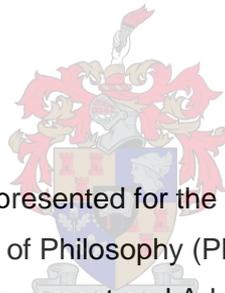


# **An integrated strategy and risk management approach for public universities in South Africa**

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(Business Management and Administration)  
in the Faculty of Economic and Management Sciences  
at Stellenbosch University

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## **Declaration**

By submitting this dissertation electronically, I, Viljoen van der Walt, declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (unless to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third-party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Viljoen van der Walt

December 2017

## Abstract

All organisations must face the uncertainty of both internal and external future factors. These uncertain future challenges are dealt with by formulating and applying a sound business strategy towards realising set objectives, and managing risks. Risk management provides insight into risks and opportunities that need to be managed in support of reaching set objectives. The multi-national Committee of Sponsoring Organisations of the Treadway Commission stipulated that risk management must be applied in strategy. The South African King III Code on Corporate Governance also recommended risk management to be applied as part of the strategy process.

This dissertation focused on risk management as a complementary managerial function, contributing to the quality of strategy formulation. Risk management highlights the risks and opportunities that should be considered during strategy formulation. A review of relevant literature led to the conclusion that risk management process embedded strategy formulation processes are uncommon and sparsely discussed when approached from a strategy formulation point of view. In response, a risk management embedded strategy formulation process was derived from literature.

A comprehensive summary was derived of key role-players responsible for different elements of risk management within an organisation. The literature study also proposed and illustrated the inclusion of risk appetite setting into risk management processes and thus into the proposed risk-embedded strategy formulation process. Risk management as well as strategy formulation frameworks were derived and presented.

The proposed embedded process was tested for acceptability through a questionnaire presented to two independent samples of managerial respondents. The first population was South African universities. The second population was organisations from sectors known for being leaders in the field of risk management. This presented the opportunity for intergroup comparisons between university and non-university respondents. Responses from these two groups were presented by means of descriptive statistics, indicating strong support for the underlying principles of the proposed process. Hypothesis about differences between the two groups were set and formally tested, leading to the conclusion that the two groups shared opinions about the value of the underlying principles of risk embedded strategizing, thus both demonstrating support for the proposed process. However, the data indicated that the application of risk embedded strategizing differed significantly between university and non-university respondents, leading to the conclusion that in terms of the practical application of risk embedded strategies, universities lagged behind non-university best practices.

This study thus reviewed literature, developed and proposed a generic risk management embedded strategy formulation process, utilised a questionnaire to test acceptability of the principles underlying the proposed process, applied statistical methods to compare responses

between university respondents and non-university respondents, and found that universities in South Africa lag behind the selected organisations in practice and should thus benefit from applying the risk management process embedded strategy formulation process as proposed.

**Key words**

Risk management

Risk management process

Risk management process embedded strategy formulation process

Strategy formulation

South African universities

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## List of acronyms and abbreviations

AGB	Association of Governing Boards of Universities and Colleges
ASB	Actuarial Standards Board
BNM	Bank Negara Malaysia (Central Bank of Malaysia)
CAOSCO	China Aviation Oil (Singapore) Corporation Ltd
CEO	Chief Executive Officer
CFO	Chief Financial Officer
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CRO	Chief Risk Officer
DCU	Dublin City University
DETA-Qnd	Queensland Department of Education, Training and Employment
DHET	Department of Higher Education and Training
DICO	Deposit Insurance Corporation of Ontario
EEA	European Environment Agency
ENISA	European Union Agency for Network and Information Security
ERM	Enterprise Risk Management
FSB	Financial Stability Board
GMSI	Global Strategic Management Institute
IERM	Institute of Enterprise Risk Management of Australia
IODSA	Institute of Directors in Southern Africa
IRGC	International Risk Governance Council
ISO	International Standards Organisation
LCAG	Learned, Christiansen, Andrews and Guth
NACUBO	National Association for Colleges and Universities Business Officers
PESTEL	Political-, economic-, social-, technological-, environmental- and legal (factors/considerations)
PESTELS	Political-, economic-, social-, technological-, environmental-, legal and sustainability (factors/considerations)
PSR	<i>troika</i> policy, strategy and resources <i>troika</i>
SCU	Southern Cross University
SPUR	Strategic Planning University Review
SRC	Student Representative Council
UK	United Kingdom
URMIA	University Risk Management and Insurance Association
USA	United States of America
USC	University of Southern California
VRIO	Value, Rarity, Imitability, Organisation (criteria)

# CHAPTER 1

## INTRODUCTION

### 1.1 BACKGROUND

This study is about the complementary relationship between the management functions of strategy formulation and risk management. The focus throughout is on conceptual and empirical links between strategy formulation and risk management, aiming towards enhancing the embedment of the risk management process into the strategy formulation process. These concepts are addressed in more detail in the literature review which follows.

Strategy formulation has been researched since 400 BC. For example, Horwath (2006:1-3) stated that Sun Tsu, a historical Chinese warrior, wrote about strategy as the *Art of War*, while Zhang (2005:20) stated that the English word 'strategy' relates to the ancient Greek word '*strategos*' meaning 'general'. In the very early sources, strategy relates or refers to the military origin of strategy. However, the amount of research has amplified exponentially in response to the increasing complexity of more recent business and economic challenges. Current strategy formulation research also refers to business strategy. Bernstein (1996:301-302) confirmed this increasing need for risk management following "new uncertainties" resulting from international trade volatilities during the 1970s and 1980s. Katsioloudes (2006:599) stated that strategy formulation has made great strides since the early days of "long range planning" which evolved in response to the need for understanding business and behavioural aspects of management. The increasing competitive nature of business, including the internal challenges and external influences on route to strategy realisation, constantly requires business strategy and supporting business functions such as risk management to be researched and defined.

The crafting, implementation and execution of a business strategy are key functions of 21<sup>st</sup> century businesses (Feurer & Chaharbaghi, 1995:38). Successful businesses are constantly refining and reviewing their strategies towards reaching and maintaining a sustainable competitive advantage relative to their competitors. One of the core responsibilities of business executives is to define the organisation's strategic intent and manage the business towards realising the planned strategic outcomes. This responsibility is not restricted to large multi-national corporations, but is also applicable to small businesses, irrespective of whether they are in the public or private sector. South African public universities as large complex institutions also rely on competitive and sound strategies to realise the expectations of their stakeholders.

Strategy can be regarded as the golden thread that aligns all business activities towards a specific outcome. However, as strategy formulation, as a figure of speech, provides the road map to reaching objectives, risk management provides insight into risks and opportunities that need to be managed

in support of reaching objectives. As such, this dissertation focuses on risk management as a complementary managerial function, contributing to the quality of strategy formulation, as it enlightens the risks and opportunities that should be planned complementary to strategy formulation. Uncertainty is a concept relevant to both strategy formulation and risk management. Bechtold (1997:193) proposed that a strategy formulation process is undertaken to overcome the challenges resulting from uncertainty in the international business domain. Management of uncertainty is also a core motive or driver of risk management (Moller, 2011:1). Managing uncertainty is thus one of the underlying factors and driving forces behind both the study fields of strategy formulation and of risk management, as both managerial functions are undertaken in response to uncertainty.

## **1.2 CLARIFICATION OF TERMINOLOGY**

Some terminology is clarified before outlining the research problem.

### **1.2.1 Strategy formulation**

Mintzberg, Ahlstrand and Lampel (1998:934) defined strategy as "...an on-going process to develop and revise future-oriented actions that allow an organisation to achieve its objectives, considering its capabilities, constraints, and the environment in which it operates". This partial definition provides insight into strategy formulation as ongoing process that focuses on objectives, capabilities and constraints within an internal-external business environment. An important part of this definition is that strategy is an ongoing process, and risk management was shown to be a complementary ongoing process that needs to be embedded within the strategy formulation process. The Management Study Guide (2011) defined strategy in a very similar manner, namely as the "...process of choosing the most appropriate courses of action for the realization of organizational goals and objectives and thereby achieving the organizational vision". The concept of strategy as process towards realising objectives is yet again prominent in this definition.

Chandler (1978) stated that strategy formulation is about setting long-term objectives, action plans and allocating resources towards realising objectives. He defined strategy as "...the determination of the basic long-term goals of an enterprise, and the adoption of courses of actions and the allocation of resources necessary to carry out these goals".

Learned, Christensen, Andrews and Guth (LCAG) (ProvenModels, 2009a) defined strategy as "...the pattern of objectives, purposes or goals and major policies and plans for achieving these goals, stated in such a way as to define what businesses the company is in or is to be in and the kind of company it is or is to be." This definition refers to the core competencies of an organisation complementary to the concepts of objectives.

Hax and Majluf (1986:3) cited Glueck who defined strategy as "...a coherent, unifying, and integrative blueprint of the organisation as a whole ... designed to assure that the basic objectives of the enterprise are achieved". All these defining phrases refer to goals and objectives towards realising an end mean.

In this preliminary review of strategy definitions, it is notable that strategy is a process, guiding the way towards realisation of the organisational goals through organisational objectives. Strategy also confirms the type of business of the company and the external and internal opportunities and threats that are to be considered. It is specifically the reference to the internal and external environment that relates to the study field of risk management, because risk management also deals with the optimisation of internal opportunities and the management of external threats.

The essence of the definitions cited above is the principle that strategy guides the way towards reaching strategic objectives. The link to risk management is to be found in the fact that organisations operate within competitive external environments and thus need to manage external opportunities and threats, as well as internal strengths and weaknesses. This was confirmed by Argyris (Hax & Majluf, 1986:4) who argued that "... strategy formulation and implementation include identifying opportunities and threats in the organisation's environment, evaluating the strengths and weaknesses of the organization".

### **1.2.2 Risk management**

Risk management has been researched since the 1970s (Heil, 2011:1). The Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2004:4) defined risk management as:

*...a process, applied in strategy, affected by an entity's board of directors, management and other personnel, across the enterprise, designed to identify potential events that may affect the entity, and manage risks to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.*

The focal part of the COSO risk management definition leading the way to defining the research problem is the portion stating that risk management need to be "*applied in strategy*" (COSO, 2004:4). This part of the definition refers to a link or embedment enhancing the complementary relationship between the risk management and strategy formulation processes.

The COSO (2004:4) definition is not the only reputable and regularly-cited literature source underlining the complementary relationship between risk management and strategy formulation. The South African King III Code on Corporate Governance (IODSA, 2009:73) states that "...risk management is inseparable from the company's strategic and business process".

It is thus concluded that strategy formulation and risk management need to be complementary managerial practices that share a mutual underlying factor regarding the management of uncertainty resulting from external influences. The COSO (2004:4) definition of risk management states that

risk management is applied within strategy setting. The King III Code (IODSA, 2009) confirms that risk management is inseparable from strategy.

This application or embeddedness of risk management in strategy formulation is at the core of this dissertation, as is explained in the next section. Throughout this dissertation, the term risk embedded strategy process is a summary version of the complete term namely risk [management process] embedded strategy formulation processes.

### **1.3 PROBLEM STATEMENT**

The principle that risk management needs to be embedded in strategy formulation is not in question as the COSO and the King III Code recommendations to embed risk management in strategy, are accepted (COSO, 2004; IODSA, 2009). The question is thus not whether or not, but how risk management should or could be embedded in a strategy formulation process. Preliminary literature reviews failed to deliver examples of such embedded processes.

According to Noy and Ellis (2003:691), risk management is a “neglected component” of strategy formulation. They argued that managers are not inclined to embed risk management steps in strategy in spite of their acknowledgement of the principle. Thus, the principle of embeddedness is not in question, but rather the availability of examples in existing literature to serve as guidelines of how it should or could be done.

In essence, thus the following: There is a potential shortage of academic literature sources demonstrating risk-embedded strategy formulation processes. In the absence of examples of such guideline processes, it is argued that managers are not inclined to embed risk management into strategy formulation, as already stated by Noy and Ellis (2003:691).

In order to refine the problem statement, the following needs to be noted:

- This study does not imply that there is no reference to risk management in strategy formulation literature. COSO (2004:4), ISO 31000 (2009:20) and numerous other sources refer to risk management applied or to be applied in strategy formulation. The problem is that no sequential step-by-step processes to embed risk management in strategy formulation were found in the exploratory sample of sources as guideline for practitioners to follow.
- This study does not argue that organisations in general do not apply risk management during strategy formulation, but rather that examples in literature of how it has been applied were not found during the preliminary literature review.
- The literature reviewed included publications by three highly-reputable organisations, being the Committee of the Sponsoring Organisations of the Treadway Commission (COSO), the International Standards Organisation (ISO) and the Institute of Directors in Southern Africa (IODSA). No specific guideline process of step-by-step activities of how risk management activities should be embedded in strategy formulation was found during the exploratory literature review.

- During the search for guideline processes regarding risk-embedded strategy formulation processes, the book by Grundy (2003:37-139) about the “major gurus” in strategy formulation was among those reviewed, as it provided a summary of the strategy gurus and their publications at the same time when COSO published their framework and definition. The work of ten of Grundy’s 40 major gurus was reviewed. The work of another 23 academic researchers who focused on strategy formulation was included in the exploratory review of strategy formulation processes. Furthermore, the work published by five researchers who focused exclusively on strategy formulation at universities, was included. The literature review comprises classic works by regularly-cited authors as well as work published recently by online sources. Following this exploratory literature review, it was concluded that although the review provided insight into several processes, no existing step by step comprehensive risk-embedded strategy formulation guideline process was found.
- The risk-embedded strategy process presented in Chapter 4 in response to the observed shortcoming, is not presented to the academic community as the only process, but rather as a well researched example based on reputable literature resources.

In order to promote the incorporation of risk management into the strategic planning process, it was necessary to extract the generic steps of both processes towards proposing a risk-embedded approach to strategy formulation.

#### **1.4 SIGNIFICANCE OF THE STUDY**

Although this study and the exploratory sample of respondents are from diverse sectors, the study primarily aims at contributing toward a risk [management process] embedded strategy formulation process at universities in South Africa.

Following a survey conducted by the Global Strategic Management Institute (GMSI) for the Association of Governing Bodies of Universities and Colleges, the finding was that higher education institutions were lagging behind the private sector with the application of risk management on a strategic level (GMSI, 2009).

In South Africa, events at public universities are regularly reported in the local news media. In recent years, since September 2015, most universities in South Africa were in turmoil due to demonstrations, unrest, violence and financial challenges. These events illustrated the vulnerability of universities as large wide-scope organisations exposed to a great variety of risks of which unrest (and related risks) is only one example. The recent events at universities in SA thus serve as confirmation of the necessity, nature and extent of the universe of risks facing SA tertiary institutions.

A few practical examples of recent events at SA universities are listed in Table 1.1 as a sample of incidents, risks and possible strategic focuses. Every incident is translated into a risk and each risk is then translated to a possible strategic focus area. This demonstrates the wide extent and nature

of events taking place at South African universities, the related risks and the relevant possible strategic focus thereof. These incidents support and confirm the relevance of this study.

