Gordon Institute
of Business Science
University of Pretoria

The role of risk culture in rational strategic decision-making

Altaaf Osman

Student Number: 17393605

An article submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

7 November 2018

DECLARATION

I declare that this article is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

Altaaf Osman

CONTENTS

MOTIVATION OF JOURNAL CHOICE

The journal selected for the article to be published in is the *Journal of Risk Research.* It is peer-reviewed and fits within the ambit of the study which is the role of risk culture in rational strategic decision-making. The journal articles featured within this journal, speaks to the risk management process, risk management procedures, risk communication as well as risk culture and therefore the topic lends itself into this specific journal. Strategic decision-making is a significant discussion point from both a business as well as academic perspective. The requirement of making sound decisions to minimize risk, creates an important link between the two constructs. The author wants to add to the vast work done on risk culture and provide insight on the role that risk culture plays in strategic decision-making within a business context. Based on the above, the author sees relevance in the topic's fit within the ambit of the Journal of Risk Research.

The Journal of Risk Research is an International journal that is rated as 2 on the ABS list. The journal article has been constructed following the guidelines of the journal, where applicable. It consisted of 7856 words, which was less than the 8000 words set out by the guidelines of the journal, excluding the abstract, tables, figures and Appendix, as assumed.

CHAPTER 2. LITERATURE REVIEW

2.1. Introduction

The most recent global financial crisis has raised poignant questions, from regulators, firms and the media, regarding the role that corporate attitudes and risk culture played in the lead up to the crises (Pan, Siegel, & Wang, 2017). The deficiency of the risk identification and management process in organisations has led to companies frequently failing (Clarke & Varma, 1999). This spells a definite need to understand why risk culture is important for any organisation (Ring, Bryce, McKinney, & Webb, 2014). Risk culture describes "the values, beliefs, knowledge and understanding about risk shared by a group of people with a common purpose, in particular the employees of an organisation or of teams or groups within an organisation" (Institute of Risk Management, 2012, p.7). Organisations face the requirement of accelerating their 'growth cycles' due to the ever changing risks and complexities in the business environment. (Choi, Ye, Zhao, & Luo, 2016).

Companies vary in how they manage risk and according to Clarke and Varma (1999), the better a company manages their risk the better the company's share price is likely to be and the greater the success of a project (Cagliano, Grimaldi, & Rafele, 2014). Risk embeddedness increases in complexity due to the existence of large bureaucracies within the risk management function (Power, 2009). At the highest level of organisations, leaders face immense pressures such as exploring, i.e. risk taking and exploiting, which are both regarded as vital for current and future viability of the firm (Brunswicker & Vanhaverbeke, 2015). A robust strategic plan eases the pressure somewhat as it assists organisation's in translating both the vision and mission statements of an organisation into specific outcomes (Dibrell, Craig, & Neubaum, 2013; Grant, 2003; Clark & Krentz, 2004). Developed market shocks are felt by the majority of the emerging economies and any volitality has deepening impacts on exchange rates, inflation and many other economic factors (Kuepper, 2017). Organisation's are continuously facing strategic, operational as well as reputational risks and with leadership required to make tough decisions, there is a need to identify risk and set mitigating controls to reduce risk to an acceptable level.

The study speaks to the approach management take in making strategic decisions factoring in the risk component, and the rationality used in the final decision made. When comparing the behaviour of individuals to normative models, clear discrepancies emerge. (Einhorn & Hogarth, 1981). As it appears that organisational leaders do not meet required norms in decision-making, it is important to understand decision theory. Decision theory speaks to an individual's interpretation and reasoning around a choice made (Steele & Stefánsson, 2016). Behavioural decision theory was comprehensively reviewed by theorists such as Einhorn and Hogarth (1981) and features decisions made by individuals with minimal interest in organisational decisions (Dean & Sharfman, 1993). According to March and Shapira (1987) conventional decision theory dictates a trade-off between risk and return, wherein more risk averse individuals are willing to forgo returns for their low risk decisions, whereas the opposite holds true for risk seeking decision makers which is in contrast to Kahneman and Tversky (2013) who identify prospect theory in order to basket decision-making within a risk context. This theory speaks to individuals incorrectly weighting risks, which leads to risk averse decisions when profits are likely and risk seeking with definite losses (Kahneman & Tversky, 2013). March and Shapira (1987) further identify that the way risk is looked at by management does not fit within the ambit of classical decision theory in as far as looking at controllable alternatives instead of comprehensively assessing risk. Decision-making identifies with decision theory and risk within the ambit of prospect theory but the different outlook by Kahneman and Tversky (2013) on risk within prospect theory does not fit within the ambit of this study.

Several scholarly conversations continue on the topic of strategic decision-making (Dimitratos, Petrou, Plakoyiannaki & Johnson, 2011; Elbanna & Child, 2007; Dean & Sharfman, 1993; Papadakis & Lioukas, 1998). Likewise the literature on risk culture was undertaken by (Pan, et al., 2017; Ring, et al., 2014). The exploratory study performed, contributes to both literature and business in understanding how risk culture plays a role in rational strategic decision-making. Creating an appropriate risk culture is challenging for organisations and with continuous strategic, operational as well as reputational risks as well as leadership required to make tough decisions, leaders are compelled to identify risk and set mitigating controls to reduce risk to an acceptable level. This will have a definite impact on decision-making. Therefore both topics remain pertinent in literature yet the combination of the two has not been fully explored to date. The study will also provide a framework setting out the manner in which risk culture aids better strategic decision-making in an organisation which can be applied across different industries.

The study therefore will proceed as follows: First we provide a critical review identifying the literature around strategic decision-making and risk culture. Second, we articulate the context and the method of analysis used. Third we analyse the findings identified in the qualitative study. We then conclude on the outcome of the study. The model proposed, identifies factors speaking to the importance of risk culture, boards and managements responsibility in fostering a risk culture for better strategic decision-making.

2.2. Strategic Decision-making

Strategic decision-making is defined as 'those decisions that determine the overall direction of an enterprise and its ultimate viability in light of the unpredictable and the unknowable changes that may occur in its most important surrounding environments' (Shivakumar, 2014, p.83). There are a myriad of strategic choices such as innovating to grow profit, business strategies and supply chain decisions, to name a few, that organisations tackle to create a competitive advantage (Baer, Dirks, & Nickerson, 2012). It must be understood that a challenging part of any strategy is for management to predict an outcome that is uncertain (Kaplan & Orlikowski, 2013) and the ability to assess and respond is an important component of strategic decision-making (Blake & Moschieri, 2016).

Strategic decisions are a critical component to the success of any organisation but are often subject to error due to the uncertainty and threats, and the decisions made could end up being disastrous for the organisation (Jarzabkowski & Kaplan, 2015) and "strategic decisions being ill-structured, non-routine, uncertain and pervasive" (Shepherd & Rudd, 2014). It is also important to remember that the individual making the decision is often faced with uncertainty and doubts, which leads the judgement to be subjective and vague (Sanayei, Mousavi, & Yazdankhah, 2010), however if a group of strategic decision makers can come to consensus on a specific strategy, the implementation can take place and the company will benefit (Kaplan & Orlikowski, 2013). The points Jarzabkowski and Kaplan (2015); Kaplan and Orlikowski (2013) are trying to make is that despite strategic decision-making processes being taxing and often characterized by errors in judgment, it remains critical to the success of the organisation. It is therefore important to understand what strategic decision makers do to reduce the risk in their decisions made.

For purposes of this research project, 'a decision is defined as a moment, in an ongoing process of evaluating alternatives for meeting an objective, at which expectations about a particular course of action impel a decision maker to select that course of action most likely to result in attaining the objective' (Harrison, 1995, p.4). It has been said that decision-making is one of the most important of all management activities in an organisation and key for its operations (Ejimabo, 2015). Drucker (2010), says that decision-making is the most significant activity in an organisation. In fact according to Harrison (1995), strategic decision-making is an occupation that sets managers apart from others.

