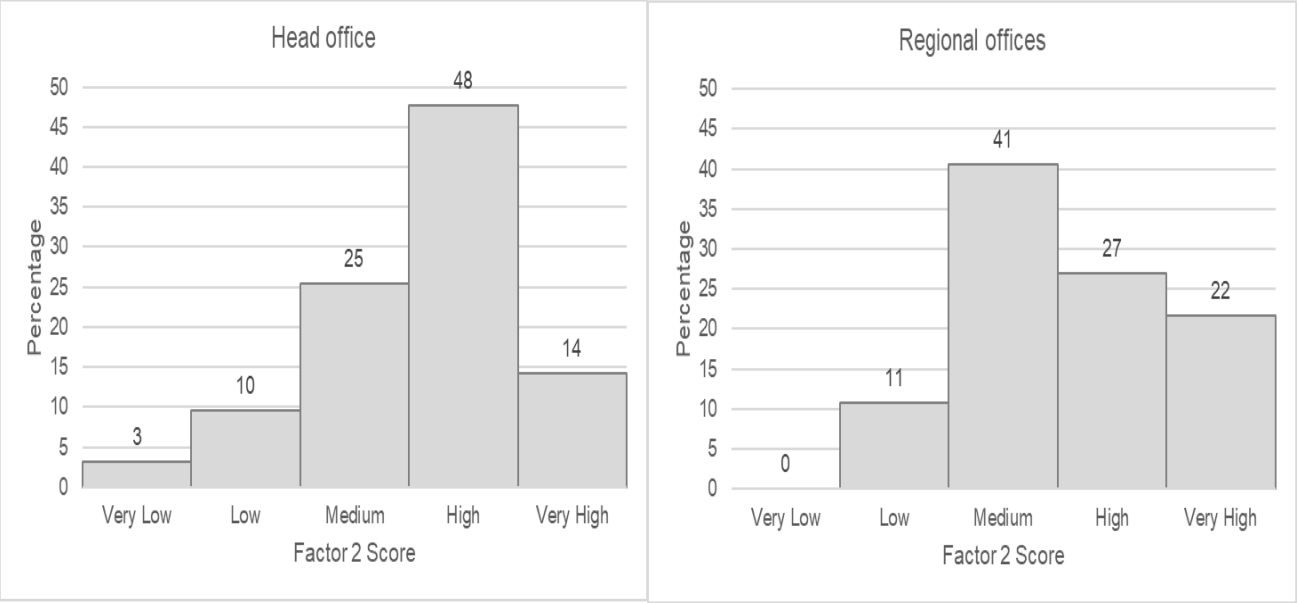

Figure 3: Comparison of head office vs. regional offices comfort with own risk management role.

Testing for significant differences between groups

Despite the somewhat different distributions of responses described above (Figure 3), the non-parametric Mann-Whitney U Test results for head office and regional office unexpectedly show no statistically significant difference (Table 5) between the groups. I would have expected different results between the groups, because of the geographical dispersion of the offices. However, the results could mean that both head office and regional offices were perceived to be implementing risk management as expected within their capabilities and were well aligned in their comfort with their management roles.

Table 5: Factor 2 Mann-Whitney U Test – head office vs. regional offices

Mann-Whitney Test					
Level of role	**n**	**Wilcoxon Mean Score**	**Chi-square test statistic**	**p-value**	**Significant difference at α=0.05**
Factor 2: Comfort with own risk management role					
Head office	63	52	0.42	0.516	No
Regional offices	37	48			

Factor 2: management versus non-management

Averages

The Factor 2 score for management of 4.0 indicates a “high” level of comfort with own risk management role while the non-management score of 3.4 suggests a “medium” level of comfort with own risk management role.

Distribution

Figure 4 illustrates the distribution of responses between management and non-management. The majority of management respondents viewed their own risk management responsibility as “well and usually executed” while the majority of non-management viewed their own risk management responsibility to be “sometimes” and moderately well executed. Management had no respondents who had “very low” comfort with own risk management role and only 3% of non-management scored a “very low” level of comfort. The results were as expected. Management was deemed more confident with their own risk management role, as they were accountable for risk management in the organisation. Furthermore, management had risk management as a performance indicator and therefore would believe in their own risk management abilities, which were linked to their performance.

