

Key risk indicators and risk culture in a South African insurance organisation

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Mini-dissertation submitted in *partial* fulfilment of the requirements for the degree
Magister Commercii in Applied Risk Management at the Vaal Triangle Campus of the
North-West University

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November 2016

PREFACE

This mini-dissertation is the final deliverable in the Centre for Applied Risk Management (UARM)'s taught master's degree programme. The research focus of the Centre is on the integration of risk culture in organisations and the research was conducted in the same focus area. The mini-dissertation was written in article format and consists of three sections: Research project overview, Article and Reflection.

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

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

ABSTRACT

The study aims to explore the risk culture maturity at different management levels of a South African insurance company, to gain insight into Key Risk Indicators (KRIs), and to examine the connection between the level of risk culture maturity and the awareness and use of KRIs. No study could be found in the literature that has explicitly explored the connection between KRIs and risk culture. The Risk Culture Questionnaire (UARM RCQ-2016) of the Centre for Applied Risk Management (UARM) of the North-West University was used as the research instrument. Data on the awareness and use of KRIs was obtained by adding additional items to the UARM RCQ-2016 and all data were subjected to statistical analyses. The participants' self-perceived understanding of risk culture maturity were compared with those who were perceived to have a lower level of risk culture maturity. Participants with a higher level of risk understanding (a factor in risk culture) were found to have higher levels of awareness and use of KRIs. The results indicate that KRIs can be used at management level as a tool to improve risk understanding in a South African insurance organisation. This study has established that perceived awareness and use of KRIs can improve risk understanding (part of risk culture).

Key terms: Risk culture, Key Risk Indicators, risk management systems, risk maturity, risk understanding

ACKNOWLEDGEMENTS

The following people are acknowledged for their contribution towards this study:

Mr Fred Goede for providing numerous insights and guidance throughout the study;

Ms Hedré Pretorius for assisting with the statistical analyses of the study;

The Kerlick team for language editing;

Mr Emmanuel Mulambya for contributing as a technical advisor;

Prof Hermien Zaaiman for providing guidance throughout the study;

My employer and direct manager who, given that being a part time student is always challenging, provided me with the opportunity to take time off work in order to successfully complete this study;

My colleagues for making the time to participate in this study;

My husband for his understanding and support throughout the study.

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RESEARCH PROJECT OVERVIEW

This study has been summarised in the form of a study concept outline of the project to investigate KRIs and risk culture in a South African insurance industry (Figure 1):

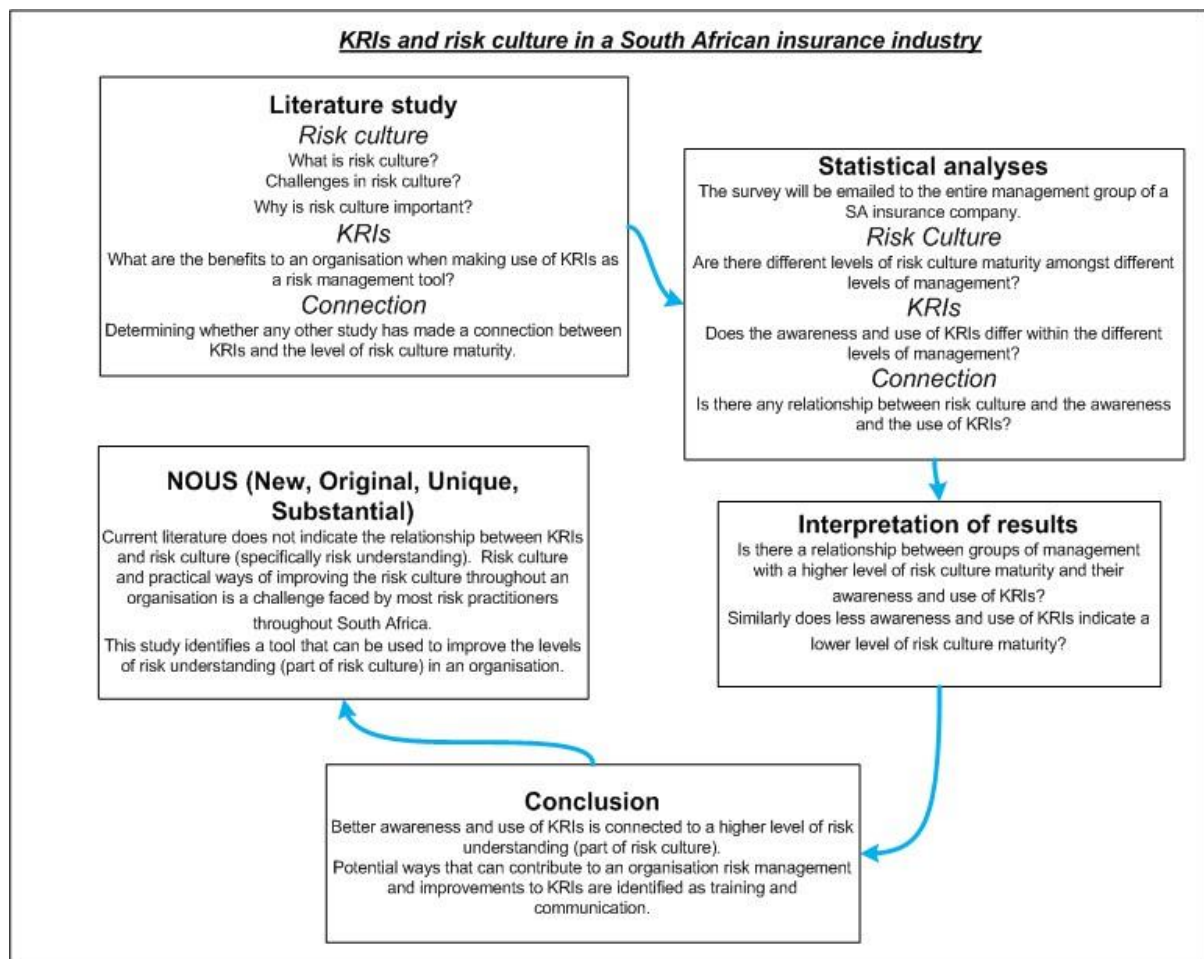


Figure 1 –Study concept outline

Risk culture is a vibrant topic across the risk management community and was a focus area of the North-West University Centre for Applied Risk Management (UARM). From an organisational perspective, the case study organisations' most recent extension of their risk management process was the identification and monitoring of Key Risk Indicators (KRIs) as a risk management tool. Until now the identification and monitoring of KRIs has only been done on a very high level. Testing the connection between the awareness and use of KRIs and risk culture maturity of management within the organisation therefore made sense.

Should a connection between the perceived awareness and usage of KRIs and risk culture be evident, the case study organisation and similar organisations could use KRIs to improve their risk culture maturity.

The research will be submitted to the *Southern African Business Review* with the aim of being published. This is a refereed and accredited scientific journal of the College of Economic and Management Sciences of the University of South Africa (Unisa) that focuses on theoretical and empirical articles in Economics, Marketing, Human Resource Management, Financial Management, Accounting, Public Management, Tourism Management and related fields. The current format of the article is as prescribed by the North-West University. Should the examination be successful the necessary changes will be made to convert the document to the article format prescribed by the *Southern African Business Review*. The author guidelines for the *Southern African Business Review* are available at <http://www.unisa.ac.za/default.asp?Cmd=ViewContent&ContentID=22338>

ARTICLE

KEY RISK INDICATORS AND RISK CULTURE IN A SOUTH AFRICAN INSURANCE ORGANISATION

1 Abstract

The study aims to explore the risk culture maturity at different management levels of a South African insurance company, to gain insight into Key Risk Indicators (KRIs), and to examine the connection between the level of risk culture maturity and the awareness and use of KRIs. No study could be found in the literature that has explicitly explored the connection between KRIs and risk culture. The Risk Culture Questionnaire (UARM RCQ-2016) of the Centre for Applied Risk Management (UARM) of the North-West University was used as the research instrument. Data on the awareness and use of KRIs was obtained by adding additional items to the UARM RCQ-2016 and all data were subjected to statistical analyses. The participants' self-perceived understanding of risk culture maturity were compared with those who were perceived to have a lower level of risk culture maturity. Participants with a higher level of risk understanding (a factor in risk culture) were found to have higher levels of awareness and use of KRIs. The results indicate that KRIs can be used at management level as a tool to improve risk understanding in a South African insurance organisation. This study has established that perceived awareness and use of KRIs can improve risk understanding (part of risk culture).