Strategic decisions are shaped by context as well as culture of an organisation (Dimitratos, et al., 2011) and often sits with a smaller group of individuals or a single person in small to medium firms; and senior management teams in larger ones (Jansen, Curseu, Vermeulen, Geurts, & Gibcus, 2013). Yet, even though strategic decision-making is so important, we've long known Dean and Sharfman (1993) that managers don't always make rational choices. What then is a rational choice or decision?

2.2.1. Rational Decision-making

According to Simon (1959), macroeconomic scholars sees decision makers as rational and only rational individuals survive. Decision-making approaches have been categorized in terms of normative and descriptive approaches. The normative approach to decision-making, deals with the rationality of a decision, whereas the descriptive approach concerns itself with beliefs and values of people (Kahneman & Tversky, 1984). This means rationality comes from the normative approach. Rationality is defined as 'the extent to which the decision process involves the collection of information relevant to the decision, and the reliance upon analysis of this information in making the choice' (Dean & Sharfman, 1993, p.589). An alternative categorization of decision-making involves theories that identify two different modes of processing, or 'dual process', namely an implicit/ automatic and an explicit/ controlled process and decision-making features as a higher cognitive process within the theory (Evans, 2008). These two processes identified by Evans (2008) are intuitive and rational strategic decisions (Simon, 1987).

The theory of strategic decision-making takes into account both intuitive as well as rational processes (Simon, 1987) and rational decision-making is said to be done by individuals who follow rational procedures and are meticulous in the amount of information they gather before a decision is undertaken (Kaufmann, Meschnig, & Reimann, 2014). Dean and Sharfman (1993) defined a type of rationality which involves rational processes or as they put it 'procedural rationality' (p.589) as well as attesting to most strategic management literature being based on rationality. Economists have a somewhat different opinion to rationality and equate the use of rationality by individuals as a form of maximising their utility (Dean & Sharfman, 1993).

Managers have an array of strategic decisions to make and therefore, it is key to understand the rationality process behind a strategic decision (Elbanna & Child, 2007). It was further identified by Elbanna and Child (2007) that rationality is one of the key dimensions in strategic decision-making and Jansen et al. (2013) spoke about individuals being boundedly rational. Simon (1957) coined this term which speaks to decisions being made with information individuals have available and within the limits of their own capabilities (Elbanna & Child, 2007). Most strategic management literature takes cognisance of rationality and believe that this holds true, as management only make choices and/or decisions for the success of an organisation (Jarzabkowski & Kaplan, 2015).

Decision-making consists of several factors which are pertinent in an investigation of the nature of risk culture in strategic decision-making. Blake and Moschieri (2016) posit that the shift in a firms performance, verses the overall strategy, has predominantly been on the external environment There are a myriad of factors that needs to be considered in strategic decision-making. The paper will first discuss a theoretical foundation of factors affecting strategic decision-making and thereafter identify whether risk is prevalent in any of these factors.

2.2.2. Factors of Strategic Decision-making

Papadakis and Lioukas (1998) has identified three factors that are expected to impact strategic decision choices in organisations: (1) Managers characteristics and group dynamics; (2) Internal aspects of an organisation and (3) environmental/external factors. (Papadakis & Lioukas, 1998; Elbanna & Child, 2007) further elaborated on the factors i.e. decision-specific characteristic perspective; strategic or management choice perspective; environmental determinism perspective; firm characteristics perspective. (Refer Annexure A).

2.2.2.1. Decision-specific characteristics perspective

Dean and Sharfman (1993) posit that individuals making decisions, i.e. decision-makers, consider both the ‘benefits’ as well as the ‘costs’ of the decisions being made. The nature of the decision itself is a primary factor determining the rationality of strategic decision-making. Similar problems will be interpreted differently by individuals based on whether they are from the same or from different organisations as well as from smaller or larger organisations (Jansen, et al., 2013). According to Sibony, Lovallo and Powell (2017), decisions taken by organisations stem from ‘’a range of socio-cultural and behavioural forces’’ (p.8) and not from a specific individual’s bias nor from a group of individuals’ biases and it is key for executives to align the strategic decisions to the organisational objectives to limit the biases disturbing organisations decision-making (Dutton, 1993).

Likewise, on an individual basis the level of familiarity of the decision determines the framing thereof (Dutton, 1993). As an example, if you are an accountant and are framed with an accounting related strategic issue, you will automatically process the issue and provide little thought when giving a solution, which will be different to individual's familiar with a marketing background for instance. Shepherd and Rudd (2014) have identified characteristics such as 'decision matter, uncertainty, motive, importance and time pressure' (p.349) that were acknowledged in previous strategic decision-specific reviews. The factor of the nature of the decision itself seems to be the one characteristic that is most significant to the rationality of the strategic decision—making process (Shepherd & Rudd, 2014).

2.2.2.2. Strategic or management choice perspective

The second key determinant of strategic decision-making is the managerial decision-making competence (Papadakis & Lioukas, 1998). The strategic issue diagnosis is especially important at the 'upper echelon' of the organisation, i.e. top management (Dutton, 1993; Elbanna & Child (2007). Lunenburg (2011) disagrees somewhat and suggests that management are not the only individuals to make strategic decisions, but the responsibility lies with all individuals within the organisation. However Drucker (2009) states that "most discussions of decision-making assume that only senior executives make decisions. [...] This is a dangerous mistake. [...] Making sound decisions is a crucial skill at every level in the organisation" (p.27). Harrison (1995) agrees to an extent but makes reference to the fact that the most important strategic decisions happen at the top of the organisation which then impacts the lesser decisions that are made at the lower levels of the organisation, i.e. if the decisions at the top are ineffective, this will cause the lower level decisions to be ineffective as well. Baer et al. (2012) similarly posited that strategic challenges are the responsibility, and are managed by multiple members of an organisation. However, decision makers need to select a single strategy as there are resources that need to be allocated (Smith, 2014).

From this we can infer that although there are differing views as to who makes strategic decisions in an organisation, the decisions need to be made to help the organisation allocate resources effectively.

2.2.2.3. Environmental determinism perspective

Environmental determinism speaks to managers adapting their strategic decision-making to the environment in which they are accustomed to (Papadakis & Lioukas, 1998). Strategic decisions made within the context of environmental threats are more likely to be rational as the consequences of them not being, could lead to disastrous outcomes (Fredrickson, 1985). There are conflicting views within literature on whether the type of environment plays a role in rational strategic decisions being made (Papadakis & Lioukas, 1998). However Fredrickson (1985) hypothesize that the rationality of decisions within a context of environmental threats and opportunities definitively have different effects on strategic decisions.

Hannan and Freeman (1977) posit that managers play a massive role, through their decisions taken, in the way an organisation is affected and that strong managers have the ability and know-how to guide their organisations through turbulant environmental times, with little to know changes to how the organisation is structured. The necessity of a good decision, especially in a threatenining competitive environment, due to the catastrophic consequences of such a decision, is critical to any organisation (Dean & Sharfman, 1993) and two factors that affect rational strategic decisions being made in a competitive environment is time and available resources (Dean & Sharfman, 1993). Firm survival depends on how well the environmental factors are managed, as well as the skills and decisions taken by the decision makers (Mackay & Chia, 2013). According to Shepherd and Rudd (2014), there are challenges to effective strategic decision-making such as ‘environmental hostility, velocity, dynamism, instability, munificence and uncertainty’ (p.352).

2.2.2.4. Firm characteristics perspective

A fourth factor that determines strategic decision-making rationality include firm characteristics which speak to the size, performance, internal systems and controlling structures (Papadakis & Lioukas, 1998, p.118). ‘Structure, power distribution and past strategies’ (Elbanna & Child, 2007), slack resources and planning formality (Shepherd & Rudd, 2014) was identified as further factors of firm characteristics that has an effect on strategic decision-making. A firm specific characteristic is not only internal but a factor, such as changes to a government policy, affects the firm and therefore the decisions undertaken (Blake & Moschieri, 2016).

2.2.2.5. Conclusion

Given the various factors that determine the strategic decision-making process, and the fact that management competence and firm controls are significant in the success of strategic decisions, it is important to understand how a risk culture, that emerges in the organisation, determines strategic decision-making. As noted, risk and uncertainty play a key role in strategic decisions made and sits mainly within the environmental determinism perspective.