This study aims to contribute to universities being more prepared and effectively managing current and future risk events. As the application of concepts and processes are not confined to universities, the findings and recommendations could be generalised towards other organisations too.

**Table 1.1: Sample of incidents, risks and possible strategic focuses**

Incident	Risk	Possible strategic focus
Death of a parent following a stampede during registrations at University of Johannesburg.	Inability to accommodate rising demand for enrolment.	Capacity development and enrolment strategy and related policy.
Students demonstrate in anger following fee increases at several SA institutions.	Financial and reputational risks resulting from inflationary pressure, growth and expansion pressure.	Budget and growth strategy and related policy to be considerate of these risks.
Growing number of first-year students fail and fall out as perceived lowering school standards force down competence levels of first-year students.	Academic standards and international accreditation risks resulting from increasing misalignment between university acceptance requirements and matric exemption levels.	Strategy to maintain academic standards and accommodate a diverse group of matriculates by changing academic programmes to overcome the gap.
Lecturer at Stellenbosch University assaulted in his office by member of the public, following a range of political sensitive publications by the lecturer.	Safety and access control risks resulting from freedom of speech and educational publication policies.	Strategy to maintain freedom of academic expression and at the same time prevent access to radical fundamentalists.
Violation of human rights and political tension at Free State University	Legal-, reputational and political unrest risks following human rights violations on campus.	Strategy to integrate different cultures without risking inter-group tensions.
Countrywide unrest and civil disobedience under the flag of #RhodesMustFall, #FeesMustFall, #EndOutsourcing and other similar quests	That university loses the ability to register and educate learners to graduate and thus be prepared for the working environment. Also that university becomes financially unsustainable.	Sustainability to be maintained via third stream incomes and sufficient financial aid for students, towards free tertiary education.

Source: Compiled from Google search on "Incidents at SA Tertiary Institutions".

The examples in Table 1.1 highlight the complexity and wide scope of day-to-day operational risks at SA universities. The embedding of risk management in strategy formulation processes is meant to support universities in crafting strategies to manage these and other similar challenges.

The empirical study following the literature study illustrates that, in spite of strong principle support for embedding risk management in the strategy formulation process, universities in South Africa are lagging behind with the application of these principles. Management and especially strategic management in the absence of risk, was found to be putting strategy at risk. In the light of the examples above, all organisations but especially universities, need to be risk aware and apply the steps of risk management as part of strategy formulation. One contributing reason behind

universities not applying the step-by-step risk-embedded strategy process is the absence of literature motivating and demonstrating such a process. This study thus contributes to this perceived shortcoming.

## **1.5 AIM AND PURPOSE OF THIS STUDY**

This study aims to contribute towards a risk-embedded strategy formulation approach by proposing a structured step-by-step process for embedding risk management steps into a generic strategy formulation process.

## **1.6 OBJECTIVES**

The following objectives were set as road map for this study:

- i) To review risk management theory and processes in order to identify the steps that should or could be part of a risk-embedded strategy formulation process.
- ii) To review existing strategy formulation theory towards identifying the generic steps of general strategy formulation processes. This was done to identify existing processes where risk management steps had been embedded already or to serve as base to propose such a step-by-step process.
- iii) To propose a step-by-step process whereby risk management steps are logically and chronologically embedded in strategy formulation processes or to find and support or improve an existing model.
- iv) To test the acceptability of the proposed or refined risk-embedded strategy process via the administering of an opinion-based questionnaire containing key principles and steps of the risk management process embedded strategy formulation process in both universities and a non-university environment known for strong involvement in risk management.
- v) To obtain insight into the risk management maturity levels of the two samples of universities and other organisations participating in the study.
- vi) To compare responses between respondents from the universities and a sample of respondents from organisations known to be involved in risk management.
- vii) To confirm the importance of the step-by-step embedment of risk management into strategy via the findings of the empirical study and to propose a step-by-step risk management embedded process.

## 1.7 RESEARCH QUESTIONS

This study addressed the following research questions:

- What are the key steps or components of the risk management process?
- What are the key steps or components of a generic strategy formulation process?
- Which steps of the risk management process need to be integrated at what point of the strategy formulation process and which steps could be combined towards a simplified risk-embedded strategy formulation process?
- Is there support for the underlying principles of the proposed step-by-step sequential process by the two groups involved in the study?
- Are there significant differences between the responses of participating university respondents and respondents from business organisations

## 1.8 LITERATURE REVIEW

The background provided, indicated that the modern business world applies both strategy formulation and risk management processes towards addressing uncertainty. Risk management definitions, such as those of the COSO (2004:4) and the King III Code (IODSA, 2009), stated that risk management is part of the strategy formulation process. However, as stated earlier, a preliminary exploratory literature review did not show how risk management should or could be integrated while formulating strategy. A risk-embedded strategy process was thus developed, proposed and validated.

The first part of the literature review focused on risk management. It was necessary to review risk management for the sake of creating understanding of what needs to be embedded into strategy formulation. Resources from leading organisations, authors and management consultancy companies collectively formed part of the exploratory sample of resources reviewed.

The second part of the literature review dealt with the theory of strategy formulation. As stated before, sources from classic strategy authors, “strategy gurus”, other researchers, publications focusing on strategy at universities and publications by strategy consulting organisations were included in the exploratory study.

From the exploratory review, a generic strategy formulation process was extracted to serve as a platform for the proposal of a risk-embedded strategy formulation process. The process by Bryson (2004:32-51) was selected and used because it contained most of the the generic steps or activities proposed by studied sources. It should be noted that Bryson’s process is not the only process suitable for embedding risk management, but one of several suitable processes chosen on the grounds of the detail provided and inclusion of all generic steps identified during the exploratory literature review.

In the final part of the study, the principles underlying risk-embedded strategy formulation were tested via a questionnaire serving as opinion poll to validate and recommend the embedded process to universities and other organisations requiring a step-by-step guide towards embedding risk management into the strategy formulation process. The methodology followed is explained in the next section.

## **1.9 RESEARCH METHODOLOGY**

This study consisted of five sequential parts. The first part provides the background, motivation and outline of the dissertation. The second part (Chapter 2 and Chapter 3) deals with the literature review of risk management and strategy formulation processes. The third part (Chapter 4) consists of the development and proposal of a risk management process embedded strategy formulation process based on the existing literature reviewed in previous chapters.

The fourth part (Chapter 5 and Chapter 6) consists of an empirical study testing the acceptability of the principles underlying the risk management embedded strategy formulation process proposed in Chapter 4. Hypotheses were set and tested about the similarity of responses between university respondents and a sample of counterparts from business organisations known to be involved in risk management. In conclusion, recommendations were made about maturing risk management processes in the two populations. The fifth and final part (Chapter 7) summarises the findings and recommendations following from this study.

### **1.9.1 Population and sampling**

The first population for the empirical study was chosen to be all senior managers at universities in South Africa who are responsible for risk management and strategy formulation. The second population was senior managers in business organisations known to be involved in risk management in South Africa.

According to Universities South Africa (formerly known as Higher Education South Africa), there are 26 public universities in South Africa (USAF 2017). Senior executives of these institutions was sampled with the objective of obtaining as many respondents as possible. Respondents were assured that their opinions would be totally anonymous.

The websites of SA universities were used to obtain contact details of as many as possible of the senior managers responsible for risk management at their institutions. Personal and functional directed invitations were then sent to these managers requesting them to participate anonymously by completing the online questionnaire. Invitations were also sent to a client database of a company specialising in governance, compliance and risk services. This two-stage process was applied and maintained until forty respondents from universities and approximately the same number of respondents from other organisations had been obtained. All respondents were requested to complete the online questionnaire using the anonymous internet based platform.

In conclusion thus, the samples for this study were thus participating senior managers at South African universities who had completed the questionnaire as well as a sample of senior managers obtained from the database of companies involved in governance, compliance and risk services.

It should be noted that in selecting these two samples:

- Universities are key national assets responsible for providing tertiary education in line with national and international demands and standards. These institutions are exposed to a wide variety of strategic and operational risks. They are also required to manage and govern large amounts of government and private funding that flows towards these institutions and needs to be managed effectively towards strategy realisation.
- The US-based Association of Governing Boards of Universities and Colleges (AGB, 2009:2) found universities lagging behind the private industry regarding risk management. The fact that universities are fulfilling an important role as educators of the nation in challenging business and social times, collectively support the decision to focus this study on risk-embedded strategy formulation at universities in South Africa.
- As indicated before, managers from leading financial sector companies as well as managers and consultants from consultancy companies offering auditing and risk consulting services were approached to participate in this study. These respondents from finance, auditing and risk consultancy companies were included as they are generally competent in both risk management and strategy formulation and could thus make valuable contributions regarding the validation of the underlying principles of this study.

### **1.9.2 Delimitations**

The research design contains certain inherent delimitations, namely:

- The conclusions and recommendations are focused at South African public universities. The findings have not been generalised to all international tertiary institutions.
- Most universities in SA are still at grass roots level regarding risk management and their feedback on the questionnaire could be impaired due to a lack of experience and knowledge. Their participation and responses towards establishing the status quo contributed to this study.
- Risk appetite setting as function and potential link between risk management and strategy formulation is added to the proposed combined framework, but practical application of appetite setting is a complex function outside the scope of this study.
- Time frame dynamics and especially the differing time frame between risk embedded strategy formulation process and operational risk management process is beyond the scope of this study.

## **1.10 STRUCTURE OF THE DISSERTATION**

Chapter 1 gives an introductory background to the study introducing the research problem, the objectives set to address the problem and the approach that was followed.

Chapter 2 consists of a literature review of risk management as a base for a risk management process embedded approach to strategy formulation. Risk management was reviewed as basis for searching, reviewing, refining or developing such a process.

Chapter 3 consists of a literature review of strategy formulation, specifically focusing on processes whereby risk management activities are or could best be embedded. An exploratory approach was followed during the review of existing literature. Classic strategy formulation theory by early researchers and strategy gurus was reviewed along with works published in recent times. Work published by leading managerial organisations was among those reviewed in an exploratory manner.

The aim of the wide scope exploratory literature review was twofold, namely: (1) to find existing risk-embedded strategy processes to follow or refine; and (2) to propose a process if no existing risk-embedded strategy process was found.

In Chapter 4 the steps found to be part of generic risk management and steps commonly followed during a strategy formulation process were combined into a risk management process embedded strategy formulation process.

Chapter 5 contains information on the methodology for testing the acceptability of the process proposed in Chapter 4. The underlying principles of the proposed risk management process embedded strategy process were tested and validated by presenting a sample of respondents from the population described above, with a questionnaire. Responses were collected and interpreted towards making conclusions about: (1) the biographical profile of respondent's; (2) risk management process maturity levels of respondent organisations; (3) in principle support for embedding risk management into the strategy formulation process; (4) in principle support for key elements of the proposed process; and (5) the application of these key elements within organisations.

Chapter 6 deals with the findings and conclusions. The findings deal with the level of risk management maturity of respondent organisations, acceptability of the principles of risk-embedded strategy formulation, the level of adherence to the principles between different sectors, and recommendations following from the comparison of inter-sector responses.

Chapter 7 contains the recommendations that follow from the findings and conclusions discussed in the previous chapters.

## **1.11 SUMMARY AND CONCLUSION**

This chapter provided the background to this study towards a risk management process embedded strategy formulation process. The research problem is that there are references to risk management

being applied in strategy formulation, but no such examples or step-by-step processes could be found during the literature review.

The aim of the study was to review existing theory of both managerial fields, to develop and propose a step-by-step process, to test the underlying principles among practitioners in universities and other organisations, as well as to establish the level of application of these principles at a sample of organisations and to lead to recommendations related to risk embedded strategy formulation processes. The next chapter provides an overview on the underlying theory of risk management.

## CHAPTER 2

### THE RISK MANAGEMENT PROCESS

#### 2.1 BACKGROUND AND INTRODUCTION

Risk management in its business management context, evolved in response to a range of prior business stimuli. During the economic free trade era at the end of the 17<sup>th</sup> century, people exchanged merchandise for items they wanted or needed. No third parties were involved and no modern trade complexities, such as exchange rate differences, stock availability, brand names or down payments, were used as in the 21<sup>st</sup> century. Payment used to be via goods exchange, and once price negotiations were complete, the deal was done. The market place was typically a town marketplace and free trade within these markets was confined to a few buyers and sellers having full knowledge of all products. Market powers made it possible to balance total supply and total demand via the free trade price mechanism. Markets eventually expanded slowly, but later with increasing speed in a progressive fashion, with the introduction of international trade and modern trade technologies. Nowadays the number of buyers is endless and so is the number of sellers. The sustainability quest evolved from the classic challenge of having something to trade and finding someone to trade with, to more complex challenges such as offering the best product or service and continuing to improve and expand to keep market share. Offering a good product or service is no longer a guarantee for success. A company must continuously improve their offering to stay competitive in a world with endless and growing competitors; all continuously improving their offering. If a company keeps doing the same thing day after day, year after year, it will soon be outplayed by its competitors (Morgan & Katsikeas, 1997:68-75).

Continued improvement requires continuously outperforming a growing number of competitors. This requires taking chances, such as pursuing new markets, expanding the product offering or spending enormous amounts of money on research and development to stay ahead of competitors; none of these are without risk. Some companies took chances that paid off, while others took chances that caused bankruptcy. Business gradually moved towards taking risks. Typically, the greater the risk, the more was at stake, and the more was to gain. Growth requires taking risks, but also increases the probability of a loss. Shareholders thus expect business managers to take risks, but also to manage the risks to minimise the probability of a loss or in case of a loss, minimise the impact of the loss (Damodaran, 2013:1-5). The emergence of risk management in modern business can be related to continuous growth in the marketplace, growth in competition and increasing pressure on companies to improve their offering (Damodaran, 2013:1-2).

The objective of this chapter is to provide a background of risk management by reviewing key terminologies and definitions, frameworks, roles and responsibilities within structures, and key components. This background serves as a foundation to research risk management as applied by universities as part of strategy formulation.

## **2.2 DEFINITIONS OF RISK MANAGEMENT**

There are various views on the actual meaning of 'risk'. As such, it is imperative to identify a suitable description of risk for the purposes of this study to ensure a common basis of understanding.

### **2.2.1 Risk**

Mitre (2013:1) defined 'risk' as the probability for a system to achieve objectives and the consequence of failing to achieve objectives. The online Business Dictionary (2013a:1) defined 'risk' as the exposure to the chance of injury or loss or stated differently, a hazard or dangerous chance. Another definition proposed by the Business Dictionary (2013:1a) defines 'risk' as a probability or threat of damage, injury or loss that could be prevented via preventative actions and also, as a discrete specific occurrence that negatively affects a decision, plan, firm or other form of outcome. Risk is defined in the Oxford Dictionary (2013:1) as a situation involving exposure to danger and also refers to the probability that something unpleasant will happen, a source of danger and a possibility of harm or damage. These definitions mostly focus on risk as physical harm, while the ISO 31000 definition of risk emphasises the potential effect of risk events and uncertainty on reaching objectives (Hilson, 2010:1). This can be interpreted to mean that harmful events resulting from or related to operations can influence the organisation's ability to achieve its strategic objectives.