Key terms: Risk culture, Key Risk Indicators, risk management systems, risk maturity, risk understanding

2 Introduction

Following the 2008 financial crisis, regulators and the financial industry identified shortcomings in the area of risk, which included the following:

- The identification and measurement of risk had big gaps; and
- Risk governance and culture seemed to be immature (Fritz-Morgenthal, Hellmuth & Packham 2015).

The two shortcomings mentioned are relevant for the purpose of this study: Key Risk Indicators (KRIs) produce a tool which can be used to identify and measure risks (Beasley, Branson & Hancock 2010, Hoglund & Muzikar 2014, & Young 2012), and risk culture forms part of organisational culture.

Numerous academic studies have dealt with risk culture but relatively few have emphasised practical means of strengthening the risk culture maturity levels within an organisation.

In a study involving senior risk leaders of nine financial institutions (notably banks and insurers) conducted in 2012 in the UK, Ashby, Palermo and Power (2013) came to the conclusion that although risk culture was attracting attention in these industries, ways of managing it was still an area of uncertainty.

In 2014, in a study of 52 banks, Fritz-Morgenthal et al. (2015) found that a solid three-lines-of-defence framework and risk appetite statements in all business units were good indicators of a mature risk culture and could therefore be introduced as means of strengthening the level of maturity in a bank's risk culture. The Group of Thirty, an international body of leading financiers and academics, proposed that a code of ethics was fundamental to an appropriate risk culture (G30, 2012). Gontarek (2016) agreed that a practical way of improving a financial service provider's risk culture would be to focus on having a well developed code of ethics. This emphasis on ethics indicates that introducing guidelines on ethics may be a possible vehicle to assist a financial organisation in strengthening the risk culture maturity levels.

These are the only articles that we could find containing practical solutions to improve or strengthen the level of maturity of an organisation's risk culture. We could not find published studies that have investigated possible connections between risk culture maturity and the awareness and use of KRIs in an organisation.

Several studies have expressed the opinion that when KRIs are used correctly within an organisation, they will contribute to the establishment of an effective risk management process

(Beasley & Showalter 2015, Hoglund & Muzikar 2014, Kádárová, Kalafusová & Durkáčová 2014, & Young 2012). None, however, makes reference to a possible connection between the use of KRIs in an organisation and the maturity of its risk culture.

Lam (2003) advised that when the risk management process is seen as an integral part of everyday operations, a mature risk culture will in most cases result. It can therefore be implied that should one make use of a risk management tool such as KRIs, as part of everyday operations, this may strengthen the risk culture in an organisation.

The present study aimed to explore the risk culture at different management levels of a South African insurance company, to gain insight into KRIs and to examine the connection between the awareness and use of KRIs and the level of maturity of the risk culture. At the time of this study, the introduction of KRIs had already become a focus area in the risk management function of the South African insurance company studied.

This study began by investigating the risk culture maturity of management in the organisation and forms part of a larger risk culture questionnaire pilot research project that is being conducted by the Centre for Applied Risk Management (UARM) of the North-West University. A summary of the development of this research project is provided in Appendix A. According to Ashby, Palermo and Power (2012), different levels in management may have different risk cultures because of their differing exposure to risk management within the organisation. Hence, the level of risk culture maturity at each level of management, in the South African insurance company used in this study, was assessed using the UARM RCQ-2016.

The five different levels of management that participated in the study were categorised as two groups, namely, senior and middle management. The senior management group comprised the Executive, Senior Manager and Manager levels, while the middle management group comprised the Assistant Manager and Supervisor level participants.

The awareness and use of the KRIs was then assessed by management through six items that were added to the UARM RCQ-2016. This assessment formed the basis for our exploration of the connection between the level of risk culture maturity and the awareness and use of the KRIs.

Definitions used in this study

For the purpose of this study, the following definitions were used.

Risk: *The negative effect of uncertainty on objectives.* This definition links Hubbard's definition of risk:

'Long definition: The probability and magnitude of a loss, disaster, or other undesirable event' or Shorter (equivalent) definition: 'Something bad could happen' (Hubbard 2009) to the ISO 31000 definition of risk as 'the effect of uncertainty on objectives' (ISO 2009b).

Risk management: We use the ISO 31000 definition for risk management as *'coordinated activities to direct and control an organization with regards to risk'* (ISO 2009b). Hubbard (2009) expands on this in his long definition of risk management: *'The identification, assessment and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events'.*

Expected value of risk management to organisations: ISO 31000 recommends that *'organizations develop, implement and continuously improve a framework whose purpose is to integrate the process for managing risk into the organization's overall governance, strategy and planning, management, reporting processes, policies, values and culture'.* Such integration is expected proactively to increase the likelihood of achieving objectives by, in part, establishing a reliable basis for decision making and planning (ISO, 2009a).

Based on this ISO 31000 view of the value of risk management, we view the integration of risk management principles into organisational decision making as an essential enabler for achieving the organisation's objectives. Taking risk into account during decision making at all organisational levels and management processes should contribute to reaching the organisation's objectives.

Key Risk Indicators (KRIs): *Any risk indicators that monitor and track the key risk exposures of an organisation.* (Summary of definitions provided by Beasley et al. 2010, Kádárová et al. 2014 & Young 2012).

For the purpose of this study no distinction will be made between KRIs and non-key risk indicators.

Risk culture: The Hofstede et al. approach to culture was used as a starting point for the development of the UARM RCQ-2016. (Hofstede, Hofstede & Minkov 2010)

define risk culture as the unwritten rules of the social game or the '*collective programming of the mind that distinguishes the members of the group or category of people from another*'. An organisation can be seen as a cultural group that consists of subgroups, each with its own subculture.

For this study, we define organisational risk culture as the way in which groups of people use risk management principles when making decisions on uncertain future events that could have a negative impact on reaching the organisation's objectives. The definition allows for an assessment of the expected value of integrated risk management to achieving the objectives of the organisation.

In the next section the background to the study will be introduced.

3 Background

3.1 Risk culture

Power, Ashby and Palermo (2012) observe that interest in the concept of risk culture has increased significantly since 2008 as a result of the global financial crisis. According to G30, an international body of leading financiers and academics who investigate economic and financial issues, shaping a culture takes a long time and requires a great deal of work (G30 2012). A risk culture is therefore not something that one can change overnight and needs to develop with the organisation over time. Risk culture can differ between different financial institutions, according to G30 (2012).

According to Fritz-Morgenthal et al. (2015), a definition of risk culture is necessary to be able to determine the quality of risk culture within an organisation. Although the concept of risk culture is conceptually fuzzy according to Power et al. (2012), a number of definitions for risk culture exist.

The following aspects, contained within risk definitions, were relevant for the purpose of this study (Ashby et al. 2013, FSA 2006, IRM 2012, & O'Donovan 2014):

- Risk culture has emphasis on the awareness, attitude and behaviour of the members of an organisation towards risk;
- Risk culture is expressed through attitudes and behaviour of members within an organisation;
- To embed a risk culture the attitudes and behaviour of an organisation's leaders need to be appropriate and communicated accurately at lower levels;
- The values, beliefs, knowledge and understanding about risk are important concepts in building a risk culture; and
- The culture of risk taking and control in an organisation can indicate the type of risk culture within an organisation.

For the purpose of this study, risk culture is defined as how organisations use risk management principles when making decisions on uncertain future events that could have a negative impact on reaching the organisation's objectives.

As outlined earlier, risk culture and practical ways of improving risk culture throughout an organisation is a challenge faced by most risk practitioners throughout South Africa. Ashby et al. (2013) adds to this observation by stating that even the regulators of financial institutions are unsure about the exact meaning of risk culture as well as about which measures will

manage risk culture more effectively. A study conducted in 2012 with respondents from various member organisations of the Chartered Insurance Institute in the UK, Ashby et al. (2013) found that risk culture initiatives that focus on improving an organisation's risk culture maturity are mainly driven through regulatory bodies and enforced by regulatory requirements.

Fraser and Simkins (2009) are of the opinion that a strong risk culture is crucial in obtaining a proper risk management system and that KRIs are an essential component of a strong risk management system. G30 (2012) states that an appropriate risk culture is essential to a financial institution's success.