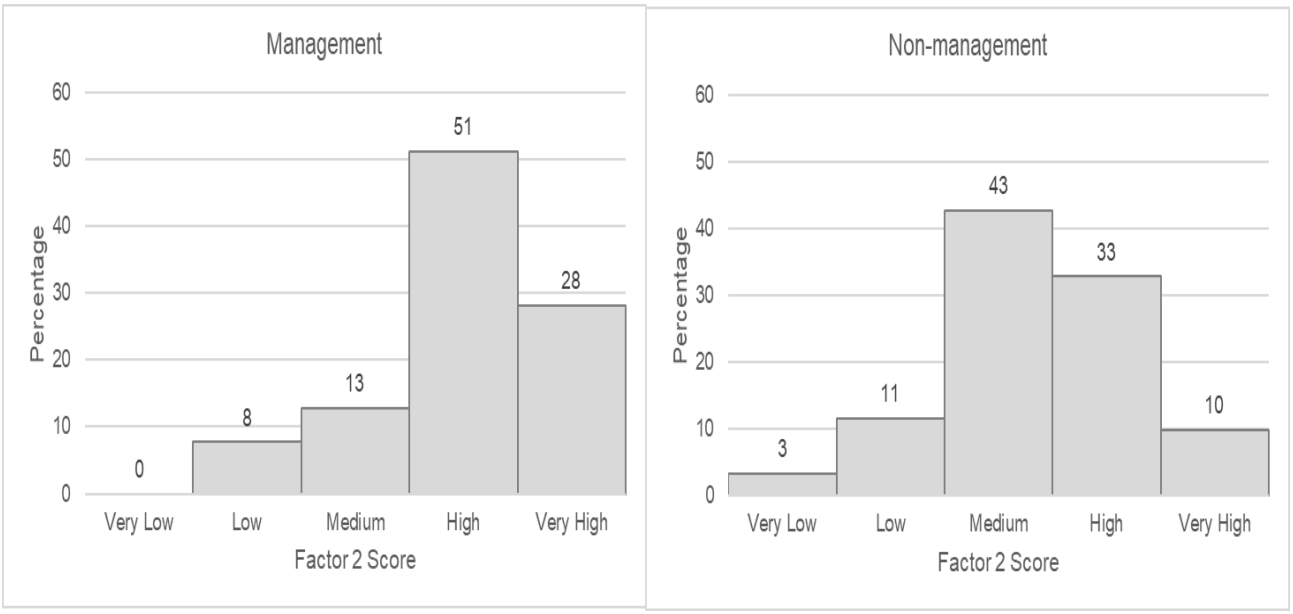

Figure 4: Comparison of management vs. non-management comfort with own risk management role.

Testing for significant differences between groups

The non-parametric Mann-Whitney U Test results shows a statistically significant difference between management and non-management (Table 6). Management's "high" level of perceived risk integration in the decision-making process was expected, since management is responsible for ensuring that risk management is taken into account when making decisions in their area of control, therefore the results could be affected by self-enhancement bias.

Table 6: Factor 2 Mann-Whitney U Test –management vs. non-management

Mann-Whitney Test					
Level of role	**n**	**Wilcoxon Mean Score**	**Chi-square test statistic**	**p-value**	**Significant difference at α=0.05**
Factor 2: Comfort with own risk management role					
Management	39	63	12.27	0.001	Yes
Non-management	61	42			

Factor 1 and Factor 2 comparison

Using the UARM RCS 2019, the Factor 1 overall score indicated a "medium" level of perceived integration of risk in the decision-making process for the organisation. Factor 1 in the RCS represents the level of risk culture in an organisation; therefore, the studied organisation had a "medium" level of perceived risk culture. Factor 2 overall score indicated a "high" level of comfort with own risk management role. It is quite common for respondents to rate their organisation lower on risk management (Factor 1) than the way in which they rate their own risk management role, due to self-enhancement bias.

Comparing head office to regional offices, for Factor 1 both had a score that indicated a "medium" level of perceived risk integration in decision-making, while for Factor 2 both had a "high" level of comfort with own risk management role. Both Factor 1 and Factor 2 head office and regional offices comparisons did not show a statistically significant difference. Since head office is making decisions concerning many operational issues, and the risk management unit is based at head office, the results were unexpected. Nevertheless, the results could indicate the success of risk management activities that target the whole organisation.

The comparison of management with non-management scores for Factor 1 indicates a “high” level of perceived risk integration in decision-making, while non-management indicates a “medium” level. For Factor 2, the management score indicates a “high” level of comfort with own risk management, while the non-management score indicates a “medium” level. For Factor 1 and Factor 2 there is a statistically significant difference between the management and non-management scores. Management have a better risk culture perception than that of non-management. These results could be because management is mainly responsible for risk management reports and ensuring the effectiveness of controls in their area of responsibility, and non-management’s role includes only the implementation of set controls in their daily operations. Moreover, management has a key performance indicator that relates to risk management. The results obtained were as expected. Even though risk awareness strategies and risk assessments were conducted throughout the organisation for both management and non-management, the results could be an indication that risk management efforts needs to include non-management staff more often in order to have a more inclusive strategy.

Discussion of the “I do not know” option

The “I do not know” option is not assessed in the factor analyses, hence it is analysed separately. Generally, many items have a high number of “I do not know” responses, which could be because participants did not understanding the items or know what the answers were.

In particular, items 39 (33%), 40 (30%), 41 (23%), 42 (24%) and 1 (18%) had the highest numbers of “I do not know” responses throughout the organisation (Figure 5). Items 39, 40 and 41 refer to the reaction of the organisation or management when staff members take risks or when risks materialise. There was no formal reward system for taking certain types of risks, therefore the organisation had a high score for “I do not know” responses, for instance for item 39. With regard to item 41, “managers treat staff fairly when a risk materialises (i.e. when a risk event occurs)”, risks were usually managed through the organisation’s current control environment and if any controls were to fail, management would implement measures to improve the controls in place. Clearly, respondents were not aware of these measures. There were, however, disciplinary processes in place in the case of staff taking irresponsible risks (item 40), hence the perception of participants was again surprising. The respondents might have had difficulty in defining what could be responsible risks in this environment.

Item 42 responses were because the non-management level had no risk management as part of their key performance indicators and, therefore, may not be subjected to having risk management as a criterion for evaluation of their performance. The responses to item 1 indicated that participants did not know who the risk owners were or may not have understood what role a risk owner plays. This suggests an existing risk management knowledge-gap in the organisation. It is therefore recommended that risk management processes be taught across the organisation to avoid confusion in accountabilities.