Risk is inherent in strategic decision-making and organisations require effective risk management to survive. Although the concept of environmental determinism speaks to uncertainty in strategic decisions, we still do not know what role risk plays in strategic decision-making. A more in depth understanding of risk culture will answer questions about how it fits into the model of the determinants of strategic decision-making. In order to understand this link we first need to discuss risk management and the fit with risk culture. We will then identify what risk culture is and the role of risk culture in strategic decision-making.

2.4. Risk Management

Risk culture is a key element of the risk management process. According to the IRM it needs to be entrenched throughout the organisation to minimise risk and uncertainty and to assist in better strategic decision (Institute of Risk Management, 2012). However, how this should take place has not yet been examined in literature. The external environment is constantly changing, even more since the advent of globalization… a long time ago, and therefore organisations face increased risk with tougher strategic decisions ahead (Harvey, Fisher, Mcphail, & Moeller, 2009).

Risk management is the culture, processes and resources organisations direct to aid in its management, and create possible opportunities (Bromiley, McShane, Nair, & Rustambekov, 2015). As seen in the definition itself, culture plays a pivotal role in the risk management process which will be explored later in the research document.

The next part of the literature will identify what risk management is, the importance of risk management and how risk culture fits into risk management. It has also been identified that Enterprise Risk Management (ERM), which is the processes and methods used by organisations to manage risks, has become a key part of governance within organisations, with its richness of guidelines and standards (Mikes & Kaplan, 2013). Cain and McKeon (2016) state that the propensity for bearing risk is a difficult feat to measure empirically but with risk management budgeting, planning and strategy processes, can be done more appropriately, ensuring an organisations future sustainability (Power, 2009).

There is also a direct correlation between management being incentivised to take risks and an increase in risk taking, which was identified as one of the causes of the most recent financial crises (Calomiris & Carlson, 2016). If an organisation can identify, assess and evaluate risk and then incorporate mitigations to reduce uncertainty risk, the potential loss to the organisation will be greatly reduced (Choi, et al., 2016). There is a definate change since Clarke and Varma (1999), identified risk management to be a serious matter as a result of globalization and the ongoing pursuit for increased wealth and returns all those many years ago. Businesses are faced with continuous technological changes, declining product lifecycles, new trends in the market and environmental uncertainty (Choi, et al., 2016).

Enterprise risk management (ERM) is said to be the process and practise used by many organisations in the way risk is being managed (Arena, Arnaboldi, & Azzone, 2010) . With the ever-changing environment, organisations are required to be flexible and agile, with a large number adopting proactive approaches to risk management, and a large proportion of them implementing ERM as a tool to design their risk management process around (Mikes & Kaplan, 2013; Sax & Torp, 2015). ERM also suggests that organisations need to manage risks comprehensively and not look at each one independently (Bromiley, et al., 2015).

Power (2009) points out poignant flaws in ERM such as the singular organisational risk appetite not being sufficient for a large organisation and a struggle of identifying critical risks due to the ineptness of ERM in holding people accountable. According to Bromiley et al. (2015), there are many authors that seem to disagree on what ERM is, and this has lead certain individuals to see risk as *independent* of organisational objectives and those that see risk as part of the *achievment* of organisational objectives as well as another distiction between those who identify risk as something to be *mitigated* and those who identify risk as an impending *opportunity*.

As highlighted above, ERM being defined by Arena et al. (2010) as the process and practise used by many organisations in the way risk is being managed, the effectiveness of ERM has been questioned by researchers, on whether the practice works appropriately in organisations. Many of the organisation apply ERM as their preferred method and ERM is linked to integrated risk management which aids in efficiency of capital usage, coherent insurance strategies and the enhanced business financial decision-making (Power, 2009). Wood (2017) has suggested that for a business to minimise risk and take advantage of any opportunities, there needs to be a strong enterprise risk management (ERM) framework which includes a strong risk culture.

An extensive investigation into risk management reveals the following: (1) Risk management is a mitigation process that should be explicitly related to objectives and sub-objectives of an organisation, (2) The company must design mitigating controls to keep the residual risk of the organisation within the risk appetite and tolerance levels, (3) Must provide ongoing monitoring of the process and provide feedback to the right levels of governance within the organisation (Power, 2009). As discussed above, risk culture features as a part of the risk management process and needs to be entrenched to minimise risk and uncertainty in the organisation. The next part of the discussion will feature risk culture and the elements to be considered when identifying suitability of a risk culture in an organisation.

2.4.1 Risk Culture

As long ago as 1999, Clarke and Varma (1999) have identified a key question that management forget to ask which is: “How do we create a risk culture?” In this paper we define risk culture as the shared vision around risk and uncertainty of organisations’ senior leaders and the shared preferences by the executives of a firm as well as the non-executives i.e. board and executive committee members, toward both risk and uncertainty (Pan, et al., 2017) that results from elements of the definition of culture, i.e. “the deep structure of organisations which is rooted in the values, beliefs and assumptions held by organisational members” (p.624) which is created through the interaction of multiple groups of individuals all having their own identities (Denison, 1996). The culture that an organisation adopts will inherently feature a strong risk component, if the organisation so chooses (Ring, et al., 2014). Culture as described by Denison (1996), refers to the Culture in an organisation has a direct effect on firm’s risks as well as on risky decisions made (Li, Griffin, & Yue, 2013).

According to Unterrheiner (2017), an appropriate risk culture is one that is aligned to an organisations strategy, ensures that the approach to risk is followed by all within an organisation and aligns to that of senior executives and the board. So what exactly can a board to to implement a strong risk culture? Risk culture is said to be a difficult concept to consistantly apply across an organisation, however ERM assumes that risk culture can be enforced consistently across different levels of the organisation (Bromiley, et al., 2015). From this we see that the culture of an organisation plays a key role in the mitigation of risks and this leaves another question: How do strategic decision makers inculcate a culture of risk awareness in their decisions made?

The key elements of risk culture according to Tattam (2017) are: (a) risk is required to be understood by all in an organisation; (b) risk management framework needs to align to business; (c) to have an efficient risk management process; (d) risk management should be simple; (e) to recognise and reward good actions; (f) tone at the top is the most critical. Institute of Risk Management (2012) has developed the “Risk Culture Aspects Model” (p. 14), for organisations to consider when assessing the suitability of the risk culture, within which four overarching categories have been identified: tone at the top; governance; competency and decision-making. The model was created by practitioners and minimal academic work around the model was undertaken by Pan et al. (2017).

Within the study undertaken by Pan et al. (2017), the categories per the model, were detailed to understand it from a literary perspective. We expanded on the work already done, as it has limited academic grounding and there is a need to explore whether in practice these dimensions are also recognised. There are similarities between what Tattam (2017) describes as key elements to risk culture and what the Institute of Risk Management (2012) have identified. Both recognize that the ‘tone at the top’ and rewarding of actions are important elements of risk culture. All the constructs per the model are relevant but emphasis will be placed on decision-making as identified by the study.

2.4.1.1. Tone at the Top

There are two key roles that board of directors perform in organisations which are: ‘’monitoring management as representatives of stakeholders of the firm, and advising and providing resources to management to help them make important decisions’’ (Munisi, Hermes, & Randøy, 2014). An organisations risk culture is set by individuals at the leadership end of the firm, i.e. Chief Executive Officer (CEO), executives as well as the non-executive directors and this therefore speaks to the study of individuals making strategic decisions (Pan, et al., 2017). A leader’s ‘risk attitude’ (p, 2330), ‘leadership selection’ (p, 2331) aids in creating a strong risk culture (Pan, et al., 2017) as well as required to exhibit a manner in which they create a safe working environment, which will empower employees, create a situation in which they are comfortable in raising any internal concerns they face, as well as inevitably create a culture in which employees are adept in identifying and reporting risks that could have a detrimental effect on the organisation. (Sax & Torp, 2015).