Holton (2004:22), on the other hand, defined risk as the exposure to propositions where uncertainty exist. Should the components of exposure and uncertainty be present, an entity is exposed to risk. For the purposes of this study, it can be concluded that an acceptable term for risk should indicate the presence of uncertainty, components thereof and level of exposure.

Investorwords (2013) defined risk as a quantifiable likelihood of a loss or less-than expected return. In this context, risk refers to a probability of a financial loss resulting from uncertain outcomes of business decisions.

Although the definitions cited do not seem congruent as they are used in different contexts, there is a commonality among them, namely an event that represents a departure from the preferred or ideal outcome. Irrespective of the context, being it physical, business or social well-being, for the purposes of this study, risk can be regarded as potential events that are subject to an amount of loss exposure and uncertainty of outcomes that could prevent the optimised achievement of objectives. An important part of this definition of risk, is the risk event, which is elaborated on in the next section.

### **2.2.2 Risk event**

According to Mitre (2013:1), a risk is a probability or exposure to an unexpected event and it is only when a risk, as a probability, is combined with an event or happening, that a loss occurs. The Léger Research Foundation (2007:1) stated that risk is the probability of an undesirable or negative event while considering the consequences. In the ISO 31000 (2009:4), an 'event' is described as an occurrence or change of a particular set of circumstances. The ISO 31000 Risk Management

Dictionary by Praxiom, (2010:6) elaborated on the aforementioned, stating that an event can be an occurrence, multiple occurrences or even a non-occurrence.

From the above-mentioned, a definition of risk should include the description of the risk event as well as an indication of the potential exposure and probability of a loss. However, another concept, which requires some form of clarity, is the cause or the peril of a loss event.

### **2.2.3 Peril**

'Peril' is defined as the exposure to something that causes injury, loss or destruction (Dictionary.com, 2013). Merriam-Webster (2013) used peril as a verb to illustrate the meaning, namely something that "imperils or endangers". It thus seems that a peril is a source of physical harm or danger. The term 'peril' is not associated with financial risks. According to YahooAnswers (2013), risk is a condition in which there is exposure to injury or loss, while peril is the cause of a loss. Valsamakis, Vivian and Du Toit (2010:35-36) acknowledged that the terms 'risk' and 'peril' are often confused. They cleared the confusion by defining 'risk' as uncertainty about a potential loss-producing event and the extent of a loss, while 'peril' is the source or cause of the risk. It seems that the concepts 'peril' and 'cause' are used interchangeably, however, for the purposes of this study; the concept of the 'cause' of a loss due to a risk event is used. In the aforementioned sections, the concept of uncertainty was also confirmed as an important aspect of risk. Therefore, it is necessary to briefly clarify it in the next section.

### **2.2.4 Uncertainty**

Valsamakis *et al.* (2010:33) stated that 'uncertainty' refers to a condition where imperfect knowledge of the future prevents the prediction of a particular consequence following an event. The Business Dictionary (2013b) confirmed this by defining 'uncertainty' as the unpredictability of future events, which influences current decisions. Kaan (2013) distinguished between 'risk' and 'uncertainty' by stating that in the case of risk, the outcomes are known, while in the case of uncertainty, the outcomes are unknown. Frank Knight (cited by Bernstein 1996:219) distinguished between risk and uncertainty with the notion that risk is measurable uncertainty as compared to unmeasurable uncertainty.

O'Toole (2013) defined uncertainty and the difference between risk and uncertainty by stating that risk involves future events with probabilities that can be calculated, while in the case of uncertainty, there is incomplete information that makes it impossible to determine or calculate outcomes.

Thus, risk is a probability of exposure to non-optimal outcomes that can be calculated or determined. In addition, O'Toole (2013) stated that the source of a loss or injury is the peril and risk differs from uncertainty in the sense that risk is measurable, while uncertainty refers to insufficient information to make business decisions, thus making it difficult to predict outcomes.

Due to the uncertainty incorporated into a risk event, it should form part of a definition of risk, as it is an important component to consider when identifying strategic objectives. Once the concept of uncertainty is accepted, a next logical consideration should be the level of uncertainty related to a specific risk event and potential outcome if the event should realise or occur. These considerations should be part of strategic planning.

### **2.2.5 Risk exposure**

Risk exposure can be defined as the quantification of a loss that might realise from a risk event. Risks are sometimes ranked according to a scale of exposure or potential quantified loss (Business Dictionary, 2013c). According to Syque Quality (2013), a risk exposure is a numeric quantification of risk, which enables managers to prioritise risks. As such, risk exposure could be calculated as follows:

$$E (\text{Exposure}) = P (\text{Probability of occurrence}) \times L (\text{Total potential loss}) \quad \dots(2.1)$$

#### **2.2.5.1 Probability**

The probability that a loss event will occur, or the “probability of occurrence” is a quantified expression of the chances that an event will occur. Valsamakis *et al.* (2010:58-60) stated that there are three methods used to determine probability, namely: (1) objective-; (2) subjective-; and (3) relative frequency probabilities.

*Objective probabilities* are those which are known from objective logical reasoning. With objective probabilities, there are logical clues making it possible to use deductive reasoning to calculate probability values. Not all probabilities could be calculated via deductive reasoning as logical clues are not always present. Most probabilities require experiments to estimate or determine probabilities.

In contrast to objective calculation, *subjective calculation* is when there is a lack of clues or information so that the only option is to estimate the probabilities, rather than calculating it. The third and most common method is to use *relative frequencies* as basis for empirical probability calculation. This is the method where statistical calculations are done with historical data and then projected into the future to determine future probabilities (Valsamakis *et al.*, 2010:58-60). The latter method is most suitable for research purposes as it is empirically based.

#### **2.2.5.2 Potential loss**

The second determinant of risk exposure is potential loss. Valsamakis *et al.* (2010:124) distinguished between three potential loss dimensions, namely: (1) Maximum Foreseeable Loss (MFL), which is the largest possible loss in adverse circumstances from a single event; (2) Estimated Maximum Loss (EML), which is the reasonable estimated loss from a single event when risk management measures do not work optimally; and (3) Normal Loss Expectancy (NLE) that is the average loss from a single event when risk management measure is optimal.

## 2.2.6 Summary

Following from the clarification of the meaning of the above key risk-related terms, it can be concluded that risk is a potential event which might occur, resulting in a loss for a company. A peril refers to the source of a potential loss which creates the risk exposure, while uncertainty is an integral part of the risk exposure that should be considered during the setting of strategic objectives to ensure that the potential loss events are incorporated into the strategic planning process. As such, the risks can be expressed in the form of the risk exposure, which is the result of a quantification process that endeavours to prioritise the risks in terms of the probability and the potential loss.

By understanding the concept of risk, the next logical step is to understand the specific meaning of risk management, which is dealt with in the ensuing section.

## 2.3 RISK MANAGEMENT

### 2.3.1 Overview

The management of risk is becoming a crucial management concept, supported by various institutions and commissions, such as the Basel Committee on Banking Supervision and the King Commission. However, before dealing with the detail of these institutions' approaches, it is imperative to come to a thorough understanding of the concept of risk management. Therefore, this section deals with various definitions and approaches to risk management to deduce a generic set of characteristics which will lead to a clear understanding of the concept.

A well-known definition for 'risk management' is that of the Committee of Sponsoring Organisations of the Treadway Commission (COSO), where it is stated that...

*...risk management is a process, affected by the board of directors, management and other personnel, applied in strategy setting across the organisation, in order to identify potential events that may affect the organisation and manage risks to fall within the risk appetite to provide assurance regarding the achievement of strategic objectives (COSO, 2004:4).*

From the COSO definition, the following conclusive characteristics can be extracted to provide insight into a multi-statement definition:

- Risk management is a process;
- Risk management needs to be driven from the top by the board of directors, and involves all levels of management;
- Risk management needs to be applied during the strategy-setting process;
- Risk management should aim to identify potential risk events;
- Risk management should aim at managing risk exposures within a pre-set risk appetite;

- Risk management should provide reasonable assurance that the organisation will reach its objectives.

According to the ISO (ISO 31000:2009:2), risk management is regarded as coordinated activities to direct and control an organisation's risk and the effect of uncertainty on objectives. The following principles can be highlighted from this definition:

- Risk management aims to coordinate activities to direct and control risk exposures;
- Risk management aims to determine the potential loss and the effect thereof on realising objectives.

The Casualty Actuarial Society (2003:8) defined risk management as the discipline by which an organisation in an industry assesses controls, exploits finances and monitors risks from all sources to increase the organisation's value to the stakeholders. The following principles are extracted from this definition (Casualty Actuarial Society, 2003:8):

- Risk management is a discipline, thus a prescribed conduct or a pattern of behaviour followed by business enterprises;
- Risk management applies to all industries;
- Risk management intends to create value as well as mitigate risks;
- Risk management focuses on all sources of risks;
- Risk management considers all stakeholders, not only shareholders;
- Implicitly, this definition recognises risk management's contribution to strategic decision-making and the value-adding effect it has on decision-making throughout the organisation.

Rouse (2010:1) defined risk management as a process of planning, organising, leading, and controlling the activities of an organisation to minimise the effects of risk on an organisation's capital and earnings. He furthermore stated that risk management includes not just risks associated with accidental losses, but also financial, strategic, operational, and other risks over and above accidental losses.

Bernstein (1996:197) stated that risk management is essentially actions towards maximising the areas over which an organisation has control, while minimising the areas over which no control is possible. According to Investorwords (2013), risk management is a process of analysing exposure to risk and determining how to best handle such exposure.

Risk management is defined by Dione (2013:8) as financial or operational activities that maximise the value of the company or portfolio. The following characteristics can be derived from this definition of risk management:

- Risk management is a process of managerial activities consisting of planning, organising, leading and controlling;
- Risk management includes all risks, not only accidental losses;

- Risk management analyses risk exposure to determine the best mitigating practices;
- Risk management aims at all risks an organisation might encounter while striving to achieve its objectives.

### **2.3.2 Generic characteristics of risk management**

From the aforementioned, the following generic characteristics of risk management can be identified:

#### **2.3.2.1 A process**

COSO (2004:4), Rouse (2010) and Investorwords (2013) specifically defined risk management as a process. ISO 31000 (2009:2) and Dione (2013:8) used the term “activities”, while the Casualty Actuarial Society (2003:8) did not use the word ‘process’ or ‘activities’, but listed the steps of the process.

#### **2.3.2.2 Role-players**

COSO (2004:4) specifically mentioned the board of directors, management and all staff members as role-players, while ISO 31000 (2009:2), The Casualty Actuarial Society (2003:8); and Rouse (2010:1) indicated that risk management is done by an organisation as a whole.

#### **2.3.2.3 Managerial activities**

According to The Casualty Actuarial Society (2003:8), risk management includes assessment of controls, exploitation of finances and monitoring of risks. Rouse (2010:1) stated that risk management consists of planning, organising, leading, and controlling the activities of an organisation. Dione (2013:8) specified that risk management is financial and operational activities.

#### **2.3.2.4 Focus on all risk types**

According to The Casualty Actuarial Society (2003:8), risks from all sources need to be considered, while Rouse (2010:1) stated that not only risks associated with accidental losses, but also financial, strategic, operational and other risks need to be part of risk management.

#### **2.3.2.5 Aims at minimising exposure**

COSO (2004:4) proposed that risk management should aim at managing risk exposures within a pre-set risk appetite, while ISO 31000 (2009:2) also stated that activities should be directed at controlling risk exposures. Investorwords (2013) confirmed that risk management is a process of analysing exposures to risk and determining how to best handle these exposures.

#### **2.3.2.6 Relates to achievement of objectives**

COSO (2004:4) stated that it is applied in strategy setting and directed towards reasonable assurance that objectives will be reached, while ISO 31000 defined risk as events influencing objectives. Cassidy, Goldstein, Johnson, Mattie and Morley (2003: 4) stated that risk is any issue that impacts on an organisation’s ability to reach its strategic objectives. The Casualty Actuarial

Society (2003:8) acknowledged the relationship with objectives by stating that risk management contributes to strategic decision-making.

### **2.3.2.7 Supports value creation**

The Casualty Actuarial Society (2003:8) stated that the purpose of risk management is to increase the organisation's value to the stakeholders, while Dione (2013:8) defined risk management as a set of financial or operational activities that maximise the value of the company or portfolio.

Resulting from these identified characteristics, the meaning of risk management, which is suitable for this study, can be described as:

- A process, followed by the board of directors, management and all staff;
- consisting of management activities;
- aimed at identifying and minimising exposures from all risk types;
- supporting the achievement of objectives; and
- promoting value creation by all the stakeholders.

After clarifying the concept of risk management, the next logical step is to understand the practical implementation thereof. Various authors and institutions refer to a risk management framework, which indicates the practicality of risk management. Therefore, the next section explains the concept of a typical risk management framework and its components.

## **2.4 RISK MANAGEMENT FRAMEWORK**

Rouse (2010) defined a framework as a conceptual structure to serve as support or guide of a process. According to ISO 73 (2009:2), a risk management framework is the components that serve as the foundation and guide for an organisation's risk management programme, but expanded on Rouse's definition by stating that a framework is typically supported with related objectives, policies, commitments, plans, relationships, accountabilities, processes and activities.

COSO (2004:5) offered an integrated framework as guidance to organisations to develop their internal risk management programmes. This framework is graphically presented in the form of a three-dimensional cube, depicting the interrelationship between objectives categories, namely: strategic, operations, reporting and compliance. It furthermore reflects an eight-component risk management process and the organisational levels of an entity.

The aim of the cube is to illustrate that each category needs to be assessed by following each of the eight-step risk management process within each of the organisational levels of the organisation (COSO 2004:23). The following components can be deduced from the COSO framework:

- Risk strategy: According to the COSO framework, objectives will be a component of a risk management framework. COSO distinguished between four objective types namely: (1) strategic objectives; (2) operational objectives; (3) reporting objectives; and (4) compliance objectives.

- Structures, roles and responsibilities: It can be deduced from the COSO framework that an organisational framework suitable for effective risk management throughout all levels and parts of the organisation, is an essential component of the risk management framework.
- Risk management process: One of the risk management components prominent in the COSO framework, is that risk management is a process. The activities that form part of the process, according to COSO (2004:4), include internal environmental assessment, objective setting, risk event identification, risk assessment, risk responses, implementing controls, information and communication activities and monitoring of outcomes.