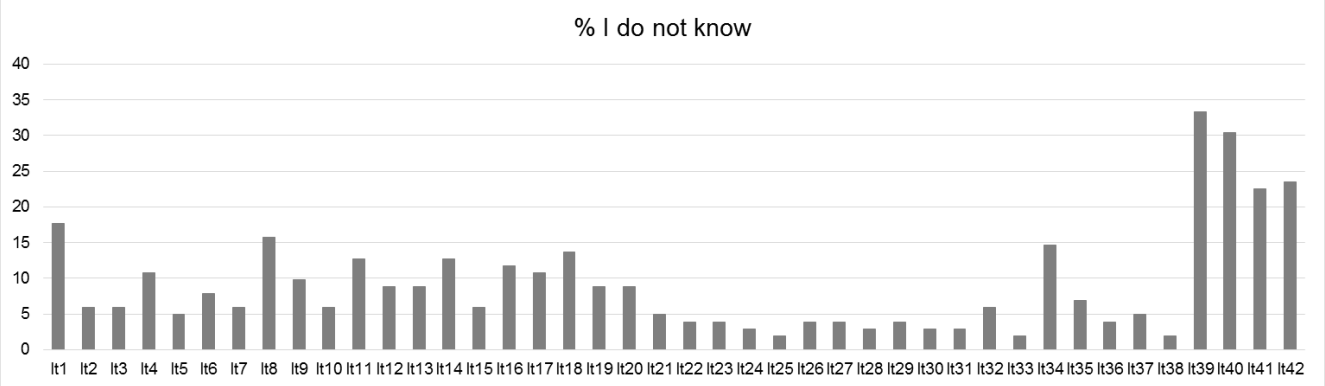

Figure 5: “I do not know” option: overall responses.

To understand better the high response rate of “I do not know” in Figures 5 and to provide a deeper insight, responses were next analysed according to geographical location and role of respondents.

“I do not know” option: head office versus regional offices

Items 39, 40, 42, 41 and 1 had the highest numbers of “I do not know” responses and these results were compared by head office and regional offices (Table 7).

Table 7: The five highest “I do not know” option responses by head office and regional offices

Item	Description	Head office %	Regional offices %
39	The organisation rewards staff members who take responsible risks	39	24
40	The organisation punishes staff members who take irresponsible risks	36	21
42	Managers use risk management as a criterion when evaluating the performance of staff members	27	16
41	Managers treat staff fairly when a risk materialises (i.e. when a risk event occurs)	25	21
1	There are clear risk owners for every risk in the organisation	20	13

Comparison of the “I do not know” option responses of head office and regional offices revealed clearly, and unexpectedly, that head office had more “I do not know” responses for items 39, 40, 42, 41 and 1 (Figure 6) than the regional offices. In addition, item 34, “the organisation's risk training initiatives have prepared me to manage the risks connected to my role”, also had a high number of “I do not know” responses from the head office. This item indicates the need to strengthen risk training and awareness campaigns in the head office. The head office also had a larger “I do not know” response rate for item 4, “the organisation manages its risks within its risk appetite limits”, than the regional offices. The result is surprising as head offices are normally well informed about risk processes; it could result from the organisation’s risk appetite not being clearly communicated, and the link between its appetite and tolerance being unclear. Conversely, regional offices had a higher number of on “I do not know” responses than head office for item 11, “risk management is integrated into the organisation's management processes”, which could indicate a concern in the regional offices that the link between risk management and management processes is not clear and these, therefore, may be seen as silo processes.

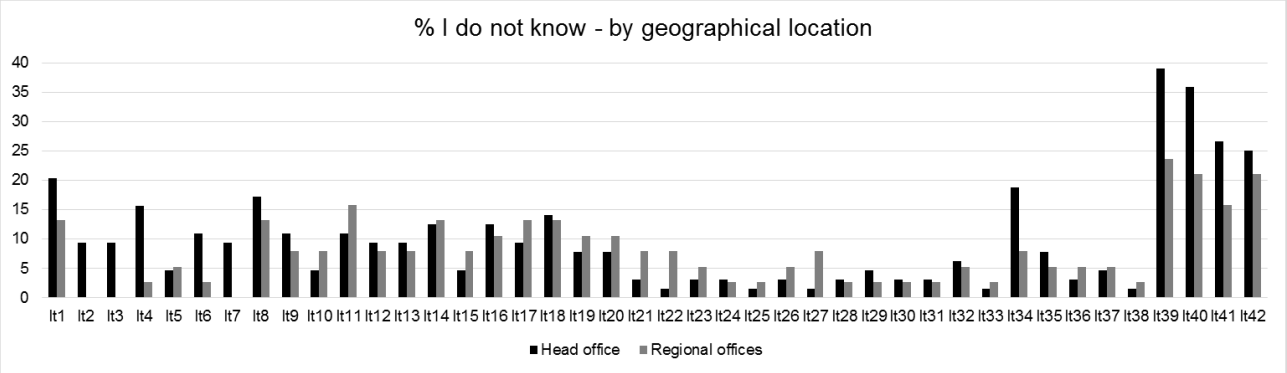

Figure 6: Head office vs. regional offices “I do not know” option.

"I do not know" option: management versus non-management

Items 39, 40, 42, 41 and 1 had the highest "I do not know" responses from both management and non-management (Table 8).