2.4.1.2. Governance

Institute of Risk Management (2012) make mention of the stringent requirements placed on boards, through corporate governance, to set the tone of the risk culture in the organisation through aligning of the organisations strategies and processes with that of the risk management frameworks and policies. The disclosure of risk is more transparent by organisations that have stronger governance processes and this provides investors with more robust risk information (Elshandidy & Neri, 2015). According to Ring et al. (2016), governance creates an appropriate risk culture whereby information required is produced in a transparent, timely and appropriate manner to the relevant individuals. In the world of banking, a strong corporate governance process will lead to enhanced banking capabilities, with a decrease in debt, increase in cash holding and higher skilled managers (Calomiris & Carlson, 2016).

Governance is a critical factor in risk management. It is also important to note that any ERM approach requires 'governance' as a key activity within the risk process (Mikes & Kaplan, 2013). There are a number of structural changes that can enhance performance within a banking environment such as, the reporting lines of the CRO, the CRO being part of the executive committee as well as the governance processes, including risk and audit committees (Aebi, Sabato, & Schmid, 2011) and the financial policies implemented, the risk management and governance process, i.e. boards and committees, will have a major impact if not implemented correctly (Erkens, Hung, & Matos, 2012). The point these authors are trying to make is the need for the governance process, as well as the risk management process, to be adhered to or or it could lead to serious reprecussions for the organisation.

2.4.1.3. Competency

Having the correct individuals, with the correct competencies (experience and qualifications) in the correct positions is a critical component of making the correct decisions and driving the required culture. Mikes and Kaplan (2013) have identified biases such as availability, confirmation and anchoring, that affect the risk decisions made by individuals within an organisation. With the added pressures of constrained resources which limit the competence around good decision-making, certain risks are overlooked which could have adverse effects on the risk management process and the organisation. The results of studies done by Wiseman and Bromiley (1996); Clarke and Varma (1999) suggest that a decline or loss in key resources, such as knowledgeable and skilled individuals will lead to a large decrease in performance and an increase in risk within the organisation.

Therefore, by merely having a risk management department or a chief risk officer (CRO), there is no guarantee that the risk function will have the essential support of the CEO and board to encourage role out of risk related processes and adequately provide resources and leadership to mitigate the primary risks identified (Mikes & Kaplan, 2013). By individuals merely being given titles, not having the relevant expertise and not being given the necessary authority to perform their job, risk culture will not be properly embedded in the organisation.

2.4.1.4. Decision

According to Ring et al. (2014), “decision-making is linked to information flows in the sense that it seeks to confirm risk decisions are informed decisions” (p.368). This leaves another question on how can risk information be used to improve strategic decisions? Risk culture can either have a positive or negative impact on an organisation’s decision-making, if it allows processes to take place which are not within the organisation’s policies and procedures (Institute of Risk Management, 2012). The reliability of risk decisions made in an organisation stems from a strong and well managed enterprise-wide risk management process (Ring, et al., 2014) and a positive ERM process with a strong risk culture (Wood, 2017).

According to Goerlandt and Montewka (2015), there is a sure link between decision-making and risk analysis. In order for an organisation to make proper risk informed decisions, a thorough process needs to be followed which entails two parts: ‘an analytical evaluation of the situation’ which deals with the risk assessment of the situation and ‘deliberative group exercise’ which entails decision makers discussing and coming to a consensus on the issues raised (Zio & Pedroni, 2012).

2.5. Conclusion

The discussion highlights the importance of risk management and in essence risk culture for organisations. The downfall of many organisations are said to have been borne from poor risk management processes and a weak risk culture (Clarke & Varma, 1999) and the tone set at the top has a strong bearing on the success of the organisation (Pan, et al., 2017). The governance processes and the resources allocated are also key to building a strong risk process and risk culture. Decision-making stems from individuals at the ‘upper echelon’ of the organisation (Elbanna & Child, 2007) which links back to the tone for risk culture, as identified by (Pan, et al., 2017). As decision features as part of the risk culture model and literature backs up the importance of this construct, this shows that a strong risk culture can assist in better decision-making by an organisation. This study therefore seeks to expand our understanding of both risk culture and strategic decision making by answering the research question: What is the role of risk culture in rational strategic decision-making?

CHAPTER 4. RESEARCH METHODOLOGY

4.1. Research Design

The philosophy underpinning the study is Interpretivism in which the human element was an integral part of the research and the philosophy relates to the study of social phenomena in their natural environment (Saunders & Lewis, 2012). This study followed a qualitative, inductive design in order to clarify what is not understood (Strauss & Corbin, 1998) and to answer the question of what is the role of risk culture in rational strategic decision-making. Woiceshyn (2009) posits that decision-makers, decisions are guided by their past experiences, relevant knowledge gained and guiding principles and therefore the individuals selected within the qualitative sample were diverse in industry, organisational position and with different role specific decision-making requirements. The base of the sample selection however was the motor industry. This diversity allows for richer data to be collected, from a wider spectrum of audience, due to the motor industry being used as a base for sample selection. An advantage of including a more diverse sample is the potential for greater replicability across different industries.

An inductive approach was followed, as risk culture in strategic-decision making is underexplored and current theory did not provide adequate grounds for hypothesis development (Kownatzki, Walter, Floyd, & Lechner, 2013) as well as the question seeking a more in depth view rather than to show links. The research followed a bottom up approach to developing theory (Saunders & Lewis, 2012). This entailed interviewing decision makers from different executive committees within the automotive industry, collecting the necessary data, sifting through this data and developing the conclusions and theory based on this rich data.

A mono method was used due to a single data technique being required (Saunders, Lewis & Thornhill, 2009). Interviews were conducted on a one on one basis with the decision makers in organisations within the automotive industry. Explorative research was done as the research topic, i.e. role of risk culture in strategic decision-making, is not understood clearly and the researcher requires a better understanding of the explored situation (Saunders & Lewis, 2012). Interviews provided new insights into the topic and a better understanding of the relevant study (Saunders & Lewis, 2012).

A semi-structured interview process was followed to gather data that can be qualitatively analysed as well the as the requirements for the interviewee to explain and build on his responses (Saunders, et al., 2009). Based on what was identified from the research, the researcher built a new model to understand the role risk culture plays in strategic decision-making. A cross-sectional study was performed due to both time constraints as well as only having access to the decision makers at a point in time. The research also pegs itself towards a cross-sectional study due to the nature of the information required and the output the interviewee is likely to provide as well as the data being unlikely to differ from the interviewees' previous response around the topic in question. Probing questions around how the individual perceives the state of the current organisational risk culture to be, within the automotive industry, and what kind of effect does this then have on the decision-making regarding large projects, capital expenditure, acquisitions, etc. was understood.

Each participant was adequately informed of the nature of the research before-hand, via email, telephone and/ or face to face discussions. This allowed the participants to be adequately prepared for the discussion and provided richer and more thought about data, to form the basis of the conclusion and findings. The discussion took place at a location and time, which best fitted the interviewee's schedule, so as to create a sense of comfort and ease. Telephone and email correspondences were used in order to set up said interviews and the location was set at the interviewee's work place or a place chosen by them. Confidentiality was offered to all individuals that were part of the interview process, through a letter allowing him/ her to exit the interview at any point in time. The option to exit the interview at any time was also afforded to every individual at the start of the interview, however none of them accepted and all the interviews continued to its conclusion.

4.2. Population

According to Polit and Hungler (1999), a population is a consolidation of all items that are the main focus of a study. The population of the study must be chosen prudently to ensure 'trustworthiness' and the basis of the study (Yin, 2011). The population of this study is decision makers, which from the research and the selection process of the sample were individuals at the top of the organisation or executive committee members, as samples, of each of their respective organisations within the automotive industry. In line with the definition set out by Polit and Hungler (1999), population for this study consists of the automotive industry, due to the crucial role the industry plays in the global economy and the uniqueness of the industry due to the inclusion of the entire value chain from raw materials to the disposal of a vehicle (Townsend & Calantone, 2013). The motor industry is not specific to South Africa in that vehicles are mainly manufactured globally and therefore global risks play a significant role in the strategic decisions linked to buying, pricing as well as stocking issues. The learnings from this industry can thereafter be replicated to organisations within other industries due to the nature and the overall study.