ISO 73 (2009:2) defined a risk management framework as components that form the foundation and guide for an organisation's risk management programme. According to Purdy (2008:4), the elements of the ISO 31000 risk management framework is a combination of a strategic process and tactical process. The following specific components can be extracted from the ISO 31000 framework (Purdy, 2008:4):

- Risk context: Establish the organisational context as base for developing and implementing a suitable risk management programme;
- Risk governance: Obtain managerial commitment and mandate and formally state it in the form of a risk management policy and plan, risk assurance plan, risk standards and supporting procedures and guidelines. Risk measurement and review should be done via a control assurance plan, progress plans, governance reports, benchmarks and setting of performance criteria.
- Risk structures, roles and responsibilities: Allocate authority and organise internal structures in support of risk management, for example, establish a formal risk and audit committee, and internal or executive risk committee, risk working groups, appointing a Chief Risk Officer (CRO), risks management champions in the different divisions and risk owners.
- Risk management process: Identify risks from external and internal sources, analyse the identified risks to identify root causes and residual risks following the application of existing controls, evaluate risks by assessing the inherent and residual probability and impact on the organisation, apply risk treatment programmes to mitigate the risk or to minimise the effect thereof.
- Communication, consultation and training: Communicate results to external and internal role-players and consulting specialists where necessary to obtain more information. Provide training via a formal communication and reporting plan, a risk management training strategy and a risk management network.
- Monitor and review: Monitor the changes in the levels of probability and impact and review the mitigation plans where necessary.

The Solvency II risk management framework, proposed by Towers Watson (2012:1), is presented graphically as a core surrounded by two layers of circles, with each circle containing three elements. The following specific components can be determined from the Solvency II framework (Towers Watson, 2012:1):

- Risk culture: An applicable risk management culture, at the core of the framework.
- Risk governance: A risk governance document framework with applicable definition clarifications, the risk management organisational structure, roles and responsibilities of key role-players, risk appetite statements, policies and limits.
- Risk structures, roles and responsibilities: People involved in risk management and their roles and responsibilities.
- Risk management process: Processes and supporting software assisting the identification and assessment of risks. The process also includes risk assessments, where the outcomes of the assessment is a register of identified risks, quantification results and reports of the extent to which the mitigation activities lowered the probability and impact of the risks. The final activity of the process is the setting of risk mitigation plans or response plans to optimise the return on investment within the set risk appetite.

According to The Treasury Board of Canada (Robillard, 2001:2), the purpose of a risk management framework is: (1) to provide guidance to promoting the corporate risk management function; (2) to contribute to establishing risk management structures with roles and responsibilities; and (3) to propose a set of risk management practices. The Treasury Board of Canada (Robillard, 2001:6) proposed the following components as part of a risk management framework:

- Risk strategy: The integrated application of the process outcomes with risk management intelligence, proven tools and methods, and communication and consultation of outcomes with all stakeholders to reach strategic goals.
- Risk structures, roles and responsibilities: The establishment of risk management structures and risk reporting lines, management buy-in and leadership, and a plan for risk capacity building via learning plans and tools.
- Risk management process: The identification and assessment of risks at all organisational levels to obtain a risk profile for the organisation.

Chapman (2006:10) identified the following components of a risk management framework, namely:

- Corporate governance: A process to establish board oversight and demonstrate management buy-in.
- Risk management process: A process consisting of risk event identification from internal as well as external sources, risk evaluation and risk management via suitable mitigation plans.
- Internal controls: A system of internal controls to safeguard investments and assets.
- Internal audit function: External procedural support and expertise inputs from internal auditors.

The University of Regina (2012:5) used a risk management framework closely resembling the ISO 31000 process. The following key components form part of their risk management framework:

- **Risk strategy:** Alignment between organisation strategic and operational objectives and identified risks.
- **Risk management process:** A risk assessment process consisting of risk event identification, risk analysis, risk evaluation, risk management through action plans, communication and consultation, and monitoring and revising of results.

The following components can be highlighted from the University of Canterbury (2010:1) Risk Management and Compliance Framework:

- **Risk strategy:** Stating of objectives to align risk management and organisational objectives;
- **Risk governance:** Risk management policy statements and process support documents, formulation and communication of risk plans, procedures and policies and management thereof by implementing review and control measures;
- **Risk process:** Formalised processes of risk event identification and analysis;
- **Communication and consultation** of risk processes and outcomes;
- **Compliance function:** Establishment of a legal compliance programme complementary to the risk management programme.

From the aforementioned, the following Table 2.1 was constructed to list the key components of the frameworks reviewed.

**Table 2.1: Summary of components of risk management frameworks**

Sources	Risk context / culture	Risk strategy	Risk governance	Structures, roles & responsibilities	Risk management process	Communication, consultation / training	Monitoring and review	Compliance function
COSO		✓		✓	✓			
ISO 31000	✓		✓	✓	✓	✓	✓	
Solvency II	✓		✓	✓	✓			
Treasury Board of Canada		✓		✓	✓			
Chapman			✓		✓			
University of Regina		✓			✓			
University of Canterbury		✓	✓		✓	✓		✓
<b>TOTAL</b>	<b>2/7</b>	<b>4/7</b>	<b>4/7</b>	<b>4/7</b>	<b>7/7</b>	<b>2/7</b>	<b>1/7</b>	<b>1/7</b>

Source: Compiled from sources cited in Section 2.4.

Following from the analysis, based on the literature review, for this study, the most common components of a typical risk management framework were extracted:

- Risk context / culture;
- Risk strategy;
- Risk governance;
- Structures, roles and responsibilities;
- Risk management process;
- Monitoring and review;
- Communication and consultation.

In the next sections, these components of a risk management framework are reviewed individually to provide more clarity on their meaning.

## **2.5 RISK MANAGEMENT STRATEGY**

From the summary of components of a risk management framework, it is clear that a risk management strategy is an essential element of an organisational risk management function. However, for the purposes of this study, it is necessary to analyse this concept in more detail. This section first focuses on definitions of a risk management strategy, followed by the identification of characteristics and components of a risk management strategy, and principles against which a risk management strategy can be assessed.

### **2.5.1 Definition of a risk management strategy**

A 'risk management strategy' was defined by the European Union Agency for Network and Information Security (ENISA, 2013) as an integrated business process which includes all risk management processes, activities, methodologies and policies carried out by the organisation. ENISA (2013) stated that the risk management strategy defines the parameters for the entire risk management function within the organisation. As with organisational strategy, a risk management strategy is usually set by the board of directors and executive management.

KPMG (2008:40) defined a 'risk management strategy' as the approach adopted for associating and managing risks based on the organisations objectives and strategies. According to KPMG, a risk management strategy is thus risk management activities aligned with organisational strategies.

Some components of risk management strategy as identified by ENISA (2013) and other sources cited earlier are similar to the components of a risk management framework identified in Section 2.4. As this might be confusing, the interrelationship between the framework and strategy is accordingly clarified.

From the sources cited in Section 2.4 as well as ENISA (2013), it is concluded that both 'risk framework' and 'risk strategy' deal with risk policy, process, roles and responsibilities. There also seems to be a cross-over relationship as strategy includes framework (ENISA, 2013), and framework

includes strategy (COSO, 2004; University of Regina, 2012:5; University of Canterbury, 2010). For the purpose of this study, it is concluded that the similarity and difference between a risk framework and risk strategy are the following: The similarity is that both framework and strategy deal with the key risk elements as summarised in Table 2.1 above. The difference is that a framework is a conceptual structure as defined by Rouse (2010), while the strategy is a statement of the parameters (ENISA, 2013) or the approach adopted (KPMG, 2008:40).

The Oadby and Wigston Council (2011) confirmed the twin component definition as proposed by the Treasury Board of Canada Secretariat by stating that a risk management strategy document is an essential element of strategic planning, describing the risk management process and framework.

The following components of a risk management strategy are deduced from this definition:

- Risk management policy, which is part of the risk governance publications;
- Risk management process, including the activities and methodologies;
- Risk management framework providing the parameters for the entire function within the organisation;
- Structures, roles and responsibilities, for example, that the board of directors are responsible for setting strategy.

For the purposes of this study, the definition adopted by KPMG (2008:40) is accepted, namely that 'risk management strategy' is defined as the approach adopted for managing risks embedded in the organisation's objectives and strategies or risk management activities aligned with organisational strategies, the primary reason being that it acknowledges the alignment between corporate strategy and risk management in a simplistic way (KPMG: 2008:40).

### **2.5.2 Characteristics and components of a risk strategy**

By analysing various approaches, the components of a risk management strategy can be identified. The SA National Treasury (2013:1) stated that a risk management strategy should include the following six components:

- Architecture and reporting lines, which are typically presented in the form of a framework and roles and responsibility document;
- Action plan to improve the maturity level;
- Description of modality or way risk management is executed;
- User guidelines;
- Process details and reviews;
- A fraud and corruption prevention plan.

The Stafford Borough Local Council (2010:3), a public service source, stated that a risk management strategy should be supported by: (1) a clear and widely-understood risk management structure; (2) institutional commitment to risk management; and (3) training and reporting arrangements. The Council stated that a risk management strategy should contain the following components:

- Risk management objectives;
- Description of roles and responsibilities;
- Risk co-ordination tools for horizontal and vertical communication;
- Overview of the risk management process;
- Risk mitigation plans with monitoring activities and timeframes;
- Arrangements for training and implementation.

The Treasury Board of Canada Secretariat (2012) stated that there are two components of a risk management strategy, namely:

- A risk management approach, which contains a framework for risk management within the organisation; and
- A risk management process, consisting of the sequential interrelated steps to be followed to manage risks.

From the sources reviewed, the characteristics of a risk management strategy are the following:

- Organisations must have an overall comprehensive risk management strategy which is an essential element of strategic planning.
- A risk management strategy describes the framework and process used for risk management.
- A risk management strategy consists of multiple components, such as a plan, structures, practices and guidelines.
- A risk management strategy provides risk management direction by answering 'who, when, and how' questions about risk management in the organisation.
- Risk management strategy needs to be aligned with business strategy.

From the sources cited above, the components of a risk management strategy, are:

- A risk management policy statement;
- A risk management framework;
- Overview of the risk management process;
- Overview of specific roles and responsibilities for risk management;
- An action plan to improve the maturity level.

In conclusion, for the purpose of this study, risk management strategy is defined as the approach adopted for managing risks embedded in the organisation's objectives and strategies and the components as stated above are accepted to be the essential components of a risk management strategy. In the next section, risk governance, as a key component of a risk management framework, is reviewed.

## **2.6 RISK GOVERNANCE**

It was concluded above that risk governance is one of the key components of a risk management framework. This section aims to analyse this concept in more detail.

According to the Financial Stability Board (FSB, 2013:iii), 'risk governance' is a framework of documents through which an organisation's board of directors and management communicate and monitor activities to be aligned with a set risk appetite and within defined risk tolerance levels. The risk governance framework also articulates risk event identification, risk management and measurement metrics. It needs to be clarified that the risk governance framework referred to by the FSB (2012:iii) is an indexed list of documents, not to be confused with a risk management framework, which is a conceptual structure of the interrelationship of all components of an organisational risk management programme. Risk governance does not only add value by providing documented and measurable records of a risk management process; according to the Queensland Department of Education, Training and Employment (DETA-Qnd, 2012:12), risk governance contains documents that describe the mechanisms to ensure accountability and delegates authority for risk management, while it provides assurance to stakeholders.

The Central Bank of Malaysia (Bank Negara Malaysia (BNM), 2013:1) stated that risk governance is about the application of corporate governance principles to risk management activities. More specifically, it is concerned with roles and responsibilities of board members and key managers as well as control measures and risk management processes. It is also concerned with incentives, culture and information management; thus, the full scope of risk management activities.

Renn, (2007:5) stated that risk governance includes the activities, processes, applicable laws and informal traditions by which decisions about risk management are prepared, taken and implemented. According to Lloyds (2013), Risk governance determines the approach to risk management throughout the organisation with a strong focus on roles, responsibilities and ownership by all key role-players in the organisation.

The International Risk Governance Council (IRGC, 2013:1) developed a comprehensive framework for risk governance and indicated that risk governance consists of five key components, namely:

- Risk pre-assessment towards a structured definition of the problem;
- Scientific risk assessment of the hazard and probability;
- Evaluation of the risk to establish if exposure is within acceptable levels;
- Management and mitigation plans;
- Communication.

There is a strong resemblance between the IRGC key components of risk governance and the risk management process. Most of the sources cited above defined risk governance in a manner that resembles the risk management process. It is thus possible to confuse the meaning of 'risk governance' with 'risk management'. However, potential confusion is prevented by KPMG, (2012:2) with their reference to risk governance as the documented outputs describing and recording, among other, risk framework, risk registers, annual integrated reports, internal status reports and assurance reports.

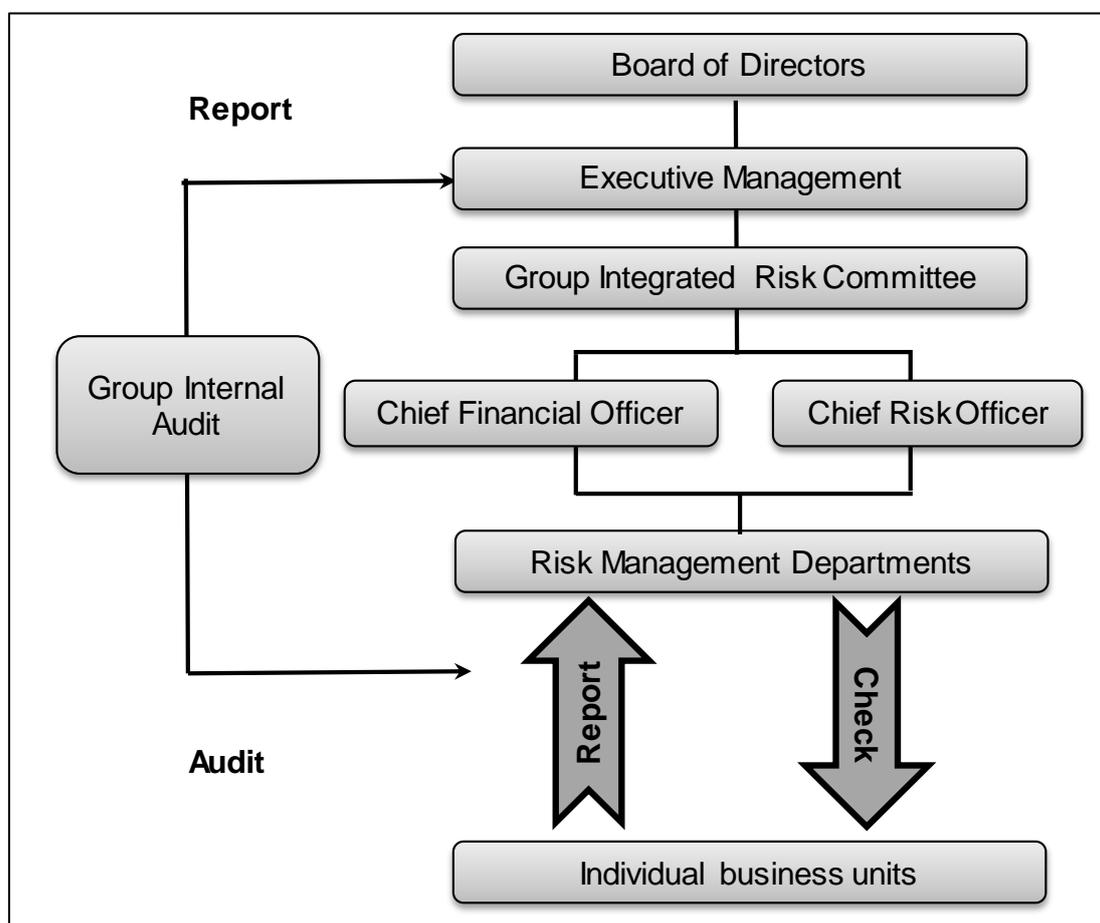
According to the Queensland Department of Education Training and Employment (DETA-Qnd, 2012:12), risk governance is established through risk structures and defined roles and responsibilities. Risk governance is thus related to risk management structures and the defined roles and responsibilities of key role-players that are part of the structures.