3.2 Key Risk Indicators

Definitions of KRIs take account of the fact that they offer a metric that provides an overview of an organisation's risk exposure (Beasley et al. 2010, Kádárová et al. 2014, & Young 2012). Beasley et al. (2010) and Young (2012) add to this point by stating that KRIs may act as an early warning system of risk exposure. For the purpose of the present study, KRIs are defined as any risk indicators that monitor and track the key risk exposures of an organisation.

An example of the overall benefit of KRIs is described by Davies, Finlay, McLenaghan and Wilson (2006). They compare KRIs to a vehicle's fuel gauge or oil pressure gauge. The vehicle operates perfectly well without either, but both gauges nonetheless provide vital information about the vehicle.

Examples of KRIs in the financial services industry according to Lam (2003) include: processing errors, customer complaints, system availability, unreconciled items, credit exposures and value at risk. Due to the recommendations in Principle 4.9 of the King Report on Corporate Governance, numerous South African insurance companies choose to make use of KRIs as part of risk management systems (IoDSA 2009).

Some of the potential benefits of making use of KRIs are shown in Table 1.

Table 1 – Potential benefits of KRIs

Potential benefit	Rationale	References
Effective risk identification	Make organisations more capable of anticipating risk by correctly identifying emerging trends, thereby making risk identification more accurate.	Beasley et al. (2010); Hoglund & Muzikar (2014); Lam (2003); Mouatassim & Ibenrissoul (2015); & Young (2012)
Risk monitoring	KRIs can assist an organisation in continuously monitoring both internal and external risk exposure.	Beasley et al. (2010); & Beasley & Showalter (2015)
Accurate risk ratings and assessments	KRIs can provide risk ratings and assessments with more proof, support and accuracy.	Young (2012)
Appropriate capital allocations	Being able to anticipate risks more accurately will assist an organisation in either allocating capital for the prevention of the risk or treating the risk once it materialises.	Hoglund & Muzikar (2014); & Young (2012)
Fulfilment of applicable regulatory and compliance requirements	KRIs are an ideal tool to satisfy the requirements of the Basel regulations. KRIs may be useful for indicating and demonstrating compliance.	Beasley et al. (2010); & Young (2012)
Enhancement of business processes	KRIs can be used as a tool to enable companies to make better risk-informed decisions. Example: A higher turnover of employees might indicate a potential increase in the number of operational risks and ultimately result in customer unhappiness.	Beasley et al. (2010); Hoglund & Muzikar (2014); & Lam (2003)
Set appropriate risk appetite	KRIs indicate the likelihood and history of certain risk levels being breached and therefore better equip organisations in setting an appropriate and relevant risk appetite.	Beasley et al. (2010); Davies et al. (2006); Lam (2003); & Young (2012)

The benefits summarised in Table 1 show why KRIs are important risk management tools. From a practical implementation perspective, KRIs can be derived easily from data and systems already in place in many organisations (Hoglund & Muzikar 2014) and this means that they can easily be incorporated into the risk management process of an organisation. In a study conducted with the seven largest banks in India in 2015, Hedge and Subramanian (2016) found that all of the banks rate KRIs as either effective or very effective in managing risks.

As to the extent and range of KRIs, Lam (2003) believes that organisations should have as many KRIs as possible, even if only a handful of these warrant the attention of senior management. Hoglund and Muzikar (2014) agree, arguing that having a broader set of KRIs can assist companies in focusing on all relevant areas of the business. Davies et al. (2006) feel that KRIs should exist within every business unit and at each level within the organisation.

The value of KRIs in the establishment of an effective risk management process is endorsed by many (Beasley & Showalter 2015, Hoglund & Muzikar 2014, Kádárová et al. 2014, Lam 2003, & Young 2012).

3.3 A South African insurance organisation

The insurance organisation used for the case study is a JSE listed company, has a workforce of approximately 1 600 employees, and a market value of approximately five billion rand. The organisation has conducted only one exploratory risk culture survey and hence risk culture maturity could be considered as being in the early stages of investigation.

In an online survey conducted with 2 258 member organisations of the Chartered Insurance Industry of the UK during 2012, Ashby et al. (2013) found that whether or not an organisation has embarked on a risk culture initiative depends on its size, and that larger organisations were more likely to have done so.

Ziady (2015) found that the insurance industry contributes approximately 15% of South Africa's total GDP as at 2013. An article by Omarjee (2016) holds that short-term and long-term insurance accounts for 23% of financial assets in South Africa in that it contributed eighteen billion rand to the country's revenue base in 2015. The South African insurance industry is one of the largest insurance markets in Africa (Omarjee 2016).

According to the Financial Services Board's Quarterly Feedback, the South African life insurance industry contribution towards the GDP has steadily grown over the past five years

as shown in Figure 2. The contribution of short term insurance has also indicated a slight increase. The contribution is remarkable when it is compared to the respective contributions of the insurance industry from the rest of Africa and even internationally.

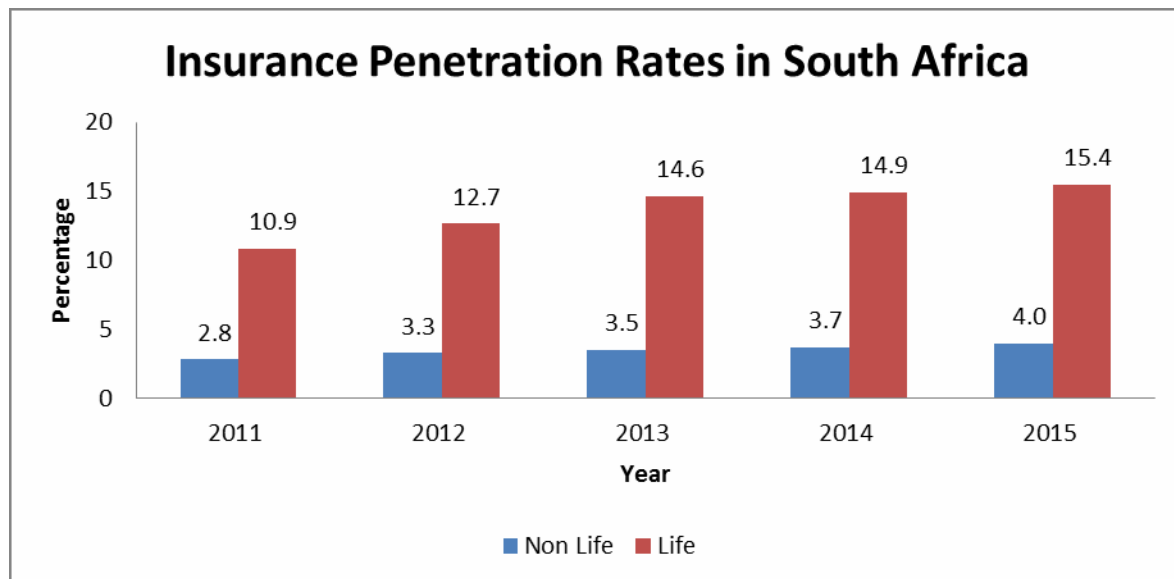


Figure 2 - Insurance penetration rates in South Africa. Source: R. Mahlare (FSB), personal communication, August 10, 2016.

Given the importance of KRIs and risk culture, the present study investigated whether any connection existed between the risk culture maturity and the awareness and use of KRIs within the South African insurance organisation used in here.

4 Method

4.1 Participants

The target population of this study was the management level of the organisation. It included all supervisors, assistant managers, managers, senior managers and executive members of the organisation. The questionnaire was sent to all 218 members of management, who were requested to respond anonymously. A total of 72 valid responses, amounting to 33% of the target population, was received.

Analysing 2 037 surveys containing individual responses over the 1995-2008 period, Anseel, Lievens, Schollaert and Choragwicka (2010) found an average response rate of 35% for mailed surveys to top management teams. They further found that owing to the increased popularity of online surveys, a slight decrease in responses over time has been found. Responses to online studies are therefore expected to decline in the opinion of Anseel et al. (2010). Therefore, a response rate of 33% achieved in the present study is regarded as satisfactory.

Permission was obtained from the Chief Risk Officer of the organisation for the study to be conducted.

4.2 Initial consultations with management

Two members of management actively involved in risk management were initially consulted about the viability of using an online survey. They raised the length and difficulty of the proposed survey as a concern as risk management was a relatively new concept for lower levels of management. They nevertheless understood the potential value of the study.