4.3. Unit of Analysis

In this study the unit of analysis to be used are individuals. Risk culture is defined by Pan et al. (2017), as the commonality in risk and uncertainty preferences of organisations senior leaders. Decision-making is one of the most important of all management activities in an organisation and key for its operations (Ejimabo, 2015). Both risk culture and decision-making have the common theme of management, more so senior management embedded in it. These individuals are therefore those that make strategic decisions within an organisation and the research therefore focussed on individuals at an executive committee level.

4.4. Sampling Method and Size

The sample or subgroup of the population was a handful of decision makers or senior management within the automotive industry (Saunders & Lewis, 2012). To be able to answer the research question and meet the research objectives, a suitable technique needed to be applied and research method used. The two sampling techniques that could have been used, i.e. non-probability and probability sampling. Non-probability was identified as the correct research technique due to not having a complete list of the population and selecting individuals based on a convenience method (Saunders & Lewis, 2012).

The study required non-probability, purposive sampling to be done to target specific individuals within the strategic decision-making domain and this method was best able to answer the research question posed (Saunders & Lewis, 2012). This entailed contacting individuals who make strategic decisions in an organisation, i.e. top management within the motor industry, in order to identify whether they wanted to be part of the study and interviewing those that accepted the invite (Saunders, et al., 2009).

Accessibility and availability was an important factor in the selection process, due to the time constraints of obtaining the relevant data and completing the study. The individuals required for the study have very busy work schedules and in certain instances required a change of the dates and times of the interviews. There were also others that had to cancel as there was a last minute issue that affected the interview from taking place and thereafter the meeting could not be rescheduled. The researcher however, managed to obtain a sufficient sample to produce good quality data for understanding the topic being researched

The requirement to understand the role of risk culture required a sample big enough to reach saturation. According to Fusch and Ness (2015), a researcher will reach data saturation when there is sufficient information to re-perform the study and little to no new information can be obtained from the sample selected. Saunders and Lewis (2012), describe saturation as the point where additional data collection does not provide new information into the research questions and research objectives. In this study, due to the heterogeneous population, the sample size in accordance with Saunders and Lewis, (2012) should have been between 15 and 18 individuals but saturation was reached at 14 individuals within the research undertaken. These individuals were selected from organisations within the automotive industry and across different roles within these specific organisations to get a well-rounded view and richness in the data.

4.5 Measurement Instrument

In order to answer the research question, the study relied on semi structured interviews and the ability to extract richness in the information and gain theoretical insights (Saunders, et al., 2009). The interview process was in the form of researcher-driven, face to face interviews with the measurement instrument used, a set of interview questions that was derived out of the literature review performed. The reason a semi-structured approach was followed was to allow for probing of the information provided as well as for further interrogation of the answers given, creating a space in which the manager would provide better and clearer insight into the interviewees thinking without leading them to the answers (Saunders & Lewis, 2012). The research question used in the interview process was explored by asking individuals in top management positions, sitting on their executive committees, as they are regarded as strategic decision makers in the organisation (Dimitratos, et al., 2011). The questions were sent to the interviewee's before-hand in order for them to prepare and allow for rich data to be given within the interviews. The set of questions as developed from the literature reviewed is set out below:

1. Why is risk culture so important?
2. What can the board do to implement a strong risk culture?

3. How do strategic decision makers inculcate a culture of risk awareness in decisions made?
4. What do management need to do to eliminate the risk element in a strategic decision?
5. How can risk information be used to improve strategic decisions?

The measuring instrument above, measured accurately the research and sub-research questions that were posed. A pilot study, with one strategic decision maker, was undertaken to identify whether any of the questions were leading, whether the questions were properly and correctly understood and most importantly, whether the questions provided the researcher with the requisite data to complete the study (Saunders & Lewis, 2012). The pilot was also performed to identify any issues with the audio recorder which was an important component of the interview process. There were two audio devices used in the interview process, which the interviewees were well aware off, and therefore there was no issue with obtaining the data from the interviews.

An interview schedule was created and the interviews were set up during July and August 2018 to allow for sufficient time for completion of the research study. During the interview, it was key for the researcher to build trust, give the relevant respect to the interviewee and listen intently to the responses provided (Saunders & Lewis, 2012).

4.6. Data Gathering Process

Saunders et al. (2009) make mention of the likelihood of using non-standardized research interviews in an exploratory study. As stated earlier in the document, the data collection method for this study was semi-structured interviews which was done on a one on one basis. Confidentially was confirmed with all interviewees at the start of the interview, as this was key for the credibility and trustworthiness of the research study. The interviews were focused and lasted up to 35 minutes, depending on the depth of the interviewee’s response and the knowledge they had regarding the study. Salient points from the conversation were written down and audio recordings were used.

Salient and key points were jotted down in written format by the researcher, which were only the important, relevant points required to be written. The bulk of the data was collected through two audio devices, in case of mishaps occurring. The interviews, with the necessary permission from the interviewees were audio recorded, to enable better data gathering as well as allow the researcher the ability to comprehend fully what is being said instead of requiring the need to take written notes. This was thereafter transcribed into written form enabling the researcher to gather sufficient data to complete the study.

4.7. Data Analysis Approach

Due to the qualitative, interpretivist and inductive nature of the study undertaken, a thematic analysis approach was followed in order to analyse the data collected which also provided the findings that assisted in the completion of the study. Alhojailan, (2012); Braun and Clarke (2006) define a thematic analysis as a qualitative analysis that will create themes from the data and add that the thematic analysis approach is considered the most suitable method for any qualitative research using interpretations as well as understanding current practices by individuals.

Braun and Clarke (2006) point out the importance of familiarising themselves with the data in order to transcribe the information to written form. In analysing qualitative data, after an interview, it is important to continually begin to understand what messages and key themes have been conveyed by the interviewees which will assist in understanding later interviews as well as when saturation is reached (Saunders & Lewis, 2012). The transcription of the data was outsourced to a 3rd party, with a non-disclosure agreement signed, to ensure confidentiality of the data would be kept intact. The transcribed information was then used to perform the thematic analysis, which involved analysing of the information, coding and organizing of the data and finding appropriate themes.

In analysing the data a manual analysis technique was used which involved utilizing the transcriptions and coding in terms of colour and tick legends. (Saunders & Lewis, 2012). As described earlier, audio files were transcribed into a written format, by a 3rd party, in order to obtain sufficient data and findings to complete the study. The researcher planned to transcribe all the information, but due to the time constraints of the research deadline, the researcher enlisted the assistance of the 3rd party to perform the transcribing.

A six stage process was followed which inherently progressed from familiarizing yourself with the initial raw data to a final report write up, to allow for a more accurate analysis from the data gathered (Braun & Clarke, 2006):

The first stage of data analysis involved familiarizing and gaining a deep understanding of the data. This entailed sifting through the transcribed notes and identifying information from the 14 interviews that fit within the study. *The second stage* involved identifying ‘first order codes' (Figure 1) by understanding what the interviewees were saying that fits within the context of the study and within the probing questions. The researcher coded using words and short descriptions. With the use of the Institute of Risk Management, (2012) model within the study, the researcher identified codes that linked to the model within the 'first order codes' which were used in understanding the fit within the ambit of the research. In utilizing current literature and grouping thematically, the researcher found 38 first order codes as shown in Figure 1. There was back and forth to the transcribed documents to make sure that all the relevant information fit within the 'first order codes' appropriately. *The third stage* involved searching for themes from the 'second order codes', again using words and short descriptions (Figure 1). *The fourth stage* entailed properly reviewing the themes to the second order codes and thereafter back to the first order codes for completeness. *The fifth stage* entailed creating the themes based on the continuous analysis performed in understanding the data and the codes that were created. The themes created allowed us to gain deeper insight into the role of risk culture is in strategic decision-making. *The sixth stage* of the analysis lead to the formation of a model. The researcher then used existing theory to make sure that the constructs identified showed relationships with each other in terms of the study undertaken.