Based on the above and for the purposes of this study, 'risk governance' can be defined as the documented outputs of an organisation's risk management frameworks, policies, statements, reports and other documentation, that provide the mechanism for ensuring accountability, delegating authority and providing assurance. In the next sections, risk structures and roles and responsibilities are reviewed as key components of risk management.

## **2.7 RISK MANAGEMENT STRUCTURES**

Risk management structures, according the Queensland Department of Education, Training and Employment (DETA-Qnd, 2012:12), refer to the organisational structures supporting, guiding and leading the risk management process. Furthermore, risk management structures serve to distinguish between structures on (1) strategic level; and structures on (2) corporate/operational level. The structures on a strategic level include the executive management group (the board of directors, corporate governance committees, audit and risk management committees and enterprise risk management committees). The corporate/operational level structures are the divisional committees, providing clear reporting lines and delegations of authority in support of appropriate, transparent and open decision-making (DETA-Qnd, 2012:12).

The risk management structure of Nomura Holdings (2012) is graphically illustrated in Figure 2.1 below. Nomura Holdings provided insight into the structures formed to lead, guide and execute risk management. There are several similarities between the risk management structures of Nomura Holdings (2012) and those proposed by the DETA-Qnd (2012:12), such as the board of directors at the top, executive management board or team, internal risk committees and an internal risk management department overseeing risk management at the individual business units. Nomura Holdings also have a Group Integrated Risk Management Committee, Group Internal Audit Committee, a Chief Financial Officer (CFO) and Chief Risk Officer (CRO). Nomura Holdings (2012) listed several key risk management structures, such as the internal risk management departments checking the risk management activities of the individual business units. These business units provide reports to the risk management departments. The internal audit department audits the individual business units and reports findings to the executive management board.

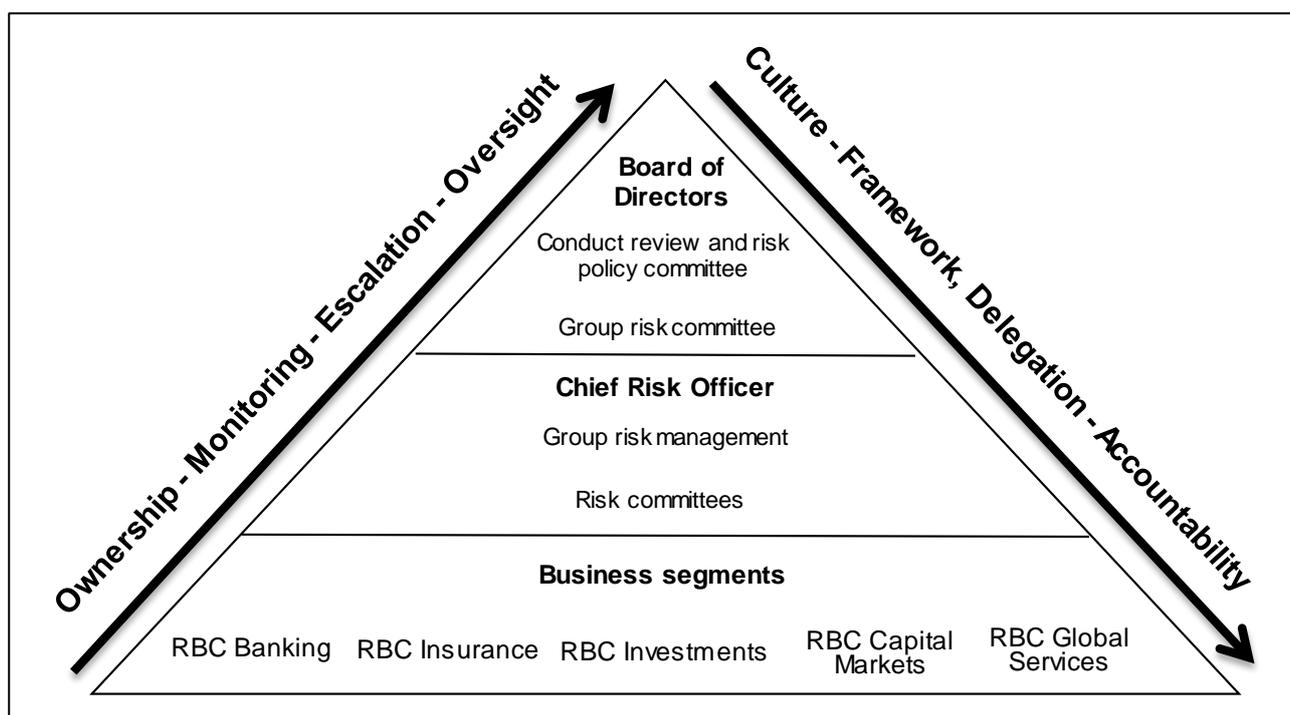


**Figure 2.1: Risk management structure of Nomura Holdings**

Source: Nomura Holdings, 2012.

RBC Financial Group (2003) provided insight into their risk management structures as illustrated in Figure 2.2. The RBC structures for risk management are the board of directors, group risk committee, CRO and business unit risk committees. The diagram also illustrates that risk culture, risk framework, risk delegations and risk accountability are provided to the organisation from the top downwards, while reports on ownership, monitoring, escalation and oversight flow upwards in their organisation.

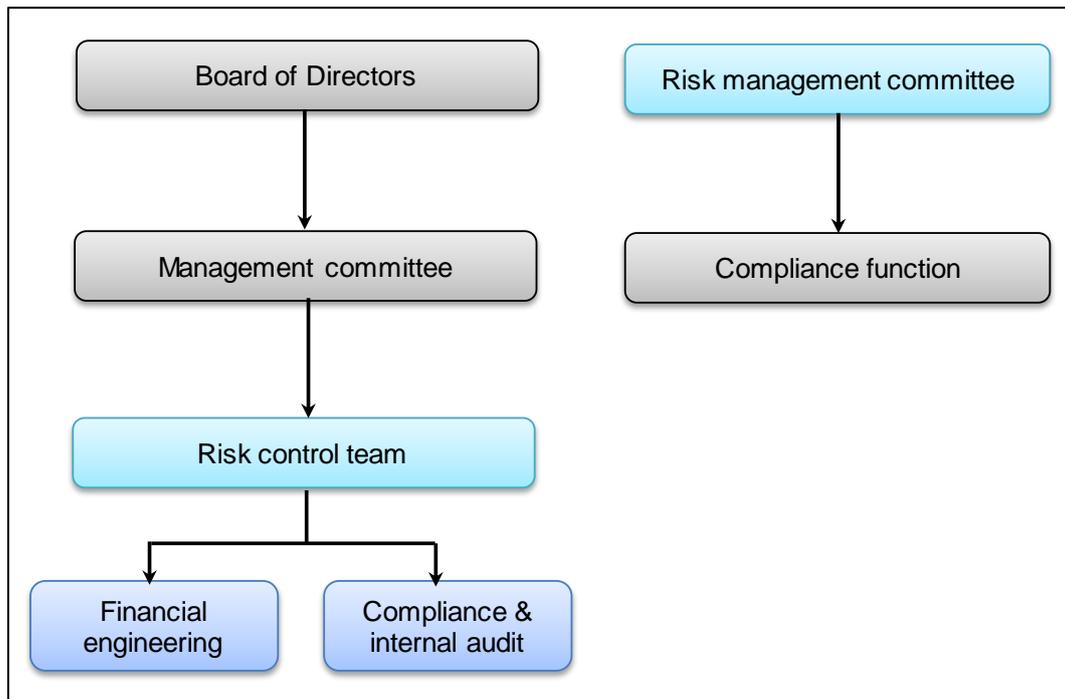
A comparison between the risk management structures of Nomura Holdings and RBC Financial Group revealed several similarities, such as the board of directors at the top, risk committee on group level, the CRO function, risk management departments and their reporting and checking interaction with the individual business units.



**Figure 2.2: Risk structure of RBC Holdings**

Source: Adapted from RBC, 2003.

Another example of a risk management structure is that of China Aviation Oil (Singapore) Corporation Ltd (CAOSCO) (2016). As in previous examples, the board of directors is at the top with the management committee and risk control teams lower down in the structure, as depicted in Figure 2.3.



**Figure 2.3: China Aviation Oil company-wide risk structure**

Source: Adapted from CAOSCO, 2016.

From the above-mentioned, it can be concluded that the following groupings are commonly used as part of risk management structures:

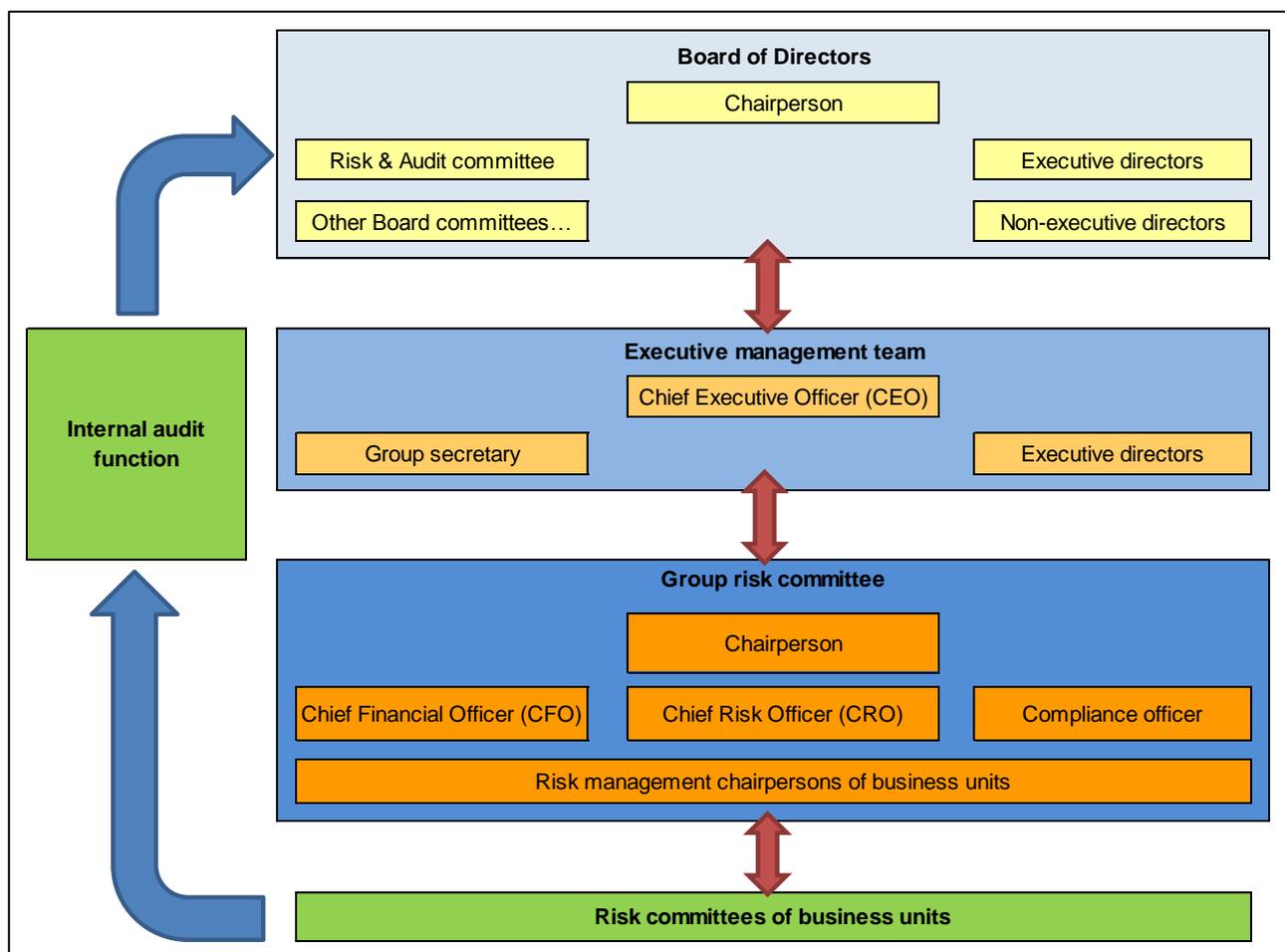
- **Board of directors:** All the sources cited had the board of directors as the highest organisational body playing a major role in risk management.
- **Executive management:** All sources, except RBC Holdings, included the executive management team or board as key risk management structure. For the purpose of this study, it is accepted that all organisations including RBC holdings have executive management teams playing a key role in risk management activities.
- **Group and internal risk committees:** Although it is not transparent from the sources cited which of the risk committees are on board level and which are internal, all the sources had at least one risk committee as part of their risk management structure. It is concluded that this committee could be either on board level (thus appointed by the board of directors as a sub-committee consisting of executive as well as independent directors) or an internal risk committee (appointed by the top management and consisting out of internal staff and executive directors).
- **Divisional or business unit risk committees:** All the sources had operational level risk committees that oversee the sub-division or business unit's risk management activities.

The analysis of the structures according to the above-mentioned, did not only identify risk management structures, but also identified key risk management functionaries as part of the structures. These functionaries are:

- Chief Risk Officer (CRO): The CRO fulfils a crucial coordinating function, as pointed out by Nomura Holdings (2012) and RBC Holdings (2003).
- Chief Financial Officer (CFO): Both Nomura Holdings (2012) and China Aviation Oil (CAOSCO ; 2016) included the CFO or Financial engineering function as part of their risk management structures.
- Internal audit function: Nomura Holdings (2012) included the internal audit function as part of their structure. For the purpose of this study, it is accepted that all large organisations have internal audit functions that audit and support risk management, but function independently to the line structures of the organisations they serve.