The contribution from the participants as to how risk management and KRIs can be improved throughout the organisation was seen as a potential contribution to the value of the study.

4.3 Instrument

The instrument used for this study was the online UARM RCQ-2016 while an additional six items covered the KRI portion of the study (Appendices A and B). This study is part of a larger UARM RCQ-2016 study that assesses how well risk management has been integrated in the organisation within which the study is performed.

Formulation of UARM RCQ-2016 items: The following factors were identified as components of risk culture:

Factor 1: Risk culture: Risk integration;

Factor 2: Risk culture diagnostics: Individual;

Sub-factor 2.1: Risk understanding; and

Sub-factor 2.2: Individual responsibility and accountability.

The risk culture component of the questionnaire consisted of 34 items. Of these items, 25 composed the risk integration factor, seven the risk understanding sub-factor and two the individual responsibility and accountability sub-factor.

The aims of the questionnaire were to assess how the participants viewed the levels of integration of risk management as a discipline into the management of the organisation and the practice of risk management as an essential enabler for achieving the organisation's objectives.

The UARM RCQ-2016 was used to determine the risk culture within the organisation and to establish whether different levels of risk culture exist among senior and middle levels of management or individuals.

Items were rated on a five point Likert scale.

Formulation of KRI items: To be able to meet the research objectives of this study, additional items related to the awareness and use of KRIs were identified by the risk management team within the organisation and added to the online survey in order to measure participants' awareness and use of KRIs.

This was done with great care so as to obtain all the relevant information by using as few as possible additional items, given the concern that had already been raised by the organisation's management about the length of the questionnaire. The items were divided into the following categories: awareness, use and improvement of KRIs. The six additional items about KRIs can be found in Appendix B.

A pilot test was conducted with three participants to assess the suitability of the items on KRIs. Amendments were made to these items to ensure their correct interpretation and to ensure their relevance to the intended sample group.

4.4 Survey

A web-based survey was used in this study. Denscombe (2014) holds that the benefits of using this method is that it saves time and money, as there are limited delays in the delivery and no costs involved in the distribution. It is also an environmentally friendly approach to conducting research, and the data processing and consolidation is easier (Denscombe 2014).

The deployment of the instrument was initiated by an email invitation sent to the target population by the Chief Risk Officer of the organisation. The email provided a link to the online survey and a subsequent email reminder was sent a week after the initial invitation. The survey closed three weeks after the initial emails were sent.

Two participants preferred to complete a pdf version of the online survey, which was uploaded manually.

4.5 Data analysis

The data from the UARM RCQ-2106 were used to establish the risk culture of the organisation. The SAS® system was used to analyse the data.

In order to test the reliability of the UARM RCQ-2016 for this sample, the Cronbach's alpha was calculated.

All data obtained from the survey were subjected to statistical analysis to establish if there is an association between risk culture and KRIs with reference to senior and middle levels of management. Results for every item were compared. Respondents with a higher self-perceived level of risk understanding were compared with those perceived to have a less mature risk culture. The risk culture of these two groups and the awareness and use of KRIs were determined.

5 Results and Discussion

The results comprised three components.

- The level of self-perceived risk culture maturity of the participants was determined.
- The level of self-perceived risk culture maturity was compared to the awareness and use of the KRIs at senior and middle management level.
- Ways in which the participants feel that both the risk management and KRIs could be improved in the organisation were explored.

With a high Cronbach's alpha of 0.95, the risk culture questionnaire is reliable for this sample. The Standardised Cronbach's alpha were used since the variances were heterogeneous for the items.

The sample of 72 divided equally between men and women, all of whom provided the necessary consent. About half (55%) of the participants fell within the 30-39 year age group and the rest were spread as follows – 15% in the 20-29 year age group, 22% in the 40-49 year age group and 8% in the 50-59 year age group. About half of the participants had some form of tertiary education and gave English as their first language. Of the total participant group, 71% had been with the company for more than five years. The vast majority of participants (95%) were South African nationals.

The demographical information in graph format can be found in Appendix D.

The management levels that participated in the study are shown in Table 2.

Table 2 - Participants' levels in the management of the organisation

Level of current role	Number of participants	% of total sample size in organisations	Grouping	Number of participants	% of total sample size in organisations
Supervisor	24	33	Middle management	38	53
Assistant manager	14	20			
Manager	19	26	Senior management	34	47
Senior Manager	8	11			
Executive	7	10			
Total	72	100		72	100

5.1 Analysis of the level of risk culture maturity in the organisation

As a starting point, the risk culture maturity within the two different levels of management were investigated using factor analysis. Table 3 shows the mean scale scores of management levels.

Table 3 – Maturity scores for management levels across the organisation

Factor Scores			
	Factor 1	Factor 2	
	<i>Risk Culture: Risk Integration</i>	Sub-factor 2.1 <i>Risk Understanding</i>	Sub-factor 2.2 <i>Individual Responsibility and Accountability</i>
Middle management	4.1	3.9	4.5
Senior management	4.2	4.2	4.7
All participants	4.2	4	4.6

The results in Table 3 should be interpreted using the UARM Risk Culture Maturity Model, provided in Appendix A. An average score of 4.2 for Factor 1 indicates that ‘risk management is viewed as a highly integrated enabler of achieving the organisation's objectives’. This is a good reflection for risk management within the organisation and indicates the extent to which it has been integrated into the everyday business processes of the organisation at management level.

In terms of the factor score for risk understanding, an average score of 4 indicates that the management of the organisation has a ‘high level of understanding of risk’. This is true for both middle and senior management alike although senior management has a slightly higher score than middle management.

The average factor score of 4.6 for individual responsibility and accountability indicates that the management levels of the organisation are ‘completely responsible and accountable for risks connected to their roles’. This is similar for both middle and senior management, again with senior management being slightly higher. Sub-factor 2.2 scored the highest of all three factors but may indicate bias. In general, people respond in ways that make them look as good as possible (Donaldson and Grant-Vallone 2002).

According to Kruger and Dunning (1999), many people have a habit of viewing their own abilities more favourably than what they in reality are in social and intellectual domains. In a

study done within a managerial group discussion, John and Robins (1994) found that employees generally perceive themselves more positively than the way they are seen by others. This may be a contributor to the high factor score where participants had to rate themselves.

The presumption was that different risk cultures would be experienced within these levels of management due to their different levels of involvement in the risk management process of the organisation.

The test results for significant differences at the 95% confidence interval are shown in Table 4.

Table 4 – Difference in risk culture maturity between middle and senior management level

Wilcoxon rank sums test

Wilcoxon Rank Sum test					
Management level	n	Wilcoxon Mean Score	Chi square test statistic	p-value	Significant difference at $\alpha=0.05$
Factor 1: Risk Culture: Risk Integration					
Middle management	30	27.57	1.23	0.27	No
Senior management	29	32.52			
Sub-factor 2.1: Risk Understanding					
Middle management	37	30.3	5.18	0.02	Yes
Senior management	33	41.33			
Sub-factor 2.2: Individual Responsibility and Accountability					
Middle management	37	33.26	1.85	0.17	No
Senior management	34	38.99			

With a p-value of 0.02, a statistical significant difference was observed between the two different levels of management for the risk understanding factor (sub-factor 2.1).

This means that the risk integration and the individual responsibility and accountability is very similar across the two levels of management.

The items relating to the risk understanding factor all relate to the participants' personal understanding of the organisation's approach to risk management and to the organisation's objectives and the achievement of those objectives.

The test results for significant difference at the 90% and 95% confidence level are shown in Table 5.