4.8. Validity and Reliability

There are multiple factors that are set out to complete a research and two of the important ones are the consideration of the validity and the reliability of the data intended to be used (Saunders, et al., 2009). A relevant principle of qualitative research is credibility and for the researcher to ask himself whether the logic and claims underpinning the study were correctly formulated (Shurink, 2009). Reliability is based on whether the techniques used will result in consistent findings (Saunders, et al., 2009). Based on the research questions posed, the answers received from the interviewees yielded consistent data as the research questions did not leave room for interpretation. The semi structured interviews also allowed for further discussion but within the context of the research questions

Saunders et al. (2009) expresses the validity of research findings to the ''how do I know'' test and whether the evidence obtained and finding put forth will stand up to the ''closest scrutiny'' (p.156) and adds that researchers cannot fully know but can reduce the possibility of getting it wrong. During the selection process of the Interviewees, cognisance was taken in ensuring the sample is representative of the population which ensured consistency was maintained (Saunders & Lewis, 2012).

According to Papadakis and Lioukas (1998) there are inherent limitations on participant recall in the study of decision-making which can be reduced through using multiple participants. However, obtaining a willing and interested set of participants in the study allows for validity and reliability in the of the responses and data received (Papadakis & Lioukas, 1998). The individuals that were interviewed for the study are seasoned, experienced individuals and due to the relationship that the researcher had with the individuals, as well as the interviewee's relationships with the other interviewees, they were willing to share the necessary information which allowed the researcher to obtain rich, valid and reliable data.

4.9. Trustworthiness

To address the issues around research quality, we followed the method utilized by Beverland, Kates, Lindgreen and Chung (2010); Smith (2014) which apply the following cirteria: confirmability, credibility, dependability, fit, generality, integrity transferability and understanding:

The researcher conducted interviews with knowledgeable, experienced, executive committee members who make strategic decisions within their respective organisations and who help steer the organisation forward. This allowed neutrality in the research findings and ensured *confirmability*. There was a supervisor who oversaw the research being conducted and who asked for relevant changes to be made. The inductive approach followed helped to understand the data analysis and, assisted by the literature, aided in refining the findings. As mentioned above, confidentiality was confirmed with all interviewees; this was key for the *credibility* and trustworthiness of the research study. All the individuals interviewed were on their respective executive committees and therefore the information provided is directly from credible, experienced sources. The interviewees were from diverse backgrounds in terms of experience and their positions held within the organisation. The data are therefore not one-dimensional, which allows *dependability* of the study as well as the ability to obtain a broader perspective around the topics constructs. We identified key findings that assisted in better comprehending the *fit* of the research topic as well as other information that spoke to the literature gained on the study. Saturation was reached at 14 interviews. Due to this, as well as the length and depth of each interview, the researcher was able to extract good, in-depth themes regarding the role that risk culture plays in strategic decision-making. Decision-making relates to decision theory and risk within the ambit of prospect theory. Therefore, the theories identified, based on the study conducted, fit the *generality* of the research. The sub-research questions were ethically correct and non-threatening to the interviewee and the questions were answered openly and without being filtered, which allowed for *integrity* of the study. Risk culture, as provided by the literature, is important for all organisations. This ensures the *transferability* of the results and learnings to be shared. Although the sample for the research was limited to the automotive industry, the standard set of research questions posed to the interviewees and the standardised interview protocol implemented could easily be replicated to other individuals within other sectors and organisations. The individuals interviewed were all senior members of the organisation and continuously dealt with risk and strategic decisions. The *understanding* of the study and the questions posed were received by all individuals and they were allowed to freely express themselves in terms of the answers given. The understanding of the study and the questions posed was received by all individuals and they were allowed to freely express themselves in terms of the answers given (Refer Table 1).

4.9.1 Table 1 - Characteristics of the Informants

#	REPRESENTATIVE	PART OF MOTOR INDUSTRY	AGE	YEARS OF EXPERIENCE	YEARS OF EXPERIENCE: SENIOR MANAGEMENT
1	CE1	Motor industry head office	42	20	15
2	CEO1	Motor retail	58	37	33
3	CE2	Motor industry head office	63	38	25
4	CIARSO	Motor industry head office	46	26	15
5	CIO	Motor industry head office	56	33	25
6	CEO2	Motor rental	42	18	12
7	CEO3	Original equipment manufacturer	43	20	14
8	CEO4	Motor financial services	45	22	10
9	CPO	Motor industry head office	47	25	20
10	CEO5	Original equipment manufacturer	42	20	15
11	STRY	Original equipment manufacturer	47	25	15
12	CEO6	Original equipment manufacturer	46	17	6
13	CEO7	Motor parts	59	38	30
14	CEO8	Original equipment manufacturer	59	36	25

* CEO = Chief Executive Officer; CE = Commercial Executive; STRY = Head of Strategy; CPO = Chief People's Officer; CIARSO = Chief Internal Audit, Risk and Sustainability Officer

4.10. Research Limitations

The study undertaken began to shed light on the role that risk culture plays in strategic decision-making. However, all studies come with certain limitations (Saunders, et al., 2009). The study at hand will have the following limitations:

1) Risk culture and decision-making at a top level are both important factors in all organisations around the world. Limiting it to the automotive industry in South Africa due to time and resource constraints is a limitation and hopefully this study can be done on a wider scale within a research organisation that has the time and resources to do so.
2) The sample of individuals selected in the motor industry is mostly Gauteng. This is restrictive due to the wide footprint of the motor industry outside of Gauteng. However this is also helped by the fact that most head offices are based in Gauteng within the automotive industry.
3) Rational decision-making was used however there are other factors that comprise decision-making. The narrowing of decision-making was necessary to understand an element of it but future research can be done on widening decision-making, by including intuition, and measuring this against risk culture.
4) The Thematic analysis performed to analyse data will be too straight forward and not require similar academic knowledge like other approaches required (Braun & Clarke, 2006).
5) The method chosen being non-probability, purposive sampling leading to the researcher possibly excluding important strategic decision makers at the specific companies where interviews were undertaken which could have led to misrepresentations in the conclusions made.
6) The communication style between interviewer and interviewee could possibly have had an effect on the interpretation of the responses
7) The interviewees were selected from companied that are decentralized in nature and it is said that decision-making differs between centralized and decentralized organisations As cited by Wong, Ormiston and Tetlock (2011), an important variable that affects decision-making is decentralization. According to Kownatzki et al. (2013), strategy making in Strategic business units (SBU), in this specific context relates to decentralized business units, are also linked to slower decision-making processes. Further research can be done on a split of companies that have centralized and decentralized reporting structures to understand whether there are differences in the role risk culture plays in strategic decisions.

REFERENCES

Aebi, V., Sabato, G., & Schmid, M. (2011). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, 1-14.

Alhojailan, M. (2012). Thematic analysis: A critical review of its process and evaluation. *West East Journal of Social Sciences*, 39-47.

Arena, M., Arnaboldi, M., & Azzone, G. (2010). The organizational dynamics of enterprise risk management. *Accounting, Organizations and Society, 35*(7), 659-675.

Baer, M., Dirks, K. T., & Nickerson, J. A. (2012). Microfoundations of strategic problem formulation. *Strategic Management Journal*, *34*(2), 197-214

Beverland, M. B., Kates, S. M., Lindgreen, A., & Chung, E. (2010). Exploring consumer conflict management *Academy of Marketing Science, 38*(5), 617-633.

Blake, D. J., & Moschieri, C. (2016). Policy risk, strategic decisions and contagion effects: Firm specific considerations. *Strategic Management Journal*, *38*(3), 732-750. doi:10.1002/smj.2509

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77-101.

Bromiley, P., McShane, M., Nair, A., & Rustambekov, E. (2015). Enterprise risk management: Review, critique, and research directions. *Long Range Planning*, *48*(4), 265-276.

Brunswicker, S., & Vanhaverbeke, W. (2015). Open innovation in small and medium-sized enterprises (SMEs): External knowledge sourcing strategies and internal organizational facilitators. *Journal of Small Business Management, 53*(4), 1241-1263.