Although the structures and functionaries may differ from one organisation to another, for the purpose of this study, the structures and functionaries above are accepted to be the core risk management role-players from a governance point of view. A typical structure based on the literature review is proposed in Figure 2.4. This figure contains the typical structures responsible for risk management, namely the board of directors, consisting out of the chairperson of the board, executive directors, non-executive directors which are typically also independent directors, thus not in full-time employment of the organisation, the board Risk & Audit Committee and other board-appointed committees such as the Remuneration Committee, overseeing the remuneration of the top executives. The internal audit function typically reports directly to the board Risk & Audit Committee.

On the next level, the executive management team would typically serve, consisting of the Chief Executive Officer (CEO), the group secretary and executive directors. The Group Risk Committee is appointed by the executive management team and consists of a chairperson and other senior functionaries, such as the Chief Financial Officer (CFO) and the Chief Risk Officer (CRO) and departmental risk committees' chairpersons and Compliance Officer. A director can be part of more than one of the structures, for instance the CEO who serves on the board as executive director and manages the executive management team as CEO or the CRO who serves on the executive management team as an executive director and serves in the Group Risk Committee as the CRO. It is also common to have the Compliance Officer, responsible for managing the compliance function, as part of the Group Risk Committee. The compliance function oversees organisational compliance to all relevant legislation and internal policies.



**Figure 2.4: A typical risk management structure**

Source: Researcher's compilation from literature review.

The following section reviews specific roles and responsibilities relating to risk management.

## 2.8 ROLES AND RESPONSIBILITIES

Earlier in this chapter, roles and responsibilities were found to be among the key components of a typical risk management framework. The key role-players contributing to the risk management process were found to be the board of directors, executive management, the CEO, CFO, CRO and internal auditors. In this section, the key role-players and their roles and responsibilities towards risk management are reviewed and in the following section, they are aligned with the key components of risk management deduced from the literature reviewed earlier in this chapter.

### 2.8.1 Board of directors

According to COSO (2004:83), the board of directors plays a vital role in risk management by selecting executive management which they deem suitable for managing an organisation. The board selects and appoints managers with the expected levels of integrity and ethical values as required by the board and stakeholders. The board also reserves authority for some key decisions, and oversee managerial activities via die Audit Committee of the board. The board plays a vital role in

formulating strategy, formulating objectives and allocating resources. COSO (2004:83-84) also stated that the board takes a portfolio view of the organisation's risks, approves the risk appetite and tolerances and forms board committees to focus on specific board responsibilities, such as the nomination- appointment-, audit- and risk committees.

At a summit of the National Association for Colleges and Universities Business Officers (NACUBO), Rhodes stated that boards should focus on policy and fulfil an oversight function (NACUBO, 2007:10). Boards of directors should also encourage management and show commitment towards successful Enterprise Risk Management (ERM) in the organisation. Boards should set priorities and see to it that the organisation operates within its financial means (NACUBO, 2007:10).

According to the Deposit Insurance Corporation of Ontario (DICO, 2011:3), the board of directors should have an in-depth understanding of the risk portfolio that the organisation faces. Furthermore, the board of directors must oversee the risk management activities and set the risk appetite of the organisation. The board should review risk assessment reports to ensure that the organisation maintains within strategic risk targets. It is deduced that this is similar to ensuring that the organisation operates within board-approved risk tolerance levels. DICO (2007:3) stated that the board should approve policies and the risk appetite annually.

Dafikpaku (2011:14) confirmed that the board is responsible for oversight of risk management as well as for reporting to all stakeholders on risk management strategy and issues. Dafikpaku (2011:14) stated that the board might delegate some of these functions to the audit or risk committee of the board.

The King III Code (IODSA, 2009:21-30) provided a comprehensive list of roles and functions of a board of directors, including the principles which state that the board must:

- Be the focal point of corporate governance;
- Promote ethical culture;
- Appreciate the inseparable nature of strategy, risk and performance;
- Consider sustainability as business opportunity; and
- Accept the responsibility for the process of risk management.

Young (2008:37) stated that it is the role of the board of directors to ensure effective risk management by fulfilling the risk management oversight function for, among other, the operational risk management process. Young (2008:39) continued by summarising that the risk management roles and responsibilities of the board of directors can be grouped into the focus areas of (1) governance; (2) strategic planning; (3) risk control; and (4) risk reporting. More specifically under strategic planning, it is confirmed that the board of directors is responsible to consider the organisation's main risks, to approve the risk appetite and to allocate sufficient capital for the execution of risk management activities.

In conclusion, based on the above-mentioned, the roles and responsibilities of the board of directors regarding risk management are summarised in Table 2.2. Each of the roles and responsibilities is categorised according to the relevant framework component and where applicable, a reporting line is proposed.

**Table 2.2: Risk management roles and responsibilities of the board of directors**

<b>Roles and responsibilities of the board of directors</b>	<b>Related key component/s</b>	<b>Reporting lines</b>
Encourage management and show commitment towards successful ERM in the organisation.	Culture	
Oversee the full risk management function	Governance	
Promote a culture of ethics and integrity	Culture	
Develop a holistic view of all the risks the organisation faces and ensure that risks are managed effectively.	Governance Control	
Appoint an Audit and Risk Committee to oversee risk and audit functions to ensure that the organisation operates within its policies and financial means.	Structure Strategy Control	Audit and Risk Committee
Approve the risk management policy	Strategy Governance	
Set the risk appetite	Strategy	Management
Approve and oversee adherence to set tolerance levels.	Control	
Set priorities regarding risk treatment and action plans and ensure the allocation of sufficient capital	Strategy	
Report to stakeholders on risk management issues	Communication	External stakeholders

Source: Compiled from sources cited in Section 2.8.1.

In the next section, the CEO's roles and responsibilities towards risk management are reviewed.

### **2.8.2 Chief Executive Officer (CEO)**

Difakpaku (2011:14) stated that the CEO is responsible to provide leadership and direction to the team of senior managers and, as such, is regarded as the key person to report to the board of directors on behalf of the organisation. Therefore, the CEO may establish committees such as the executive management committee and delegate responsibilities to the committee or to supporting functionaries such as the Chief Financial Officer, Chief Risk Officer or Chief Compliance Officer.

According to the Association of Governing Boards (NACUBO, 2007:10), it is the role of the CEO to engage staff and board members in a partnership, working towards realising objectives within the parameters of effective governance. NACUBO (2007:10) also stated that the CEO must set a high-level ERM agenda along with the board.

COSO (2004:84) described the role of the CEO as the person to ensure a positive internal environment by influencing internal role-players and setting the "tone from the top" towards effective management and enterprise risk management. This is interpreted to refer to the CEO's leadership role, leading the way by demonstrating managerial ethical values and integrity in setting and realising

high-level objectives. COSO (2004:84) also acknowledged that it is the role of the CEO to lead and direct senior managers by shaping organisational values, setting principles and formulating policies to serve as the foundation for an organisation that manages its risks.

Young (2008:40) listed the main roles and responsibilities of the CEO towards risk management as:

- Approving policy to ensure a risk-embedded approach to management;
- Providing structure to the organisational risk management by appointing risk managers and risk owners;
- Overseeing the implementation of the board-approved risk management framework;
- Setting overall strategy and supporting objectives for the business;
- Setting the risk appetite for the board's approval; and
- Obtaining commitment and support of senior management towards the risk management function.

The King III Code on Corporate Governance (IODSA, 2009:35) states that the CEO must consistently strive towards realising the organisational goals while seeing to it that the organisation's day-to-day business are managed appropriately. Similar to COSO (2004:84), the King III Code states that the CEO needs to ensure a positive and ethical work climate which is conducive to attracting and motivating employees throughout the organisation.

The King III Code (IODSA, 2009:35) furthermore states that the CEO is responsible:

- To recommend a successful management team to the board;
- To ensure that there is succession planning;
- To manage performance;
- To lead the process for crafting the organisation's strategy;
- To monitor performance;
- To report to the board; and
- To oversee that the organisation complies with laws and regulations, thus being responsible for the compliance function.

In conclusion, based on the above-mentioned review, the role and responsibilities of the CEO regarding risk management are summarised in Table 2.3 below. Again, each of the roles and responsibilities is categorised according to the relevant key component of risk management and where applicable, a reporting line is proposed.

**Table 2.3: Risk management roles and responsibilities of the CEO**

<b>Roles and responsibilities of the CEO</b>	<b>Related key component/s</b>	<b>Reporting lines to</b>
Lead the process for crafting the organisation's strategy and approving supporting policies and standards	Strategy	
Formulate the risk appetite for approval by the board	Strategy	Board of directors
Provide leadership and direction to the team of top managers	Culture	Management
Report to the board on behalf of the executive management	Governance	Board of directors
Set a high-level ERM agenda and guide the way towards high risk management maturity levels	Strategy	
Demonstrate integrity and ethical values and lead the organisation towards crafting and complying to set norms, high ethics and suitable managerial conduct	Culture	
Appoint the necessary management committees and delegate responsibilities and authority to enable subordinates and committees to execute tasks	Structure	
Guide, lead and support the management team towards realising the organisational goals within the parameters of effective corporate governance	Strategy Governance	Management team
Take responsibility and oversee the compliance function.	Compliance	

Source: Compiled from sources cited in Section 2.8.2.

### **2.8.3 Executive management**

According to NACUBO (2007:12), executive management is responsible for the day-to-day management of the organisation. They stated that risk management and good day-to-day management of strategic-; operational-; financial- and compliance management is synonymous. NACUBO (2007:12) also confirmed that executive management is in the best position to identify operational and strategic risks as well as the mitigation plans to respond to these risks.

According to the Queensland Department of Trade and Employment (DETA-Qnd, 2012:14), it is the role of the executive management group to establish a culture supporting the enhancement of risk management, while also providing strategic leadership and governance for risk management. This strategic leadership refers to maintaining effective internal controls, taking risks in line with the set risk appetite and ensuring that risk exposure is within tolerance levels. Furthermore, the function of the executive management is to review the risk register and specifically the operational risks that escalate upwards to executive management level, to ensure that suitable mitigation plans are made and implemented (DETA-Qnd, 2012:13).

Young (2008:41) saw the roles and responsibilities of business management (used as synonym for executive management) as:

- Appointing managers as risk owners;
- Leading and driving the risk management process as well as the risk control function;
- Implementing an incident management system to monitor adverse incidents and losses;

- Implementing a bottoms-up risk management process
- Managing key risks; and
- Ensuring an effective reporting process.

COSO (2004:84) supported the above-mentioned, by stating that executive management is responsible for all the entity's managerial activities, including the risk management functions. Difakpaku (2011:15) stated that management have varying roles and responsibilities, relating to their specific function within the organisation, but that the common denominator is that all managers on all levels should identify and manage the risks related to their areas of responsibility within the organisation.

The Deposit Insurance Corporation of Ontario (DICO, 2011: 7) stated that it is the role and responsibility of executive management to develop processes to implement risk management, to assign managers as risk owners to manage risks and to initiate risk event identification processes towards development of a risk profile. Furthermore, executive management should initiate risk assessment plans, assess the effectiveness of these mitigation plans, monitor that exposure is within set tolerance levels, report to the board on the risk profile of the organisation as well as emerging risks.

The Deposit Insurance Corporation of Ontario (DICO, 2011:7) stated that management is accountable to the board to design or develop a risk management process which is integrated into daily managerial activities. The King III Code clarifies the difference between the roles of the CEO and executive management by stating that the CEO should provide leadership, but if the whole executive management is involved, it would enhance the effectiveness of risk management within the organisation. The King III Code (IODSA, 2009:74), furthermore, states that risk management is the primary responsibility of line managers and that line managers should be regarded as the first line of defence against risk events realising, with risk experts as the second line of defence.

In conclusion, from the sources cited above, it can be concluded that the roles and responsibilities of executive and line managers regarding risk management, include those summarised in Table 2.4 below. As in previous cases, one or more categories were proposed for each role/responsibility and reporting lines were identified where applicable.

**Table 2.4: Risk management roles and responsibilities of managers**

<b>Roles and responsibilities of executive management</b>	<b>Related key component/s</b>	<b>Reporting lines</b>
Lead, guide and support the process of strategy development, including the identification of strategic objectives and guarantee of an effective control function	Strategy Control	
Support subordinate managers on all levels to translate organisational strategy and objectives into subordinate strategic objectives and guide them towards realising these objectives	Strategy	Line managers
Lead subordinates to reach organisational goals by taking risks within the set risk appetite limits of the organisation	Culture Strategy	Line managers
Assign or delegate responsibility for risk management to subordinate line managers to include risk management in all managerial functions and include all managers in the culture of managing risks	Structure	Line managers
Execute the day-to-day managerial functions of the organisation with the risk management functions fully integrated in all the managerial functions of all line managers	Strategy Structure	
Create a risk management culture and provide strategic leadership and governance in the form of suitable controls for the risk management function	Culture Governance Process	
Establish processes for risk event identification, assessment and review, and oversee the development and application of effective risk mitigation plans	Process	
Review the risk register continuously and see to it that mitigation plans and control measures are applied to maintain risk exposure within set tolerance levels	Process	
Implement an incident management system to monitor and address incidents and near-losses	Process	
Report to the board with regards to risk management via the organisation's established risk management structures	Governance	Board of directors

Source: Compiled from sources cited in Section 2.8.3.

#### 2.8.4 Chief Risk Officer (CRO).

NACUBO (2007:11) described the role of the CRO as the leader and promoter of the risk management initiative. It might also be the responsibility of the CRO to monitor and report risk management performance outcomes to the executive management team. According to NACUBO (2007:12), the CRO should see to it that all functional groups and levels within the organisation are involved with risk management. Furthermore, a CRO can also fulfil the function of researching and identifying endemic risks for the specific organisation type or sector.

The Department of Trade and Employment of Queensland (DETA-Qnd, 2012:14) described the role of the CRO as the “champion” leading and supporting the risk management function throughout the organisation. It is also the CRO’s role to develop, implement, review and improve the organisation’s risk governance and policy framework and related risk management documentation. The development of the organisation’s risk management plan also forms part of the CRO’s roles and responsibilities. Furthermore, DETA-Qnd (2012:14) stated that the CRO fulfils a coordinating function, managing the organisation’s risk management department, collecting data for reporting compliance and risk management performance to the executive management and the board, helping to determine risk appetite and tolerance levels and developing capacity and capabilities within the organisation to manage risks. Determining risk appetite and tolerance levels are reviewed in Section 2.10 on risk management process.

COSO (2004:86-87) stated that a CRO is the organisation’s champion working towards establishing an effective risk management programme. As stated by NACUBO (2007:12), it might be part of the CRO’s role and responsibility to collect data, monitor progress and report to the executive management team on risk management performance.

According to COSO (2004:87), it is the role and responsibility of the CRO to:

- Develop a risk management policy framework and supporting documents;
- Promote and support the delegation of authority and accountability for risk management from the CEO via the line structures to all business units;
- Promote risk management by developing skills, competence and technical abilities among the organisation’s managers;
- Guide the integration of risk management with all other managerial functions;
- Establish a common risk language for the organisation; and
- Report progress and shortcomings to the management team and board.