Table 8: The five highest "I do not know" option responses by management and non-management

Item	Description	Management %	Non-Management %
39	The organisation rewards staff members who take responsible risks	28	37
40	The organisation punishes staff members who take irresponsible risks	20	37
42	Managers use risk management as a criterion when evaluating the performance of staff members	13	31
41	Managers treat staff fairly when a risk materialises (i.e. when a risk event occurs)	18	26
1	There are clear risk owners for every risk in the organisation	10	23

Figure 7 indicates that non-management had more "I do not know" responses for the items 39, 40, 42 and 41. Item 42 results were as expected for the non-management level. The organisation did not include risk management in the performance agreement for non-management, hence they may not formally have been exposed to performance evaluation that uses risk management as a criterion.

Item 8, "the work of the formal risk management functions is appreciated by the other functions in the organisation" was considered not known, mainly by non-management (23%). This could be because risk management value-addition was not recognised at non-management level. Item 16, "senior managers practice what they preach on risk issues", had a 3% management score and an 18% non-management score. Management had no "I do not know" responses for item 2, "the organisation's senior managers take accountability for risk events". These results were expected, since management would be likely to believe in their own accountability, and they were similar to the Factor 2 management versus non-management factor analyses.

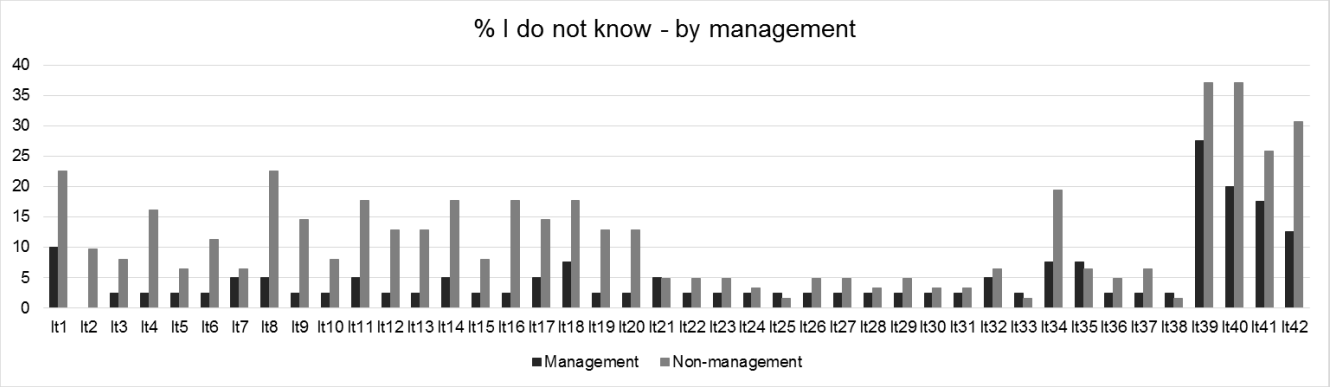

Figure 7: Management vs. non-management “I do not know” option.

Diagnostic item

In this subsection, I have discussed the non-factor-related item “to improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving…”. Table 9 indicates what the respondents believed needed to change, in descending order.

“Accountability for including risk when making decisions” was mostly selected as a factor to be improved in the organisation, with 32.4% of respondents in agreement. The results suggest that the respondents were of the view that risk management was not taken into account as it should be when decisions were made, and that there must be consequence management for not including risk in the decision-making process. “Risk communication” came second, with a score of 14.7%. These results indicated a need to strengthen risk communication in the organisation and was supported by the overall high score for the “I do not know” options. The need for tone from the top to include risk actively when making decisions was also considered to be important, with a score of 10.8%. Although the organisation had a risk management committee, in whose work all the executives took part, the results suggest that leadership in risk related matters was not visible enough and therefore needed to be improved.

Table 9: Item “to improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving…”

What needs to improve	Score (%)
Accountability for including risk when making decisions	32.4
Risk communication	14.7
Leadership: tone from the top about actively including risk when making decisions	10.8
How risk is included in decision making in different groups in the organisation (group dynamics)	9.8
Quality of risk-related information	7.8
Shared understanding of risk	6.9
Risk-based rewards (e.g. remuneration, succession planning and talent development)	3.9
Risk management framework (risk: appetite statement, limits, functions, systems, processes, data)	3.9
Risk-related role clarity	3.9
Leadership: tone in the middle about actively including risk when making decisions	2.9
Risk challenge when decisions are made	2.9

Diagnostic item: head office versus regional offices

Figure 8 illustrates the comparison between regional office and head office concerning what needed to improve for risk to be included in decision-making in the organisation. The “accountability for including risk when making decisions” was still the factor that most respondents believed needed to be improved. However, regional offices rated this factor more highly (37%) than the head office (30%). This emphasises the need for risk to be taken more seriously with consequence management. These results were expected, since decisions were mainly taken at head office and regional office might not see risk being taken into account when decisions were made.

As expected, regional offices selected “risk communication” more often than head office did, since the risk management function was based at head office and the risk management team visited the regional offices only once a year. Therefore there may well be a communication gap between the groups. Although risk awareness campaigns targeted all staff members, including those both at head office and regional offices, throughout the year, the results suggest that the organisation may need to investigate more ways to improve risk communication at regional offices.