Table 5 – Items with significant differences between middle and senior management level

Wilcoxon rank sums test

Management level		Wilcoxon Mean Score	Chi square test statistic	p-value	Significant difference
n					
Factor 1: Risk Management Culture					
<i>1. There are clear risk owners for every risk in this organisation.</i>					
Middle management	38	31.50	5.50	0.02	**
Senior management	34	42.09			
<i>2. The risk management functions facilitate the management of the organisation's risks.</i>					
Middle management	38	33.12	2.73	0.10	*
Senior management	34	40.28			
<i>6. I am able to challenge risk stakeholders on risk issues in the organisation.</i>					
Middle management	37	29.74	6.94	0.01	**
Senior management	33	41.95			
<i>19. My concerns about risks will be taken seriously by executive management.</i>					
Middle management	36	31.81	3.05	0.08	*
Senior management	34	39.41			
<i>37. I believe that my organisation reports risks in an honest and transparent manner.</i>					
Middle management	38	30.86	7.33	0.01	**
Senior management	34	42.81			
Sub-factor 2.1: Risk Understanding					
<i>7. I understand the link between the organisation's risks and objectives.</i>					
Middle management	38	30.55	8.02	0.00	**
Senior management	34	43.15			
<i>8. I understand the organisation's risk management framework (processes, practices, etc.)</i>					
Middle management	38	30.64	7.21	0.01	**
Senior management	34	43.04			
<i>32. I understand what kind of information my colleagues need to be able to make risk-related decisions.</i>					
Middle management	38	32.78	3.17	0.07	*
Senior management	34	40.66			

*Significant difference at $\alpha=0.10$

**Significant difference at $\alpha=0.05$

Items 1 and 2 in Table 5 indicates that middle management are not as clear as senior management about who the specific risk owners are for each risk in the organisation, or the manner in which the risk management function facilitates the management of the organisation's risks. This indicates a gap where senior management need to provide their management teams with more information as to which risks the department is responsible for.

Items 6, 19 and 37 in Table 5 indicate that the tone from the senior management may need to receive additional attention. Middle management need to understand that their involvement in the risk management process is crucial and that their concerns will be taken seriously. Item 37 in particular also reiterates the need for middle management to understand the risk process and be aware of the type of risk information that is reported to the relevant stakeholders.

Items 7, 8 and 32 in Table 5 indicate that senior management had a better understanding of the risk framework and type of information that their colleagues need in order to make risk-related decisions. This indicates the type of risk training that needs to be focussed on and provided to middle management.

For the remainder of the article the focus will be on the risk understanding factor.

5.2 Comparison between groups with high and medium risk understanding with regard to their awareness and use of KRIs items.

Since the levels of risk culture were not significantly different between the different levels in management, the groups were split into participants with different individual risk culture ratings. This was done using the risk understanding factor as this is an area where statistical differences were found between senior and middle management.

These two groups were then analysed in relation to the answers they provided to the KRI items. All the KRI-specific items can be found in Appendix B.

The test results for significant differences at the 95% confidence interval are shown in Table 6.

Table 6 - Significant differences regarding KRIs between participants with High and Medium risk understanding

Wilcoxon rank sums test

KRI Item number and description	Risk understanding maturity level*	n	Wilcoxon rank sum test	Chi square test statistic	p-value	Significant difference at $\alpha=0.05$
2. I know what the company KRIs are.	High	55	34.05	5.87	0.02	Yes
	Medium	8	17.94			
3. I actively use KRIs in my department/business unit.	High	55	33.78	4.66	0.03	Yes
	Medium	8	19.75			
4. My colleagues actively use KRIs in their department/business units.	High	55	33.87	5.55	0.02	Yes
	Medium	8	19.13			

*High refers to rounded factor scores equal to or higher than four; and Medium refers to rounded factor scores less than four.

Significant differences were found for three of the KRIs items.

Item 2 in Table 6 indicates whether the participant is aware of the organisation's KRIs. In this specific organisation, company-wide KRIs had only recently been identified and communicated to the relevant stakeholders. The participants who showed a higher awareness of the company's KRIs also showed a higher maturity level of risk understanding than the participants who had a lower awareness of the company KRIs.

Item 3 in Table 6 does not necessarily refer only to the company-wide KRIs but also whether departmental/business-unit-specific KRIs had been identified and were being used by the participant. This initiative was not driven solely by the risk management function of the organisation, and the high percentage of participants who were currently making use of departmental/business-unit-specific KRIs and the correlation to a higher level of risk maturity is therefore noteworthy. The participants with a higher usage of KRIs, at departmental level, business unit level or organisational level, had a higher level of risk understanding.

Item 4 in Table 6 is similar in nature to item 3, and refers to the perception of the participant as to the extent that KRIs are being used by his/her colleagues. The results indicate that the higher the usage of KRIs, the higher the level of risk understanding.

Item 1 of the additional KRI items asked participants whether they knew what KRIs are. No statistical significant differences were observed for item 1 between the group with high risk understanding and the group with medium risk understanding. When looking at the item in isolation, this however makes sense as being aware of what KRIs are, does not necessarily

mean that participants use them or even understand their value, therefore having no potential correlation to any of the risk culture factors.

Item 5 of the additional KRI items asked participants how often KRIs influence how they perform their job. No statistically significant differences were observed for item 5 between the group with high risk understanding and the group with medium risk understanding. This may be explained by reasoning that the trend that KRIs show should not really influence how a participant performs his or her job, as one should always perform one's job to the best of one's ability. A KRI may show where a potential problem may arise and indicate where focus should lie. This however, does not necessarily impact on how participants perform their jobs.

5.3 Participant's personal views on how risk management culture and KRIs can be improved

Participants were asked to select an option as to how they believe risk management in the organisation can be improved. Table 7 indicates the options that were selected when participants were provided with the opportunity to select how risk management could be improved within the organisation.

Table 7 - Participants' opinions on the preferred method for improvement of risk management within the organisation

Method	Number of participants	% of participants
Accountability and Responsibility	10	13.9
Communication	31	43.1
Data	1	1.4
Management processes	7	9.7
Management systems	9	12.5
Training	14	19.4
Total	72	100

In the open-ended item, participants felt that the risk process could receive more automation and that there may be specific areas within the business that were not receiving sufficient focus from the risk management function. More detail regarding the risk process as opposed to the risks facing the organisation were also requested.

A total number of 21 participant's felt that training and/or communication was necessary in order for KRIs to be improved within the organisation.

Eight participants indicated that raising the extent to which KRIs are integrated into business was a possible way in which KRIs can be improved within the organisation.

It is noteworthy that some participants mentioned that KRIs should be introduced from the top, i.e. that tone from the top would improve KRIs within the organisation. Furthermore there needed to be more guidance or rules about ways to improve KRIs within the organisation. These findings are summarised and can be found in Appendix C.

Both sets of findings above indicate a real need for risk communication and risk training in the organisation. Such training should focus on the benefits, implementation and use of KRIs as well as broader aspects of risk management.

The answers provided indicate how the gap that existed between senior and middle management on the risk understanding factor could be addressed and potentially minimised.

5.4 Overall findings

The management of the organisation in this case study could be classified as having high risk culture maturity, based on the risk integration, risk understanding and individual risk accountability and responsibility factor scores.

A correlation existed between the risk understanding factors and the awareness and use of the KRIs. This indicates that a potential way in which an organisation's risk understanding could become more mature is through the increase in awareness and use of KRIs at all levels of the organisation.

This study showed that training and communication on the overall risk management process and organisational objectives as well as training in the development and use of KRIs could have a positive impact on the organisation as a whole and further improve the risk culture maturity levels.

6 Conclusion

The overall risk culture maturity level in the insurance organisation in this study was found to be high.

Participants in the senior management level showed a stronger risk culture than participants in the middle management level. There were no significant differences between the two management levels on risk integration and on individual accountability and responsibility. There was however a significant difference between the two management levels on risk understanding. A connection was found between risk understanding and the awareness and use of KRIs. The recent introduction of KRIs in the case study organisation could have contributed to the understanding of risk, hence improving the risk culture. Participants having a higher level of risk understanding showed higher awareness and usage of KRIs. From the three sub-factors that constitute risk culture, the data only indicated a connection between risk understanding and the awareness and use of KRIs.

The results suggest that training and communication would be the most important contributors to improving risk management and the use of KRIs within the organisation.

The results of this study can be used by risk practitioners in strengthening an organisation's risk culture. The study provides insight into the practical aspects of strengthening a risk culture by using KRIs, thus contributing to the risk management information that is currently available. Ashby et al. (2013) feel that risk culture is a current focus area for regulators in the insurance industry. The results of this study may therefore be valuable to regulators in the insurance industry looking for ways in which to improve risk culture throughout the insurance sector.

The research presented here provides a framework and contributes towards the understanding of risk culture and the improvement of risk understanding within an organisation through the use of KRIs. However, the research was limited to a single case study in a single financial sector, and further research would be required from which to generalise more broadly. Further research is encouraged, therefore to include:

- Other national and international insurance companies;
- Companies other than insurance companies;
- The entire organisation as opposed to a focusing only on management levels.