From the sources reviewed, the key roles and responsibilities of the CRO can be summarised as in Table 2.5 below, with each role and responsibility related to a key component and reporting lines identified.

**Table 2.5: Risk management roles and responsibilities of the CRO**

<b>Roles and responsibilities of the CRO</b>	<b>Related key component/s</b>	<b>Reporting lines</b>
Promote the risk management function while fulfilling the role of risk management champion for the organisation, to ensure that the risk management function is fully integrated in all managerial functions	Strategy Culture	
Provide guidance and support to managers on all levels, thereby developing risk management competencies and skills throughout the organisation. This will be beneficial towards creating an in-depth understanding of the risk profile of the organisation or generic risks associated with the type of business or organisation.	Culture Process	All managers
Collect risk management performance data for feedback and reporting to management and the board	Process Communication	Management Board
Ensure that all departments within the organisation participate in identifying and managing their risks	Process	
Develop the risk management governance documents such as the policy, framework, roles and responsibilities	Governance	
Develop a risk management strategy and plan and present it to executive management and the board of directors for their approval	Strategy	Management Board
Develop and present the organisation's risk appetite statements and propose risk tolerance levels for consideration and approval by executive management and the board	Strategy	Management Board
Manage the organisation's risk management department	All	Management Board

Source: Compiled from sources cited in Section 2.8.4.

### **2.8.5 Chief Financial Officer (CFO).**

For the purpose of this study, this section only focuses on the roles and responsibilities of the CFO with regards to risk management at a strategic level. According to COSO (2004:87), the CFO is typically a member of the executive management team whose responsibilities cut horizontally and vertically through the organisation's structures. The CFO's role includes operational, compliance and reporting functions, which are complementary to the role and responsibility of the CRO relating to financial management of the organisation. According to COSO (2004:87), the CFO plays an important role in terms of the setting of the organisational budget, recommending approval thereof to the executive management and board, and joins the CEO and CRO to set the tone from the top regarding the ethical conduct and making risk management part of the day-to-day management tasks. Furthermore, COSO (2004:87) stated that the CFO has the important function to ensure compliance to the financial reporting requirements and to prevent fraudulent reporting practices.

The CFO also makes important and valuable inputs to the organisation's strategy and goals, as finances and affordability are prerequisites of any strategy. This is a critically important risk management supporting function as it is imperative that the risk exposures are quantified in terms of a value to ensure a manageable input for a realistic risk appetite during the strategic risk management process.

NACUBO (2007:11) also mentioned setting the tone from the top regarding the establishment of ethical conduct throughout the organisation. It is an important role of the CFO to demonstrate personal managerial and financial competence, trustworthiness and credibility, to gain the trust of all the internal and external stakeholders (NACUBO, 2007:11). NACUBO confirmed that it is the responsibility of the CFO to support and assist the CRO in establishing a risk management competent organisation. This support could be in the form of inputs towards the risk management policy and procedures, aligning the audit function and plan with the risk management function, setting a personal example towards identifying and managing risks, and participating in executing the risk management plan.

In conclusion, the roles of the CFO relating to risk management, can be summarised and categorised as in Table 2.6 below, with each role and responsibility related to a key component and the customary reporting lines proposed.

**Table 2.6: Risk management roles and responsibilities of the CFO**

<b>Roles and responsibilities of the CFO</b>	<b>Related key component/s</b>	<b>Reporting lines</b>
Support the CRO to establish a risk management organisation with risk management embedded in all managers' day-to-day activities	Strategy Culture	CRO
Set a personal example with regards to ethical conduct and professional competence, so that the organisation's image gains from the credibility of the CFO	Culture	
Set and maintain the standards of financial reporting, thereby ensuring compliance with internal and regulatory reporting requirements	Process	
Partner with the CRO towards formulating the organisational strategy which includes the risk management strategy and the development of a risk appetite for approval by the board of directors	Strategy	CRO
Initiate and maintain measures to prevent fraud and fraudulent reporting practices	Control	

Source: Compiled from sources cited in Section 2.8.5.

### 2.8.6 Internal audit

According to NACUBO (2007:12), the internal audit function is a complementary function to the risk management function, but it should be totally independent to be able to provide assurance without internal influences. NACUBO (2007:12) continued that it is an important role and responsibility of internal audit to review organisational processes and report to the board whether the organisation followed established processes and procedures. Although internal audit may also provide leadership, the core responsibility is auditing, which includes the auditing of the risk management function NACUBO (2007:13).

Young (2008:41) stated that the role of the internal audit function related to risk management includes:

- Providing risk management assurance in accordance to set policies and standards;
- Ensuring that all risks are addressed during the strategic planning process and approved risk management framework;
- Providing inputs towards risk appetite setting;
- Monitoring and reporting on the effectiveness of risk management practices and risk controls.

According to COSO (2004:88), the role of internal audit is to evaluate the effectiveness of the risk management process and recommend improvements where necessary. The scope of internal audit function includes the auditing and reliability of reporting, effectiveness of the risk management programme and operations and compliance with laws and regulations (COSO, 2004:88). As such, the internal auditor function needs to be independent in order to be objective during the performance of the audit function. In support of this statement, the Department of Trade and Employment of Queensland (DETA-Qnd, 2012:14) stated that it is the role and responsibility of internal auditors to provide management and the board with objective assurance regarding the risk management process and internal controls employed by the organisation. This assurance is on the effectiveness of the risk management process, the correctness of risk evaluations, assessed correctness of the key risks and review of the management of key risks.

The role and responsibilities of the internal auditors can be listed as follows:

**Table 2.7: Risk management roles and responsibilities of Internal Audit**

<b>Roles and responsibilities of Internal Audit function</b>	<b>Related key component/s</b>	<b>Reporting lines</b>
Assess the effectiveness of the risk management programme	Governance Monitoring	
Report to top management on the audit findings	Governance	Management
Audit the effectiveness of the risk management programme, effectiveness of internal controls, following of procedures and processes and compliance to internal policies and regulatory requirements	Governance	
Provide objective assurance to the board of directors on the functions audited	Governance	Board
Provide inputs and guidance to refine processes, elevate the risk management maturity level and improve the effectiveness of controls	Process	

Source: Compiled from sources cited in Section 2.8.6.

## **2.9 ROLES AND RESPONSIBILITIES ALIGNED WITH KEY COMPONENTS**

In this section, the key components of risk management and the roles and responsibilities in the previous section, are aligned to provide a comprehensive summary of key role-players' roles and responsibilities towards the key components of risk management.

The key components of a risk management framework were identified as: (1) risk context/culture; (2) risk strategy; (3) risk governance; (4) structures; (5) roles and responsibilities; (6) risk management process; and (7) communication and consultation.

### **2.9.1 Roles and responsibilities of the board of directors aligned with key components**

- i) Towards establishing the risk context/creating and maintaining a risk culture:
  - Encourage management and show commitment towards successful risk management in the organisation;
  - Promote a culture of ethics and integrity.
- ii) Towards establishing and promoting risk governance:
  - Oversee the full risk management function;
  - Develop a holistic view of all the risks the organisation faces and ensure that risks are managed effectively;
  - Approve the risk management policy.
- iii) Towards establishing a risk strategy and structure:
  - Appoint an Audit and Risk Committee to oversee risk and audit functions to ensure that the organisation operates within its policies and financial means;
  - Set the risk appetite;
  - Set priorities regarding risk treatment and action plans.

- iv) Towards effective risk controls:
  - Approve and oversee adherence to set tolerance levels.
- v) Towards communication and consultation:
  - Report to all stakeholders on risk management issues.

### **2.9.2 CEO's roles and responsibilities aligned with key components:**

- i) Towards establishing the risk context / creating and maintaining a risk culture:
  - Provide leadership and direction to the team of top managers;
  - Demonstrate integrity and ethical values and lead the organisation towards crafting and complying to set norms, high ethics and suitable managerial conduct.
- ii) Towards establishing and promoting risk governance:
  - Report to the board on behalf of the executive management.
- iii) Towards establishing a risk strategy:
  - Lead the process for crafting the organisations strategy;
  - Set a high-level risk management agenda and guide the way towards high risk management maturity levels;
  - Guide, lead and support the management team towards realising the organisational goals within the parameters of effective corporate governance.
- iv) Towards establishing a risk management structure:
  - Appoint the necessary management committees and delegate responsibilities and authority to enable subordinates and committees to execute tasks.
- v) Towards compliance:
  - Take responsibility and oversee the compliance function.

### **2.9.3 Management's roles and responsibilities towards risk management:**

- i) Towards establishing the risk context / creating and maintaining a risk culture:
  - Create a risk management culture and provide strategic leadership;
  - Include all managers in the culture of managing risks.
- ii) Towards establishing and promoting risk governance:
  - Provide governance in the form of suitable controls for the risk management function;
  - Report to the board with regards to risk management via the organisation's established risk management structures.

- iii) Towards establishing a risk strategy:
  - Lead, guide and support the process of strategy development, including the identification of strategic objectives;
  - Support subordinate managers on all levels to translate organisational strategy and objectives into subordinate strategic objectives and guide them towards realising these objectives;
  - Lead subordinates to reach organisational goals by taking risks within the set risk appetite limits of the organisation.
- iv) Towards establishing a risk management structure:
  - Assign or delegate responsibility for risk management to subordinate line managers to include risk management in all managerial functions;
  - Execute the day-to-day managerial functions of the organisation with the risk management functions fully integrated in all the managerial functions of all line managers.
- v) Towards establishing and following a risk management process:
  - Establish processes for risk event identification, assessment and review, and oversee the development and application of effective risk mitigation plans;
  - Review the risk register continuously and see to it that mitigation plans and control measures are applied to maintain risk exposure within set tolerance levels.

#### **2.9.4 CRO's roles and responsibilities**

- i) Towards establishing and promoting risk governance:
  - Develop the risk management governance framework and supporting documents, such as the policy, framework, roles and responsibilities.
- ii) Towards establishing a risk strategy:
  - Develop a risk management strategy and plan and present it to executive management and the board of directors for their approval;
  - Develop and present the organisation's risk appetite statements and propose risk tolerance levels for consideration and approval by executive management and the board;
  - Promote the risk management function while fulfilling the role of risk management champion for the organisation, to ensure that the risk management function is fully integrated in all managerial functions.
- iii) Towards establishing and following a risk management process:
  - Provide guidance and support to managers on all levels, thereby developing risk management competencies and skills throughout the organisation. This will be beneficial towards creating an in-depth understanding of the risk profile of the organisation of generic risks associated with the type of business or organisation;

- Ensure that all departments within the organisation participate in identifying and managing their risks.
- iv) Towards communication, monitoring and review:
  - Collect risk management performance data for feedback and reporting to management and the board.

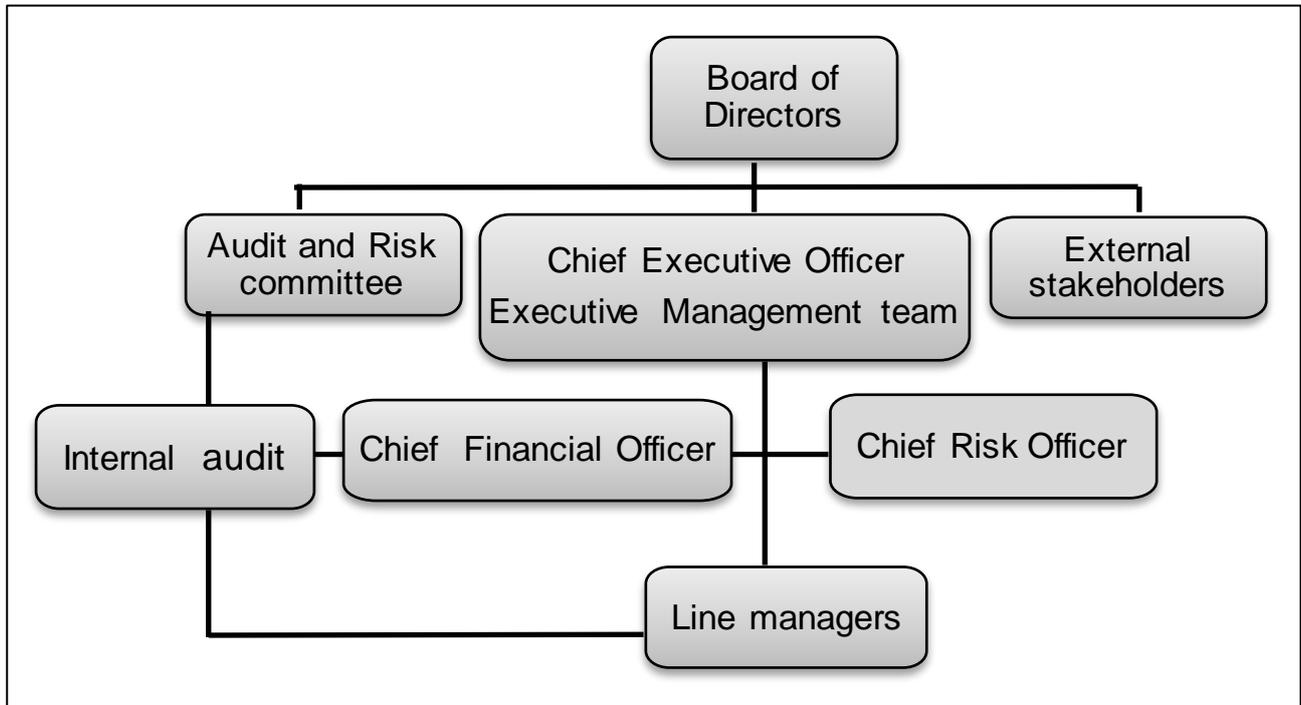
### **2.9.5 CFO's roles and responsibilities towards risk management**

- i) Towards establishing the risk context / creating and maintaining a risk culture:
  - Support the CRO to establish a risk management organisation with risk management embedded in all managers' day-to-day activities;
  - Set a personal example with regards to ethical conduct and professional competence, so that the organisation's image gains from the credibility of the CFO.
- ii) Towards establishing a risk strategy:
  - Partner with the CRO towards formulating the organisational strategy which includes the risk management strategy and the development of a risk appetite for approval by the board of directors.
- iii) Towards establishing and following a risk management process:
  - Set and maintain the standards of financial reporting, thereby ensuring compliance with internal and regulatory reporting requirements.
- iv) Towards effective risk controls:
  - Initiate and maintain measures to prevent fraud and fraudulent reporting practices.