Head office rated the need to improve “how risk is included in decision making in different groups in the organisation” as higher (14%) in importance than did the regional offices (3%). This result was expected as they were the key custodians of major decision-making in the organisation. In addition, head office respondents were the only ones who selected “risk-related role clarity” as well as “risk

management framework (risk: appetite statement, limits, functions, systems, processes, data)" as needing improvement. These results indicate that head office felt more strongly the effects of not having clear risk management guidelines.

"Risk-based rewards" were, interestingly, selected as a more important concern for regional office than for head office. The result suggests that the organisation could further investigate how risk-based rewards could be incorporated in the regional offices.

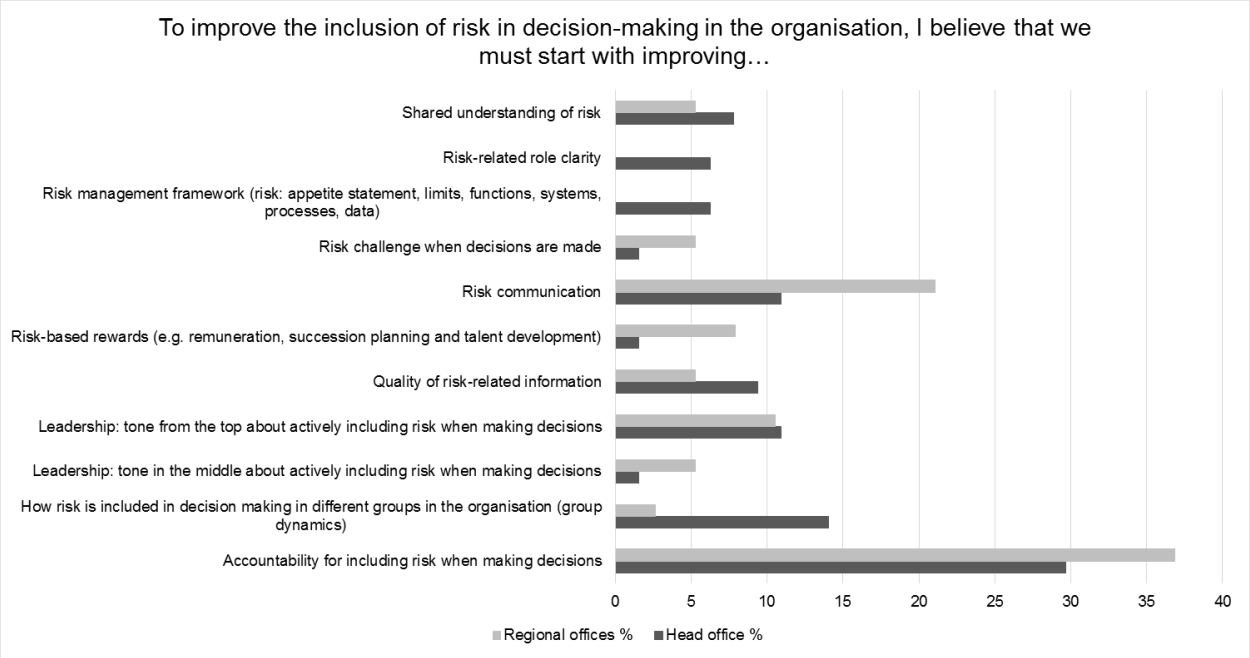

Figure 8: Item "to improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving…" – comparison of head office vs. regional office.

Diagnostic item: management versus non-management

When comparing management with non-management results, both groups selected "accountability for including risk when making decisions" most often as needing improvement (Figure 9). Non-management staff rated "risk communication" more highly as needing improvement than management staff. These results may indicate that risk was normally communicated better at management level, that non-management was lacking engagement, and that therefore the organisation should consider improving risk communication between these two groups.

Only non-management (5%) considered “Leadership: tone in the middle about actively including risk when making decisions” as needing to be improved whereas none in management felt the same. The results suggest that tone in the middle was not sufficiently visible, which is expected since the non-management reporting line would require more visibility at the tone in the middle. Surprisingly, management scored “Leadership: tone from the top about actively including risk when making decisions” more highly (15%) as needing improvement than non-management (8.1%). This could be due to management not being convinced that the tone at the top was sufficient concerning including risk when making decisions. Overall, the results suggest an insufficient leadership role concerning risk management and therefore improvement should be considered.

Management also selected “how risk is included in decision making in different groups in the organisation (group dynamics)” more often (12.5%) than non-management (8.1%). This could indicate a need for a clear risk strategy and framework to provide guidance on risk in the sphere of group dynamics. These results are also supported by more frequent selection by management than by non-management of “risk management framework (risk: appetite statement, limits, functions, systems, processes, data)” as requiring improvement.

Figure 9: Item “to improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving…” – comparison of management vs. non-management.

Conclusion

In this study, I investigated the risk culture perceptions held in the organisation and assessed the perceptions of head office and regional offices as well as management and non-management. The data were collected using the UARM RCS (Zaaiman et al., In progress). The results indicated that risk culture at head office and regional office levels did not differ. There was, however, a risk culture difference between management and non-management, with management having a more optimistic perception of the risk culture than non-management. The results support Sheedy and Griffin (2018) who found senior management to be more positive about risk culture than staff at junior levels. However the results of the present study contradict their findings that risk culture perceptions of people in different geographical locations tend to differ Sheedy and Griffin (2018) this could be due that risk management strategies in the organisation are effectively targeting the whole organisation regardless of the geographical area. Further research will assist in exploring this finding further. I therefore conclude that the results supports the study hypothesis 2,A that the risk culture perception of management tends to be more optimistic than that of non-management, but however contradicts the study hypothesis 1,A that that risk culture perceptions of head office tends to differ with that of branches.