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7255 word (including headings and tables)

REFLECTION

Risk culture is a very topical issue within the risk environment. South African insurance organisations have been exposed to specific guidance in terms of King III, encouraging management to design and implement measures to inculcate a culture of risk.

The research focus of UARM at North-West University resulted in students using the risk culture questionnaire that the university was in the process of developing, which determined the initial focus of the study on risk culture.

From discussions with my organisation's Chief Risk Officer it was clear that the focus for my organisation was on KRIs. This was the basis for the inclusion of KRIs.

Combining both the risk culture and KRIs aspects and investigating the potential connection between the two allowed for a practical way in which risk culture could be improved.

In my study I attempted to connect the world of academia and the more practical world of business as I believe that this is where the true value of research would lie for my organisation.

As the risk culture maturity level did not differ significantly between the levels of management, a potential way to obtain more results could have been by extending the sample group to the entire organisation. Although this study was done only in one South African insurance organisation, it should be applicable to any other insurance organisation. To my knowledge, there are no reasons why this study cannot be used by any financial service provider within South Africa.

Being a part time student is always challenging and effective time management was crucial in the development of this study. Time management and continuously maintaining a holistic view of the end goal proved challenging, as this study consisted of many smaller projects that had to be combined to reach the end result. At times, the sheer volume of interesting and practical research articles that I found made it difficult to keep my focus within the scope of my study.

Although the literature on risk culture is not extremely vast, I was nonetheless taken aback by the amount and the extent that has already been investigated and achieved in this ever growing field. I find myself extremely privileged to have been afforded this opportunity to contribute in a small way to the body of work by like-minded individuals that is currently available on risk culture.

The research contributed to my personal learnings and there are different aspects of this that I will take with me in numerous areas of both my personal and work life.

From an organisational viewpoint the learning obtained from this study has been huge. Not only can we safely say that the risk culture within the management levels of the case study organisation is mature, but we also have first-hand advice on ways in which risk management can be improved. Given the responses that were received, the organisation is encouraged by the manner in which KRIs have been understood and implemented throughout the management team. The development and further embedding of KRIs will remain an area of focus for the risk management function within the organisation.

APPENDIX A - UARM RISK CULTURE QUESTIONNAIRE-2016 PILOT

UARM Risk Culture Questionnaire Pilot

UARM RCQ-2016

Summary

Sep 2016

Hermien Zaaiman (Research project leader)

This document provides a brief overview of the 2016 pilot version of the UARM Risk Culture Questionnaire (UARM RCQ-2016).

1. Aim of UARM RCQ-2016

The aim of the UARM behavioural risk research programme is to develop tools to assess and improve the integration of formal risk management principles into organisational management. The aim of the UARM risk culture research project is to develop tools that can be used to assess the risk management culture ('risk culture') of organisations and identify possible problem areas related to risk culture.

We distinguish between risk management as a function in the organisation and the use of risk management principles during decision making in the organisation. We expect that participating organisations will have a formal risk management function intended to facilitate and oversee the use of risk management principles at the organisation's strategic and operational management levels. As the specific implementation of risk management tends to differ from organisation to organisation, the UARM risk culture survey has been developed independently of how risk management is implemented in the organisation.

2. Terms

The term risk culture can have many meanings. This implies that risk culture must be carefully defined to allow for optimally reliable and valid assessment of the perceived risk management culture in an organisation. We took a value of risk management to the organisation based approach in the UARM Risk Culture research project. The terms necessary to understand our definition of risk culture are now defined.

Risk: For the purpose of this research project, we define risk as *the negative effect of uncertainty on objectives*. This definition links Hubbard's definitions of risk:

'Long definition: The probability and magnitude of a loss, disaster, or other undesirable event' or 'Shorter (equivalent) definition: Something bad could happen' Douglas W. Hubbard (2009, p. 8)

to the ISO 31000 definition of risk as *'the effect of uncertainty on objectives'* (ISO, 2009b, p. 1).

Risk management: We use the ISO 31000 definition for risk management as *'coordinated activities to direct and control an organization with regards to risk'* (ISO, 2009b, p. 2). Douglas W. Hubbard (2009, p. 10) expands on this in his long definition of risk management: *'The identification, assessment and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events'*.

Expected value of risk management to organisations: ISO 31000 recommends that *'organizations develop, implement and continuously improve a framework whose purpose is to integrate the process for managing risk into the organization's overall governance, strategy and planning, management, reporting processes, policies, values and culture'*. Such integration is expected proactively to increase the likelihood of achieving objectives by, in part, establishing a reliable basis for decision making and planning. (ISO, 2009a, pp. v, vi)

Based on this ISO 31000 view of the value of risk management, we view the integration of risk management principles into organisational decision making as an essential enabler for achieving the organisation's objectives. Taking risk into account during decision making at all organisational levels and management processes should contribute to reaching the organisation's objectives.

Risk Culture: We used the Hofstede approach to culture as starting point for the development of the UARM Risk Culture Questionnaire (RCQ). G. Hofstede, G. J. Hofstede, and M. Minkov (2010, p. 516) define culture as the trained unwritten rules of the social game or the *'collective programming of the mind that distinguishes the members of one group or category of people from another'*. An organisation can be seen as a cultural group that consists of subgroups, each with their own subculture.

For this study, we define organisational risk culture as the way in which groups of people use risk management principles when making decisions on uncertain future events that could have a negative impact on reaching the organisation's objectives. This definition allows for an

assessment of the expected value of integrated risk management to achieving the objectives of the organisation.

3. UARM RCQ development guidelines

The UARM risk culture questionnaire and items should:

- Be applicable across organisational sectors, work roles and risk types;
- Have a strong academic theoretical foundation;
- Be applicable in practice, i.e. with relevant and clear items, as briefly expressed as possible.

The RCQ items are based on key practices linked to the integration of risk management into the organisation's management at all levels of the organisation. The main aim of the questionnaire is therefore to assess how respondents view the levels of:

- Integration of risk management principles into the management of the organisation;
- The practice of risk management as an essential enabler for achieving the organisation's objectives.

The questionnaire also includes items that can be used as diagnostic indicators of where further questions should be asked about the risk culture of the organisation. The pilot version of the questionnaire (UARM RCQ-2016) was not intended to be a complete diagnostic tool. Based on the positive results from the questionnaire, we intend to further develop the risk culture diagnostic categories in the next versions of the questionnaire.

4. UARM RCQ items, factors and maturity levels

The pilot UARM RCQ-2016 online questionnaire consists of demographic, risk culture and diagnostic items. It took less than 15 minutes to complete for an initial test sample of respondents, with an average completion time of 10 minutes. This is brief enough to allow for adequately high response rates in the student research studies.

For ethical reasons, the questionnaire requires the participants to confirm that they are older than 18 years, have read the introductory information, and consent to participation on a voluntary basis before being allowed to continue with the questionnaire. Consent to participate is followed by standard and research-project-specific demographic items, such as age; gender; highest level of formal education completed; level in the organisation (e.g. board, executive, senior and middle management, non-management); function type (e.g. risk management, organisational management, operations); and length of time employed in the organisation.

Risk culture items

Forty risk culture items were devised during workshops with UARM students and research group members. The UARM student and research group members are all fully employed in risk-related roles across industry sectors. This allowed relevant, practical input into the development of the items.

The student research-project data were used to conduct a detailed factor analysis of the responses to the UARM RCQ-2016 version of the UARM Risk Culture Questionnaire. One would expect factors related to risk culture to correlate with each other. Initial exploratory analyses on the individual student data sets supported this expectation by indicating that the factors were not orthogonal, but correlated. The final factor analysis was therefore performed using the principal axis factor method with promax rotation and listwise exclusion of responses with missing data, as advised by writers such as Fabrigar, Wegener, MacCallum, and Strahan (1999).

Two factors were identified involving 34 of the original 40 items. The 34 items showed consistent high internal reliability with Cronbach's alpha coefficients of between 0.95 and 0.96 for all seven student research projects. The second factor was divided into two sub-factors based on the results of further factor analyses. The factors were named using the contents of the items per factor and sub-factor:

Factor 1: Risk Integration (25 items)

Factor 2: Risk Culture Diagnostic: Individual (9 items)

2.1: Risk Understanding (7 items)

2.2: Individual Responsibility and Accountability (2 items)

The items in Factor 1 assess the participant's perception of the integration of risk management principles into decision making with the aim of achieving the organisation's objectives. The items related to the contribution of the formal risk management function(s) to objectives driven decision-making are also included in this factor. These items will be further refined, based on the initial research results to create an even more reliable and valid UARM RCQ to be used for research in 2017 (UARM RCQ-2017).