Cagliano, A. C., Grimaldi, S., & Rafele, C. (2014). Choosing project risk management techniques. A theoretical framework. *Journal of risk research, 18(2)*, 232-248. doi:https://doi.org/10.1080/13669877.2014.896398

Cain, M. D., & McKeon, S. B. (2016). CEO personal risk-taking and corporate policies. *Journal of Financial and Quantitative Analysis, 51*(1), 139-164.

Calomiris, C. W., & Carlson, M. (2016). Corporate governance and risk management at unprotected banks: National banks in the 1890s. *Journal of Financial Economics, 119*(3), 512-532.

Choi, Y., Ye, X., Zhao, L., & Luo, A. C. (2016). Optimizing enterprise risk management: A literature review and critical analysis of the work of Wu and Olson. *Annals of Operations Research, 237*(1-2), 281-300.

Clark, C., & Krentz, S. (2004). Avoiding the pitfalls of strategic planning. *Healthcare Financial Management, 60*(11), 63-68.

Clarke, C., & Varma, S. (1999). Strategic risk management: The new competitive edge. *Long Range Planning, 32*(4), 414-424.

Dean, J. W., & Sharfman, M. P. (1993). Procedural rationality in the strategic decision-making process. *Journal of Management Studies, 30*(4), 587-610.

Denison, D. R. (1996). What is the difference between organizational culture and organizational climate: A native's point of view on a decade of paradigm wars. *Academy of Management Review, 21*(3), 619-654.

Dibrell, C., Craig, J. B., & Neubaum, D. O. (2013). Linking the formal strategic planning process, planning flexibility, and innovativeness to firm performance. *Journal of Business Research*, *67*(9), 2000-2007. doi:10.1016/j.jbusres.2013.10.011

Dimitratos, P., Petrou, A., Plakoyiannaki, E., & Johnson, J. E. (2011). Strategic decision-making processes in internationalization: Does national culture of the focal firm matter? *Journal of World Business, 46*(2), 194-204.

Drucker, P. F. (2009). *The effective executive.* New York: HarperCollins.

Drucker, P. F. (2010). *The practice of management.* New York: HarperCollins.

Dutton, J. E. (1993). Interpretations of automoatic: A different view of strategic issue diagnosis. *Journal of Management Studies, 30*(3), 339-357.

Einhorn, H. J., & Hogarth, R. M. (1981). Behavioural decision theory: Processes of judgement and choice. *Annual Review Psychology, 32*(1), 53-88.

Ejimabo, N. O. (2015). The influence of decision making in organizational leadership and management activities. *Journal of Entrepreneurship & Organization Management*, 1-13.

Elbanna, S., & Child, J. (2007). The influence of decision, environmental and firm characteristics on the rationality of strategic decision-making. *Journal of Management Studies*, *44*(4), 561-591.

Elshandidy, T., & Neri, L. (2015). Corporate governance, risk disclosure practices, and market liquidity: Comparative evidence from the UK and Italy. *Corporate Governance: An International Review, 23*(4), 331-356.

Erkens, D. H., Hung, M., & Matos, P. (2012). Corporate governance in the 2007-2008 financial crisis: Evidence from financial institutions worldwide. *Journal of Corporate Finance, 18*(2), 389-411.

Evans, J. S. (2008). Dual-processing accounts of reasoning, judgment, and social cognition. *Annual Review of Psychology, 59*, 255-278. doi:10.1146/annurev.psych.59.103006.093629

Fredrickson, J. W. (1985). Effects of decision motive and organizational performance level on strategic decision processes. *Academy of Management Journal, 28*(4), 821-843.

Fusch, P. I., & Ness, L. R. (2015). *Are we there yet? Data saturation in qualitative research.* Minneapolis: The qualitative report.

Goerlandt, F., & Montewka, J. (2015). Maritime transportation risk analysis: Review and analysis in light of some foundational issues. *Reliability Engineering and System Safety 138*, 115-134.

Grant, R. M. (2003). Strategic planning in a turbulent environment: Evidence from the oil majors. *Strategic Management Journal, 24*(6) 491-517.

Hannan, M. T., & Freeman, J. (1977). The population ecology of organizations. *American Journal of Sociology, 82(5)*, 929-964.

Harrison, F. E. (1995). *The managerial decision-making process* (4th ed.). Boston, MA: Houghton Mifflin.

Harvey, M., Fisher, R., McPhail, R., & Moeller, M. (2009). Globalization and its impact on global managers' decision processes. *Human Resource Development International, 12*(4), 353-370.

Institute of Risk Management. (2012). *Risk culture: Under the microscope guidance for boards.* London: IRM.

Jansen, R. J., Curseu, P. L., Vermeulen, P. A., Geurts, J. L., & Gibcus, P. (2013). Information processing and strategic decision-making in small and medium-sized enterprises: The role of human and social capital in attaining decision effectiveness. *International Small Business Journal 31*(2), 192-216.

Jarzabkowski, P., & Kaplan, S. (2015). Strategy tools-in-use: A framework for understanding 'technologies of rationality' in practice. *Strategic Management Journal, 36*(4), 537-558.

Kahneman, D., & Tversky, A. (1984). Choices, values and frames. *American Psychologist, 39*(4), 341-350.

Kahneman, D., & Tversky, A. (2013). Prospect theory: An analysis of decision under risk. In L. C. MacLean, & W. T. Ziemba, *Handbook of the fundamentals of financial decision-making* (pp. 99-127). Kackensack, N.J.: World Scientific. doi:https://doi.org/10.1142/9789814417358_0006

Kaplan, S., & Orlikowski, W. J. (2013). Temporal work in strategy making. *Organization Science, 24*(4), 965-995.

Kaufmann, L., Meschnig, G., & Reimann, F. (2014). Rational and intuitive decision-making in sourcing teams: Effects on decision outcomes. *Journal of Purchasing & Supply Management 20*, 104-112.

Kownatzki, M., Walter, J., Floyd, S. W., & Lechner, C. (2013). Corporate control and the speed of strategic business unit decision-making. *Academy of Management Journal, 56*(5), 1295-1324.

Kuepper, J. (2017, July 25). *4 factors driving emerging market performance*. Retrieved from The Balance: https://www.thebalance.com/factors-driving-emerging-market-performance-4147205

Li, K., Griffin, D., & Yue, H. (2013). How does culture influence corporate risk-taking? *Journal of Corporate Finance, 23*, 1-22.

Lunenburg, F. C. (2011). Decision making in organizations. *International Journal of Business, Management and Administration*, 1-9.

Mackay, R. B., & Chia, R. (2013). Choice, chance, and unintended consequences in strategic change: A process understanding of the rise and fall of NorthCo Automotive. *Academy of Management Journal, 56*(1), 208-230.

March, J. G., & Shapira, Z. (1987). Managerial perspectives on risk and risk taking. *Management Science, 33*(11), 1404-1418.

Mikes, A., & Kaplan, R. (2013). *Towards a contingency theory of enterprise risk management.* Boston, Mass.: Harvard Business School.

Munisi, G., Hermes, N., & Randøy, T. (2014). Corporate boards and ownership structure: Evidence from Sub-Saharan Africa. *International Business Review, 23*(4) 785-796.

Pan, Y., Siegel, S., & Wang, T. Y. (2017). Corporate risk culture. *Journal of Financial and Quantitative Analysis*, *52*(2), 2327-2367.

Papadakis, V. M., & Lioukas, S. (1998). Strategic decision-making processes: The role of management and context. *Strategic Management Journal, 19*(2*),* 115-147.

Polit, D. F., & Hungler, B. P. (1999). *Nursing Research: Principle and methods.* Philidelphia: JB Lippincott Company.

Power, M. (2009). The risk management of nothing. *Accounting, Organizations and Society*, *34*(6-7), 849-855.

Ring, P. J., Bryce, C., McKinney, R., & Webb, R. (2014). Taking notice of risk culture - the regulator's approach. *Journal of Risk Research*, *19*(3), 364-387.