Furthermore, the results revealed a high “I do not know” score for non-management and regional offices. This is a concern and may indicate that there is a general risk management-gap in the organisation. Overall, the respondents were especially unsure about items relating to rewards and penalties for taking risks. This suggests an opportunity to improve performance management and performance related communication within the organisation.

Recommendations from participants point to useful opportunities to improve accountability, risk inclusion in decision making and enhance risk communication.

Limitations

The first limitation of the study was that it compared the risk culture perceptions only of management and non-management staff, and of head office and regional office staff, but did not include consideration of different business units. A further study could incorporate business unit comparisons for a more detailed view of different facets of an organisation.

A second limitation was that it used a single method of collecting primary data, the UARM RCS. Further research using interview data is recommended to confirm the results of the study.

A third limitation is the possibility of response bias. Even though the study targeted the whole population, self-selection bias could have affected the results. Staff members with stronger views about risk culture could have been more interested in participating. Possible self-enhancement bias could also have influenced the results to indicate a more positive risk culture.

Practical implications

The study results indicate a risk culture gap between management and non-management. The organisation could investigate programmes to assist in aligning the risk culture of all employees at different levels. Even though management's risk culture perceptions seemed to be more positive, other factors need to be considered before concluding that the risk culture at management level was as positive as it seemed. The organisation could also consider further research based on the results of the present study and employ appropriate measures for monitoring and improving its risk culture further. The results revealed clear "I do not know" scores for certain items; these may serve as indicators for focused risk awareness campaigns to address the risk knowledge gaps. Finally, the organisation could consider further efforts to improve accountability for the inclusion of risk in decision making across its offices and units.

There was a need to assess the risk culture perception in the government financial institution since it is responsible for the wellbeing of its stakeholders. An unfavourable risk culture may allow behaviour that undermines the entity's own policies and fulfilment of its mission, which ultimately can detrimentally affect stakeholder confidence. The results indicated a "medium" level of risk integration in decision making and a "high" level of comfort with own risk management role. This may instil confidence in its stakeholders. However, areas of improvement were suggested by respondents. A third of participants felt that accountability for inclusion of risk when making decisions, will contribute most to improve risk management culture and could form the basis for further research.

Number of words:

Abstract: 266

Article: 7 752

References

Australian Prudential Regulatory Authority. (2016). Information paper -Risk Culture. Retrieved from http://www.gtm.apra.gov.au/CrossIndustry/Documents/161018-Information-Paper-Risk-Culture.pdf

BCBS. (2013). Principles for effective risk data aggregation and risk reporting. Retrieved from https://www.bis.org/publ/bcbs239.pdf

BCBS. (2015). Guidelines Corporate governance principles for banks. Retrieved from http://www.bis.org/bcbs/publ/d328.pdf

Cornia, A., Dressel, K., & Pfeil, P. (2016). Risk cultures and dominant approaches towards disasters in seven European countries. *Journal of Risk Research, 19*(3), 288-304. doi:10.1080/13669877.2014.961520

COSO. (2004, Septermber 2004). Enterprise Risk Management Framewor-Intergrated Framework. Retrieved from https://www.coso.org/Pages/erm-integratedframework.aspx

Financial Service Board. (2014). Guidance on Supervisory Interaction with Financial Institutions on Risk Culture,. Retrieved from http://www.fsb.org/wp-content/uploads/140407.pdf

Hofstede, G. J. (2015). Distinguished scholar essay culture's causes: The next challenge. *Cross Cultural Management, 22*(4), 545-569. doi:10.1108/CCM-03-2015-0040

Institute of Risk Management. (2012). Risk Culture. Retrieved from https://www.theirm.org/media/885907/Risk_Culture_A5_WEB15_Oct_2012.pdf

ISO31000. (2009). Risk Management-Principles and guidelines. Retrieved from https://www.iso.org/standard/43170.html

Jenny, R. (2014). Designing and using research questionnaires. *Management Research Review, 37*(3), 308-330. Retrieved from https://www.emeraldinsight.com/doi/abs/10.1108/MRR-02-2013-0027. doi:doi:10.1108/MRR-02-2013-0027

King code IV. (2016). Corporate governance. Retrieved from https://www.iodsa.co.za/page/AboutKingIV

Morrison, C., Lee, J. P., Gruenewald, P. J., & Marzell, M. (2015). A Critical Assessment of Bias in Survey Studies Using Location-Based Sampling to Recruit Patrons in Bars. *Substance Use & Misuse, 50*(11), 1427-1436.