The items in Factor 2 do not directly measure risk culture as defined for the purposes of this research project. The personal ('I') risk understanding and risk responsibility-accountability items divided into two sub-factors that can be used diagnostically to investigate further

underlying aspects of risk culture. More diagnostic items will be developed in further research to allow for a more comprehensive diagnostic set of factors that can be used to evaluate the underlying reasons for participant perceptions of risk culture in organisations.

Calculation of factor score

At this stage in the development of the UARM RCQ, the factor scores per factor are calculated as the average of the means of the items making up the factor. This approach is generally recommended for new questionnaires where the factor loadings have not been confirmed (DiStefano, Zhu, & Mindrila, 2009; Russell, 2002).

The factor scores were calculated for each student's sample data using the items listed in Appendix UARM RCQ-2016 per factor. As the factor score values are calculated by averaging the self-reported perceived status of risk culture in the organisation, they cannot be seen as absolute measures of organisation's prevailing risk culture. The factors provide a summary of the participant's views of risk culture in the organisation. The possible influence of item response biases on the scores (e.g. directional, confirmatory, social desirability and acquiescence biases) should be investigated in further research studies to establish whether the items adequately assess risk culture levels.

We may expect that the organisations in which the student studies of risk culture were done have levels of high risk management maturity as they operate in well-regulated sectors and therefore expect high factor scores for the 2016 student studies. Studies in organisations with lower levels of risk management maturity will also have to be conducted to assess the validity of the questionnaire. Nonetheless, the perceived risk culture factor scores should permit preliminary conclusions about the perceived risk integration, individual understanding of risk and risk responsibility and accountability in the samples studied. Statistically significant differences between item responses of sample subgroups should also provide diagnostic information on risk culture differences between groups within organisations.

The UARM risk culture maturity model

The factors allowed us to define a risk culture maturity model. Maturity levels corresponding to the five level Likert-type answer scales for each factor are provided in table 1. At this stage, the sample maturity levels may be used as initial indicators of participant perception of the risk management culture in the group studied.

Note: The maturity levels are used for interpreting the results of the questionnaire. This

information does not appear in the questionnaire itself and is not seen by the research participants.

5. Conclusion

The 25 UARM RCQ-2016 risk culture items in Factor 1 show promise as a measure of perceived risk culture where the value of risk management is viewed specifically in terms of:

- Integration of risk management principles into the management of the organisation;
- The practice of risk management as an essential enabler for achieving the organisation's objectives.

Based on their nature, the items belonging to Factor 1 can also be seen to assess the perceived risk management tone of the organisation.

The Factor 2 diagnostic items can be used to provide limited additional information on two aspects that may influence risk culture in the organisation. The current items for Factor 2.1 measure the respondent's risk understanding. Factor 2.2 assesses personal responsibility and accountability for risks connected to the person's role. These items, combined with responses on the items in Factor 1 and the diagnostic items 41 (risk ownership) and 42 (what should improve) will be used as the basis for compiling a more comprehensive risk culture diagnostic questionnaire (i.e. what to ask the respondents to be able to diagnose the source of risk culture issues?). This question will be addressed in further UARM research projects.

Note:

The development of the questionnaire will be written up in detail as a separate article.

For more information, please contact Hermien Zaaiman (hermien.zaaiman@nwu.ac.za).

Table 1. UARM Risk Culture Maturity Model (UARM RCQ-2016)

Factor	Factor Name	Risk Culture Maturity Levels				
Factor 1	Risk Integration	1.0 <= FS < 1.5 RM Not viewed as an integrated enabler of achieving the organisation's objectives	1.5 <= FS < 2.5 RM viewed as a low integrated enabler of achieving the organisation's objectives	2.5 <= FS < 3.5 RM viewed as a medium integrated enabler of achieving the organisation's objectives	3.5 <= FS < 4.5 RM viewed as a high integrated enabler of achieving the organisation's objectives	4.5 <= FS < 5.0 RM viewed as a fully integrated enabler of achieving the organisation's objectives
Factor 2	Risk Culture Diagnostic: Individual					
Sub-factor 2.1	Risk Understanding (Personal assessment of own understanding of risk in the organisation)	1.0 <= FS < 1.5 Do not understand risk in the organisation	1.5 <= FS < 2.5 Low level of understanding of risk in the organisation	2.5 <= FS < 3.5 Medium level of understanding of risk in the organisation	3.5 <= FS < 4.5 High level of understanding of risk in the organisation	4.5 <= FS < 5.0 Completely understand risk in the organisation
Sub-factor 2.2	Individual Responsibility and Accountability	1.0 <= FS < 1.5 Not at all responsible and accountable for risks connected to role	1.5 <= FS < 2.5 Low level of responsibility and accountability for risks connected to role	2.5 <= FS < 3.5 Medium level of responsibility and accountability for risks connected to role	3.5 <= FS < 4.5 High level of responsibility and accountability for risks connected to role	4.5 <= FS < 5.0 Completely responsible and accountable for risks connected to role

FS=Factor Score

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APPENDIX B - ADDITIONAL KRIS ITEMS

Key Risk Indicator (KRI) Items					
1. I know what Key Risk Indicators (KRIs) are.					
Strongly disagree	Disagree	Neutral: Neither agree nor disagree	Agree	Strongly agree	
☐	☐	☐	☐	☐	
2. I know what the company KRIs are.					
Strongly disagree	Disagree	Neutral: Neither agree nor disagree	Agree	Strongly agree	
☐	☐	☐	☐	☐	
3. I actively use KRIs in my department/business unit.					
Strongly disagree	Disagree	Neutral: Neither agree nor disagree	Agree	Strongly agree	
☐	☐	☐	☐	☐	
4. My colleagues actively use KRIs in their department/business units.					
Strongly disagree	Disagree	Neutral: Neither agree nor disagree	Agree	Strongly agree	
☐	☐	☐	☐	☐	
5. How often do KRIs influence how you do your job?					
Not at all	Infrequently	Sometimes	Usually	Always	Not applicable
☐	☐	☐	☐	☐	☐
6. How can KRIs in Clientèle be improved in your opinion?					

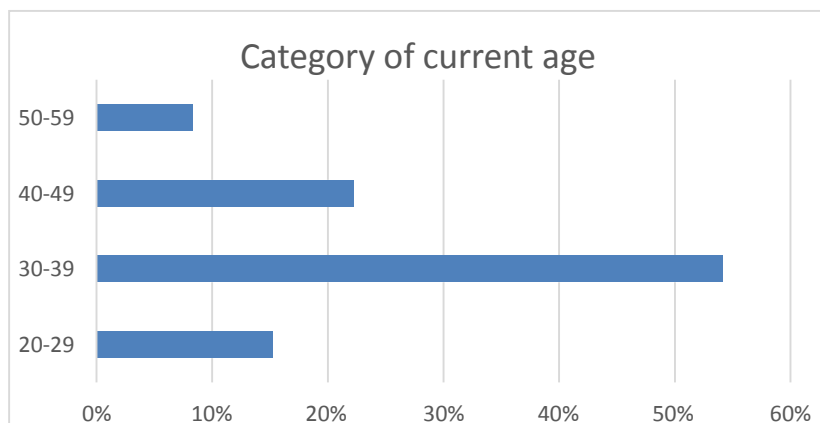
APPENDIX C - ITEMS FOR 'WAYS IN WHICH KRIS CAN BE IMPROVED IN THE ORGANISATION'