Sanayei, A., Mousavi, S. F., & Yazdankhah, A. (2010). Group decision-making process for supplier selection with VIKOR under fuzzy environment. *Expert Systems with Applications, 37*(1), 24-30.Saunders, M., & Lewis, P. (2012). *Doing Research in Business and Management.* Pearson.

Saunders, M., & Lewis, P. (2012). *Doing Research in Business and Management.* Pearson.

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for Business Students (5th edition).* Essex: Pearson.

Sax, J., & Torp, S. S. (2015). Speak up! Enhancing risk performance with enterprise risk management, leadership style and employee voice. *Management Decision, 53*(7), 1452-1468.

Shepherd, N. G., & Rudd, J. M. (2014). The influence of context on the strategic decision-making process: A review of the literature. *International Journal of Management Reviews, 16*(3)*,* 340-364.

Shivakumar, R. (2014). How to tell which decisions are strategic. *California Management Review, 56*(3*)*, 78-97.

Shurink, W. (2009). The internal audit as tool to enhance the quality of qualitative research. *Journal of Public Administration, 2*, 788-802.

Sibony, O., Lovallo, D., & Powell, T. C. (2017). Behavioral strategy and the strategic decision architecture of the firm. *California Management Review, 59*(3), 5-21.

Simon, H. A. (1957). *Models of man; social and rational.* Oxford: Wiley.

Simon, H. A. (1959). Theories of decision-making in economics and behavioural science. *The American Economic Review, 49*(3), 253-283.

Simon, H. A. (1987). Making management decisions: The role of intuition and emotion. *Academy of Management Perspectives*, *1*(1), 57-64.

Smith, W. K. (2014). Dynamic decision-making: A model for senior leaders managing strategic paradoxes. *Academy of Management Journal, 57*(6), 1592-1623.

Steele, K., & Stefánsson, H. O. (2016). Decision theory. In E. N. Zalta, (Ed.), *Metaphysics Research Lab*. Stanford, CA: Stanford University.

Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Procedures and techniques for developing grounded theory.* Thousand Oaks, CA: Sage.

Tattam, D. (2017, January 25). *The 6 key elements to creating and maintaining a good risk culture*. Retrieved from Protecht: http://blog.protecht.com.au/key-elements-to-creating-and-maintaining-a-good-risk-culture

Townsend, J. D., & Calantone, R. J. (2013). Evolution and transformation of innovation in the global automotive industry. *Journal of Product Innovation Management*, *3*(1), 4-7.

Unterrheiner, S. (2017, January 10). *The importance of risk culture to your risk management structure*. Retrieved from Gen Re: http://www.genre.com/knowledge/blog/the-importance-of-risk-culture-en.html

Wiseman, R. M., & Bromiley, P. (1996). Toward a model of risk in declining organizations: An empirical examination of risk, performance and decline. *Organization Science, 7*(5*)*, 524-543.

Woiceshyn, J. (2009). Lessons from "good minds": How CEOs use intuition, analysis and guiding principles to make strategic decisions. *Long Range Planning, 42*(3), 298-319.

Wong, E. M., Ormiston, M. E., & Tetlock, P. E. (2011). The effects of top management team integrative complexity and decentralized decision making on corporate social performance. *Academy of Management Journal*, 1207-1228.

Wood, A. (2017, May 11). *What is risk culture?* Retrieved from Willis Towers Watson Wire: https://blog.willis.com/2017/05/what-is-risk-culture/

Yin, R. K. (2011). *Qualitative Research from Start to Finish.* New York: The Guilford Press.

Zio, E., & Pedroni, N. (2012). *Risk-informed decision-making processes.* Toulouse, France: Les Cahiers.

ANNEXURES

Annexure A

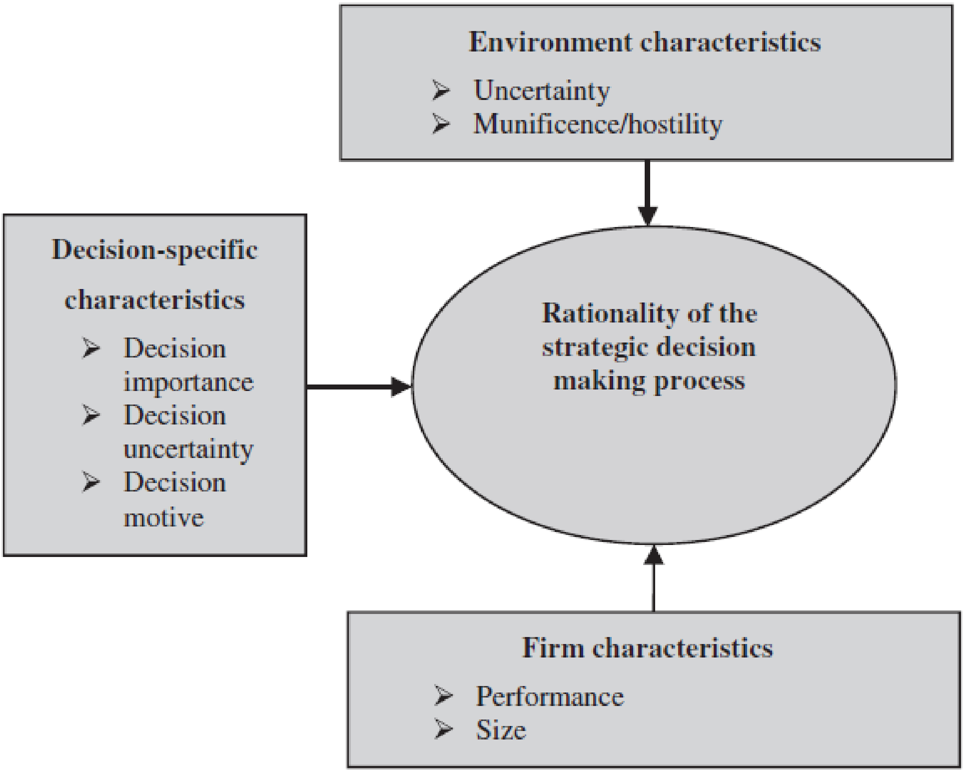

Figure 1. Integrative model of the rationality of the strategic decision-making process (Elbanna & Child, 2007)

Gordon Institute of Business Science
University of Pretoria

INTERVIEW SCHEDULE

Research Title: The role of risk culture in rational strategic decision making

Job title	
Organisation	
Date	
Start time	
End time	

I would like to thank you for taking the time out to meet with me. Your inputs and knowledge in this research are highly appreciated as well.

The research I am undertaking seeks to explore whether a strong risk culture would lead to better strategic decision making.

Below sets out some pertinent information stemming from the research:

1. **Definition of risk culture** - **Risk culture** is the system of values and behaviors present in an organisation that shapes risk decisions of management and employees.
2. **Objective of the research paper / study** - The objective of this study, is to identify the role that risk culture plays in rational strategic decisions being made in organisations. Within the context of the study, decision makers are regarded as rational decision makers and are those that are leaders or top management of an organisation.

3. **How the interview fits into my research –** The interview will be able to provide me with rich data, to conclude on my study, and to understand whether risk culture does in fact play a role in the strategic decisions that are made, by senior individuals of an organisation.

I would encourage you to speak freely as confidentiality will be maintained at all times, including keeping your identity anonymous.

Before commencing the interview, I request you to please sign the consent below. I would also need your approval to use an audio recording device through this interview.

Our interview is expected to last between 45 and 60 minutes, your participation is voluntary and you can withdraw at any time without penalty. In line with standard ethical practice, all data will be kept confidential and will be aggregated for the subsequent data analysis, thus ensuring confidentiality of the data shared during the interview. We ask your permission to record your position as part of the research with the assurance that no link between these details and specific data findings will be discussed at a personal level.

Interview Questions

1. Why is risk culture so important?
2. What can the board do to implement a strong risk culture?
3. How do strategic decision makers inculcate a culture of risk awareness in decisions made?
4. What do management need to do to eliminate the risk element in a strategic decision?
5. How can risk information be used to improve strategic decisions?

Participant Signature ________________________

Date: ______________________________________

Researcher Signature________________________

Date: ______________________________________