Palermo, T. (2014). Accountability and Expertise in Public Sector Risk Management: A Case Study. *Financial Accountability and Management, 30*(3), 322-341. doi:10.1111/faam.12039

Palermo, T., Power, M., & Ashby, S. (2017). Navigating Institutional Complexity: The Production of Risk Culture in the Financial Sector. *Journal of Management Studies, 54*(2), 154-181. doi:10.1111/joms.12241

Power, M. (2004). The risk management of everything. *The Journal of Risk Finance, 5*(3), 58-65. Retrieved from https://www.emeraldinsight.com/doi/abs/10.1108/eb023001. doi:doi:10.1108/eb023001

Roeschmann, A. Z. (2014). Risk culture: What it is and how it affects an insurer's risk management. *Risk Management and Insurance Review, 17*(2), 277-296. doi:10.1111/rmir.12025

Sheedy, E., & Griffin, B. (2018). Risk governance, structures, culture, and behavior: A view from the inside. *Corporate Governance: An International Review, 26*(1), 4-22. doi:10.1111/corg.12200

Sheedy, E., Griffin, B., & Barbour, J. (2017). A framework and measure for examining risk climate in financial institutions. *Journal of Business and Psychology, 32*(1), 101-116. doi:10.1007/s10869-015-9424-7

South Africa. (1999). *Public Finance Management Act of No.1 of 1999*. Retrieved from https://www.gov.za/documents/public-finance-management-act

Teoh, K., Nging;, & Yazdanifard, R. (2015). The General Review of the Leader's Self Enhancement on the Organization. *International Journal of Management, Accounting & Economics, 2*(12), 1497-1507.

Wachinger, G., Renn, O., Begg, C., & Kuhlicke, C. (2013). The Risk Perception Paradox-Implications for Governance and Communication of Natural Hazards. *Risk Analysis: An International Journal, 33*(6), 1049-1065. doi:10.1111/j.1539-6924.2012.01942.x

Yihui, P., Siegel, S., & Tracy Yue, W. (2017). Corporate Risk Culture. *Journal of Financial & Quantitative Analysis, 52*(6), 2327-2367. doi:10.1017/S0022109017000771
Zaaiman, H., Pretorius, H., Van der Flier, H., & Born, M. P. (In progress). The UARM Risk Culture Scale development and validation.

CHAPTER 3: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS (REFLECTION)

My journey on this programme have been a special learning curve for me and I believe for the organisation I work for. I undertook the challenge to enrol on this programme with the goal of having a deeper understanding of risk management and risk culture.

Personal journey

It has been a roller-coaster journey with all the emotions mixed up. When I applied for the programme, I was with my current employer; by the beginning of the first year, I had moved to another organisation for a year. The move came with a number of challenges: a new job, a new environment and a new culture. The time management needed to adapt to conditions under the new employer and to balance work with studies was a challenge. At the beginning of the second year, I moved back to my original employer, which is the organisation I now work for, but with new added responsibilities. The support I received was amazing, but the responsibilities came with their own challenges for balancing work and study. My job in the organisation included travelling, and at times I had to travel at the same time as having tight deliverable timelines at school. There were times when it felt impossible to complete the programme, and I am grateful for the people around me who kept motivating me and ensuring that I kept sane. The programme served as an eye opener for my career and the field I am in. The fundamentals of research I learned in this programme are, I believe, a big ‘take home’ and will have a huge positive impact on my career journey.

The research project

The selection of the research topic “risk culture perceptions in a government financial institution” was motivated by the fact that this type of study had never been done in the organisation and hence the investigation of the broader risk culture perceptions in the organisation. It would, however, be recommended at a later stage to focus on a specific type of risk and this study would form a firm foundation for the new study. I have focused on comparing the risk culture perceptions of head office versus regional offices and of management versus non-management. The collection of primary data was conducted using the UARM Risk Culture Scale followed by statistical analyses.

I was fortunate to have been granted approval to conduct the study within the organisation, which made my journey easier. With that said, it still was a challenge to collect enough responses as required by the scale, and I had send multiple reminders through the organisation's communication unit to encourage participation.

The results of the study indicated a risk culture difference between management and non-management. Surprisingly, there was no risk culture difference between head office and regional offices, although there was an assumption that there would be a difference since the risk management unit is based in head office. Furthermore, the results indicated a high rate of comfort with own risk management role by both management and non-management, but with non-management a bit lower than management. "Accountability for including risk when making decisions" was identified as one of the first things needing to improve.

Going forward, the results will be presented to management and a draft implementation plan for strategies will need to be acted upon in order to improve the risk culture of the organisation. It is important for all stakeholders to buy in throughout this process so to have an impactful risk management programme that will assist in ensuring that risk management is a priority in the decision making process. Due to the high rate of responses on the "I do not know" items, I believe intensive risk awareness campaigns are necessary.

There are a number of things I believe I would improve if given the opportunity to conduct this type of study again. First, the time management priority would be important to allocate enough time to conduct the study. I believe there is survey fatigue in the organisation; therefore, I would rather use a mixed method approach, with interviews incorporated, to obtain a broader view.

The study is valuable to this organisation and other researchers who could use this study as a baseline for further research in this field.

APPENDICES

Appendix A

UARM Risk Culture Scale (UARM RCS-2019)

An Overview

Hermien Zaaiman and Hedré Pretorius

Aims

This document provides a summary of the North-West University (NWU)'s Centre of Applied Risk Management (UARM) Risk Culture Scale (UARM RCS). Current approaches to risk culture tend to be qualitative, using a general view of what risk culture is. Where risk culture questionnaires are applied, it is important to ascertain the validity and reliability of the resulting information against the broad construct of risk culture. The UARM Risk Culture Scale (UARM RCS) was developed to meet the need for an academically validated instrument to measure the risk culture in organisations.