	Verbatim answers provided by participants	Category 1 – Own mapping	Category 2 – Own mapping
1	Always well managed and pre-emptive.	Integration into business processes	
2	Better communication around KRIs and their importance, KRIs linked to KMFS, frequent reporting of KRIs performance.	Training and communication	Integration into business processes
3	Better interdepartmental communication.	Communication	
4	By communicating and letting all departments know what risks they are exposed to, and what impact the risks will have towards the Company.	Communication	
5	By providing the Architecture Board with the mandate to revoke any Business Unit request that would go against company KRIs.	Integration into business processes	
6	By taking reports from operational managers seriously. By not looking for someone to blame when things go wrong.	Tone from the top	
7	Communication.	Communication	
8	Each individual at staff level must be made aware by their managers how KRIs are factored into their daily tasks. Work done at staff level affects reporting and analysis done at a senior level.	Integration into business processes	
9	I don't know what the company-wide KRIs are so I cannot give a suggestion for improvement.	Training and communication	
10	I need more information, clarity or some form of short training to fully understand the KRIs in the company. I would appreciate if someone would take time to take me through this process so that I can fully understand the risk register and the reasons behind in more detail.	Training and communication	
11	I think they can be better communicated to operational management. It may be done implicitly but maybe some formal steps may enhance the risk culture.	Communication	
12	More accurate data capturing.	Integration into business processes	
13	More action to be taken when risks have been recorded monthly. In some cases no action has been taken on these.	Tone from the top	
14	More awareness by staff.	Training and communication	
15	More awareness through communication and training.	Training and communication	
16	More communication about KRIs.	Communication	
17	More communication on KRIs.	Communication	
18	More frequent communication.	Communication	
19	More training.	Training	

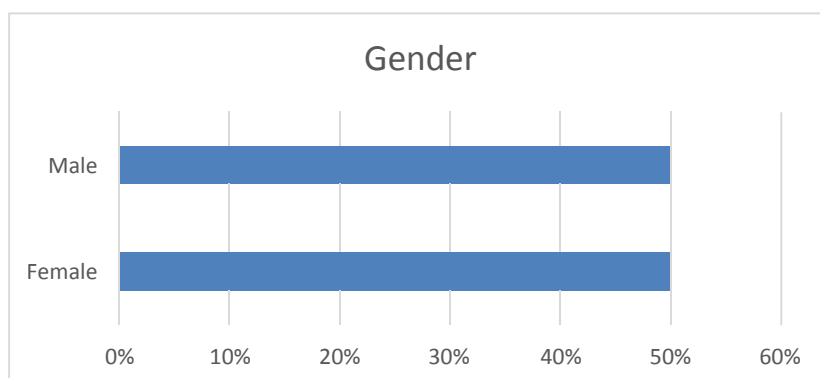
	Verbatim answers provided by participants	Category 1 – Own mapping	Category 2 – Own mapping
21	Significant progress has been made on this item in recent times.	No suggestion	
22	They can be communicated.	Communication	
23	Through better communication stay in touch with Departments to establish new KRIs or adding to existing KRIs.	Training and communication	
24	Training and understanding of what all risk indicators are, how to identify them and apply processes to combat risk.	Training and communication	
25	Training on KRIs.	Training	
26	By learning more and applying the process.	Training and communication	Integration into business processes
27	Communication to all stake holders.	Communication	
28	More communication of these at all levels of the business.	Communication	Integration into business processes
29	Training needs to be provided. Especially when dealing with IFAs as this can cause reputational damage. E.g. A query was received where consultant confirmed if a client earn his Commission if he has 5 paid key appointments. This was shocking, if a consultant does not know the basic information. What message is this sending to the network? This has been addressed as training needs has been identified.	Training	

APPENDIX D – DEMOGRAPHIC INFORMATION

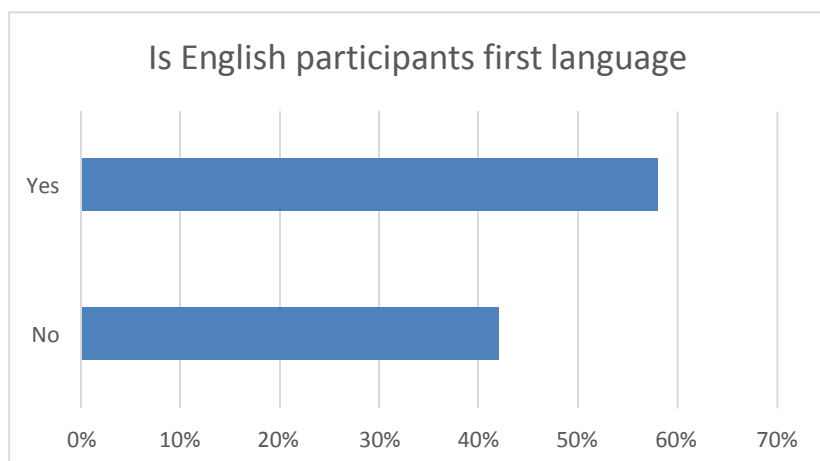
Question 1



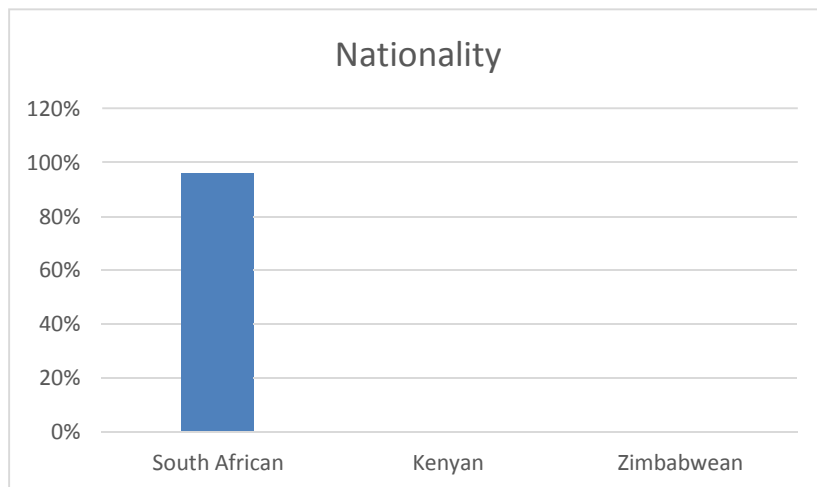
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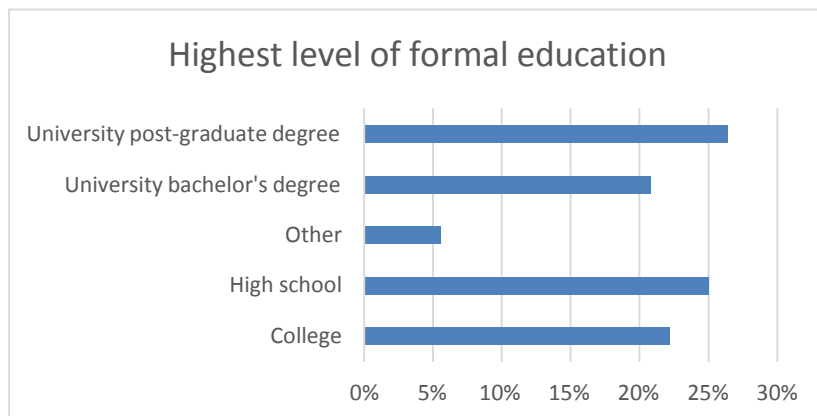
Question 3



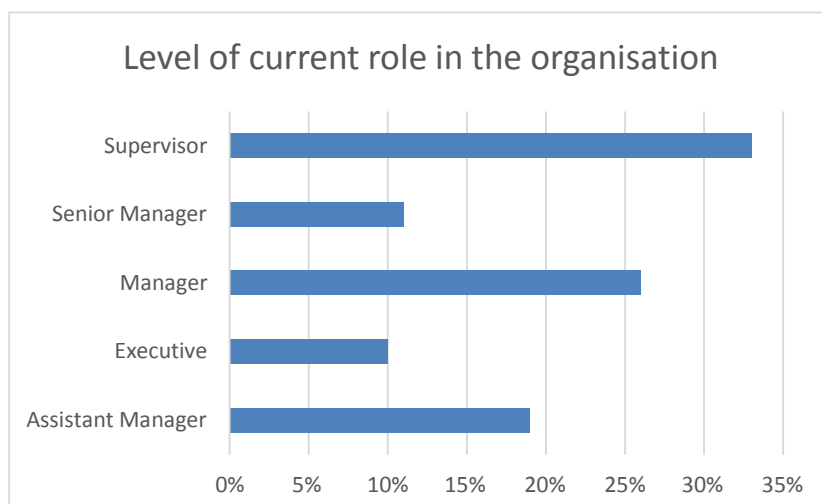
Question 4



Question 5



Question 6



Question 7