Approach

Multiple definitions of risk culture exist in regulatory papers and risk standards. One of the more comprehensive definitions is that of the Basel Committee on Banking Supervision (BCBS) defining risk culture as: "A bank's norms, attitudes and behaviors related to risk awareness, risk-taking and risk management, and controls that shape decisions on risks. Risk culture influences the decisions of management and employees during the day-to-day activities and has an impact on the risks they assume" (BCBS, 2015, p. 2).

However, applying such broad definitions to evaluate and improve the risk cultures of organisations is complex. This process requires the development of instruments to assess and measure specific aspects of risk culture. The UARM RCS was developed using our decision-focused view of risk culture as basis for the development and testing of its items:

'The risk culture of an organisational group is manifested by the importance given to considering risk when the group makes decisions. The level of explicit inclusion of risk in decision-making represents the implicit, subjective value afforded to risk by the group.'

The scale items were therefore developed to represent aspects of the integration of items in risk culture based on our Risk Culture Indicator (RCI) model, described by Zaaiman in the Appendix: 'Risk Culture Indicator Model – An Overview'.

Status

The UARM RCS provides three sets of results that can be used to assess the:

1) Two risk-culture-related factors

The 42-item five-point Likert scale has been developed and piloted over 3 years (2016-2018). The scale is now mature and can be regarded as valid, as the scale items map to the RCI model and has been shown in 13 studies to work well across sectors, functions and management levels (content validity). The scale also shows a high Cronbach α reliability coefficient of 0.97 (internal consistency). This mini-dissertation study forms part of further testing of the scale.

The scale measures two risk-culture-related factors:

- Perceived level of integration of risk in decision-making processes (24 items)
  Note: Although the items cover the indicators in the RCI Model, only one factor is found in the answer data. This can be ascribed to the interlinked nature of the indicators and provides an indication of the validity of the scale for the study of this focused view of risk culture.
- Comfort with own risk management role (18 items)

The factor scores are calculated as the average of the responses over the items making up the factor. This translates to the following scale for the decision-based view of risk culture used in this study.

		UARM RCS-2019 (FS = Factor Score)				
		1.0 <= FS < 1.5	**1.5 <= FS < 2.5**	**2.5 <= FS < 3.5**	**3.5 <= FS < 4.5**	**4.5 <= FS <= 5.0**
	Item response options related to the level provide an indication of group perception associated with the level	*Very low level: Never and Not at all*	*Low level: Infrequently and Not well*	*Medium level: Sometimes and Moderately well*	*High level: Well and Usually*	*Very high level: Always and Perfectly*
Factor 1	**Perceived level of integration of risk in decision-making processes**	Very low level of perceived integration	Low level of perceived integration	Medium level of perceived integration	High level of perceived integration	Very high level of perceived integration
Factor 2	**Comfort with own risk management role**	Very low level of comfort	Low level of comfort	Medium level of comfort	High level of comfort	Very high level of comfort

2) The I-do-not-know/I-do-not-understand-the-statement answer option

Item response options include an ‘I do not know’ or “I do not understand the statement” option to mitigate possible spurious effects of respondents who truly do not know the answer to an item. The I-do-not-know answers were not included in the scale’s factor analysis, and only participants with fewer than 30% of I-do-not-know answers (per factor) are included in the calculation of the factor scores. This means that the participant has to have answered at least 16 of the items in factor 1 and 12 items in factor 2 to be included in the calculation of the factor score.

In addition, the full set of the study's I-do-not-know answers is analysed separately, thereby providing possibly valuable information on the levels of uncertainty about risk-culture-related aspects in the study sample(s) that could be indicative of possible risk-related knowledge in the study population(s).

3) Two further diagnostic questions

The scale also contains two further RCI model-based diagnostic questions:

'Which organisational characteristic assists you most to include risk when you make decisions?'

'To improve the inclusion of risk in decision-making in the organisation, I believe that we must start with improving....'

The options to these responses correspond to the risk culture indicators in the UARM risk culture indicator model. These options are presented in alphabetical order.

Evaluating the responses to these questions allow for suggestions on the way forward on improving the risk culture of the organisation.

Scale application

This is an online scale housed on Research.net (SurveyMonkey's professional (Premier) plan). Data gathering is done by UARM and the data sets are housed and analysed by us. Each instance of the scale is set up for anonymous data capturing, meaning that the respondents cannot be identified. After formal permission to apply the scale has been obtained from the organisation and NWU ethics clearance for the study, a suitable project sponsor in the studied organisation sends out the weblink to the scale (not the student doing the study). The scale is closed after a maximum of two reminders to complete the survey. Study-relevant data results are provided to the student (and organisational project sponsor, if requested) in analysed, aggregated format.

Interpretation of results

Scale results have to be interpreted in the context of the study for which the results were obtained.

To keep in mind when analysing and interpreting the scale results:

1) In a scale like this, only the group response makes sense and the individual's factor score cannot be used as an indication of the individual's 'risk culture' as culture is always a group concept.

2) Levels of the measured factor could be inflated by response biases (e.g. posritive response bias and social desirability influence).

3) The results of the scale are valid at factor level. A scale-based factor is based on the coherence for the group of items that make up the factor. These items were designed based on the measurement aims of the scale but do not contain every possible item that could have been used.

Other items that refer to the construct may have shown the same result, implying that focusing on differences at item level could divert the user's attention to inadequately tested aspects of the underlying construct, while not considering the validated construct. The scale may be used to provide indications of where risk culture-related issues lie in the organisation, but was not designed to identify micro-level issues. Other scales and research methods are required to do detailed follow-up investigations.

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