### **2.9.6 Internal audit function's roles and responsibilities towards risk management**

- i) Towards establishing and promoting risk governance:
  - Audit the effectiveness of the risk management programme, effectiveness of internal controls, following of procedures and processes, and compliance to internal policies and regulatory requirements;
  - Report to top management on the audit findings;
  - Provide objective assurance to the board of directors on the functions audited.
- ii) Towards establishing and following a risk management process:
  - Provide inputs and guidance to refine processes, elevate the risk management maturity level and improve the effectiveness of controls.
- iii) Towards, monitoring and review:
  - Assess the effectiveness of the risk management programme.

This section dealt with and aligned the components of the risk management framework with key role-players and their responsibilities. The reporting lines identified from the roles and responsibilities were used to compile a possible organisational structure. The combined outcome of the reporting lines as identified above is graphically presented in Figure 2.5 below.



**Figure 2.5: Risk management structure deduced from roles and responsibilities**

Source: Researcher.

The next section shows how a typical risk management structure was compiled from the literature reviews, indicating the key role-players and their roles and responsibilities relating to risk management. Finally, these conclusions were then grouped according to each key role-player's roles and responsibilities towards each of the risk management components, as summarised in Table 2.1.

A risk management strategy was defined as the approach adopted for managing risks embedded in the organisation's objectives and strategies. The components reviewed above, namely risk structure, key role-players and their roles and responsibilities, are thus interrelated components that need to be integrated into a risk management strategy. The conclusions made during the literature review, were tested for validity during the practical part of this study.

The final identified component of a risk management strategy that is addressed in the next section, is the risk management process.

## 2.10 RISK MANAGEMENT PROCESS

### 2.10.1 Overview

This section reviews the literature on the risk management process. Earlier in this chapter, the risk management process was identified as one of the key components of a risk management framework. Sources were studied to establish the characteristics and the steps that typically form part of a risk management process, which serves as an operational process towards realising an organisation's strategic objectives. Each step of the process was reviewed to provide insight into a typical risk management process.

ISO 31000 (2009:3) defined the risk management process as a systematic application of several organisational protocols, procedures and practices, towards identification, evaluation, treatment, monitoring and reviewing of organisational risks, via continuous communication and consultation.

According to ISO 31000 (2009:13), the characteristics of a risk management process, are that it needs to be an integral part of day-to-day management activities that needs to be embedded into the general managerial practices, the culture and the ethos of the organisation. Every organisation's risk management process needs to be tailor-made for the organisation's unique requirements. There is thus no 'one process fits all' for risk management processes. The King III Code (IODSA, 2009:74) confirmed the required characteristics listed by ISO 31000 by stating that an organisation's management team needs to design and implement a risk management process that is integrated into the day-to-day activities of the company. The King III Code (IODSA, 2009:75) also stated that risk management is not a single departmental function or function undertaken by an individual, but a team-based process applied across the organisation.

ISO 31000 (2009:14) proposed the following activities as part of a risk management process:

- i) Communication and Consultation;
- ii) Establish the context;
- iii) Risk assessment:
  - o Risk event identification
  - o Risk analysis
  - o Risk evaluation
- iv) Risk treatment;
- v) Monitoring and review.

The ISO 31000 framework and process (2009:14) use multiple directional arrows. It is deduced that these multiple directional arrows graphically illustrate that the risk management process activities flow in a cycle, but also in both directions between the steps of Communication & Consultation and Monitoring & Review. These two steps are thus concluded to be interrelated rather than in linear sequence.

Following the review of several sources, the conclusion can be made that the ISO 31000 risk management process is widely accepted as a guideline for a risk management process by many organisations. Several organisations have accepted and applied the ISO 31000 framework and process to their organisation without any adaptations or modifications. Among these are, for example, the University of Newcastle (2010:3) and the University of Regina (2012:5). As a result, the ISO 31000 framework could add intrinsic value to the literature review relating to a risk management process.

The King III Code (IODSA, 2009:77) proposed a risk management framework that is very similar to, but marginally different to, the ISO 31000 process. The similarities are that both the King III Code and ISO 31000 propose establishing the context at the start of the process, followed by the identification and treatment of risks. Both processes include the steps of identifying potential risk events, risk analysis, risk assessment and risk treatment.

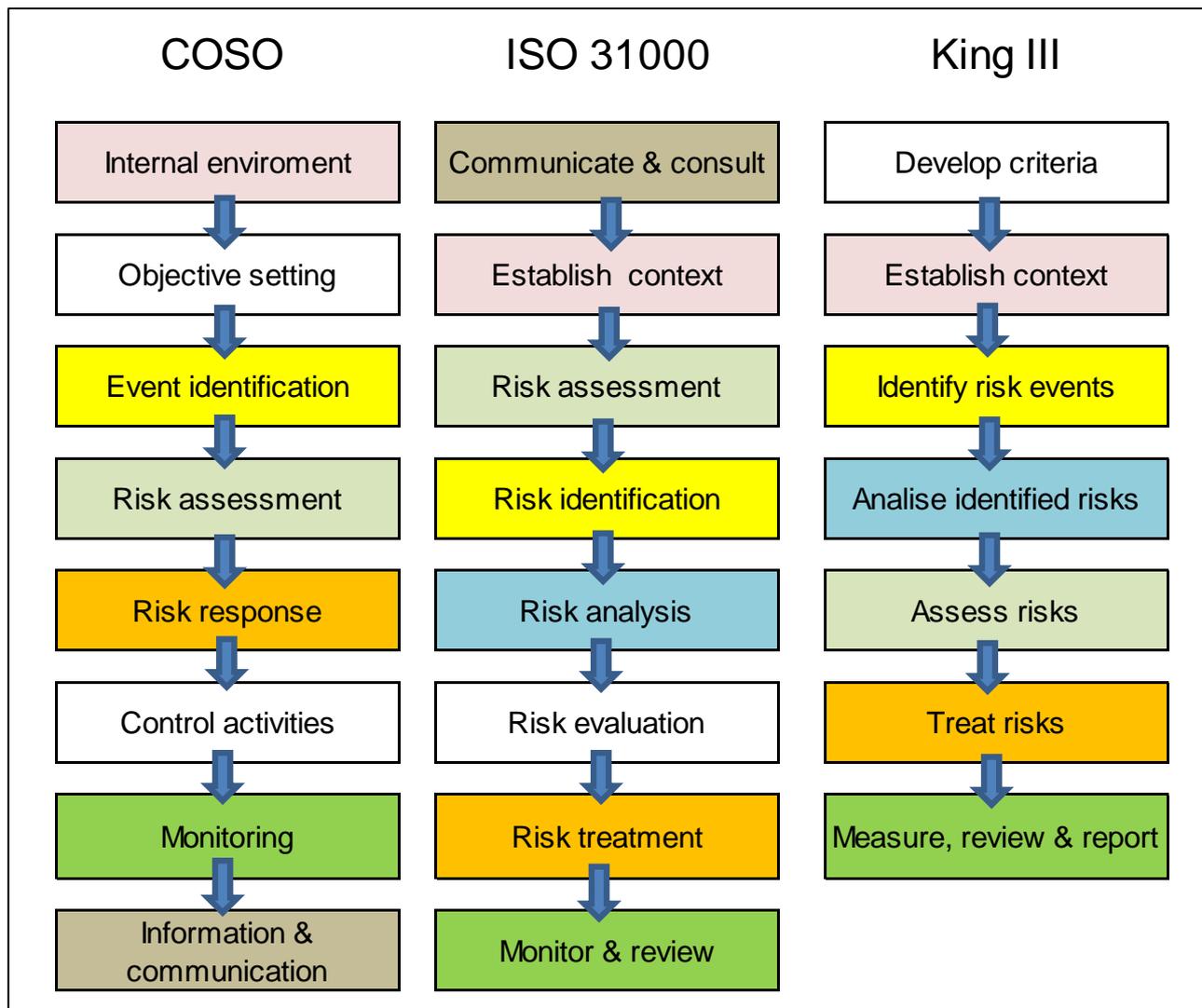
The COSO integrated framework is graphically represented in the form of the COSO cube (2011:5), which is a three-dimensional cube with (1) the risk management objectives presented as the first dimension, (2) the levels of the organisational structures as the second dimension and (3) risk management components as the third dimension of the three-dimensional cube. According to COSO (2011:5), objectives are that which the organisation strives to achieve and the components are the activities needed to achieve the objectives with the organisational levels as the third dimension. COSO does not specifically refer to a risk management “process”, but the “components” which are defined by COSO (2004:22; 2011:5) as “what is needed to achieve objectives” correspond with the ISO 31000 process activities. For the purpose of this study, it is concluded that the eight interrelated “components” of the COSO cube, as depicted on the one dimension of the three-dimensional cube, depict the steps of the risk management process.

A comparison of the COSO integrated framework’s eight steps (COSO, 2004:22), the ISO 31000 (2009:14) process and the King III Code (IOD, 2009:77) indicates several similarities between the three processes. More specifically, it was found that six steps are present within more than one of the processes (refer to Figure 2.6 below):

- i) Establishment of the context;
- ii) Risk event identification;
- iii) Risk analysis;
- iv) Risk assessment;
- v) Risk treatment; and
- vi) Monitoring and review.

Furthermore, it was found that there are marginal differences between the key terms of the three processes, such as “risk response” in the COSO framework (2004:22), “risk treatment” in the ISO process (ISO 31000:14) and “treat risk” in the King III Code (IODSA, 2009:77). Although these three

terms are accepted to have similar meanings, the marginal terminological differences could confuse some readers. Figure 2.6 was compiled from the three sources to illustrate the similarities and differences among the processes.

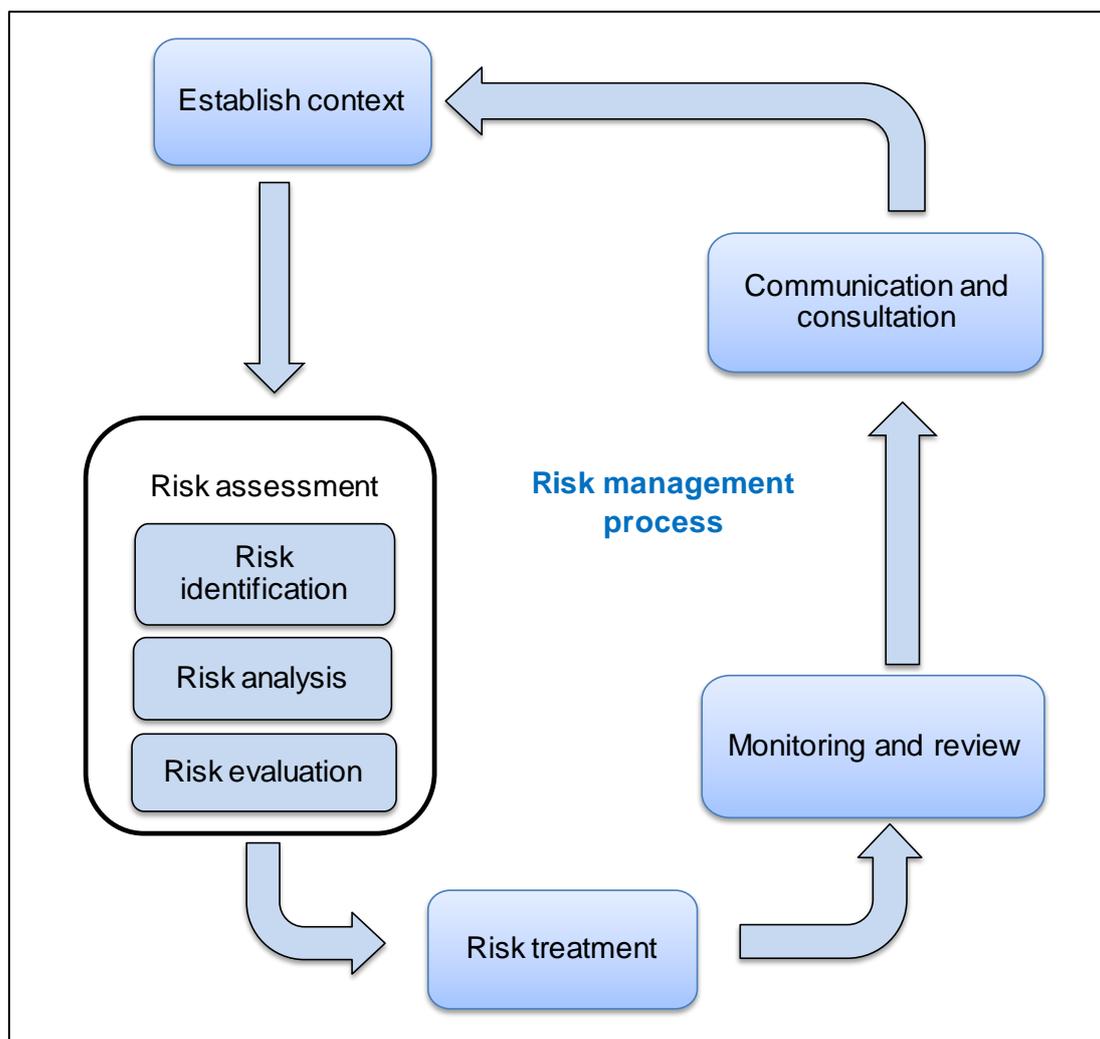


**Figure 2.6: Comparison of risk management process steps**

Source: Compiled from IODSA, 2009:77; ISO 31000, 2009:14; COSO, 2004:22.

From reviewing these similarities or marginal differences, it can be concluded that there are at least five steps of a risk management process, of which the second step, namely risk assessment, consists of three subordinate steps.

Figure 2.7 below was compiled as a combination of the three guideline processes reviewed earlier. For the purpose of this study, the combined process below was accepted as a comprehensive risk management process.



**Figure 2.7: Proposed risk management process**

Source: Compiled from IODSA, 2009:77; ISO 31000, 2009:14; COSO, 2004:22.

With the steps of the risk management process as extracted from literature reviewed to this point, Figure 2.7 was compiled. In the next section, each step of the process is reviewed.

### 2.10.2 Establish the context

ISO 31000 (2009:10) stated that the establishment of the organisational context is a preliminary step before crafting an organisational risk management framework. ISO distinguishes between external and internal context. The external context is the political-, economic-, social-, technological-, environmental- and legal (PESTEL) environment wherein the organisation operates. The internal context includes internal strategic objectives, capacities, capabilities, resources, restraints, culture, policies, standards, guidelines, contractual relationships, information and information systems and internal characteristics influencing the way the organisation operates (ISO 31000:2009:10).

COSO (2004:27) did not specifically mention the assessment of the external environment, but stated that the consideration of the internal environment serves as basis for all other components of the risk management process. According to COSO (2004:27), the internal environment to be considered is the factors providing discipline and structure within the organisation and risk management process. Some of the considerations, as mentioned by COSO, are the risk management philosophy, risk appetite, oversight and guidance given by the board of directors, integrity, ethical values and delegation of authority.

A comparison was done to establish if the COSO assessment of the "internal environment" is similar to the ISO 31000 "establishment of the context". COSO (2004:27) listed the components of the internal environment to be, among other, the risk management philosophy, risk appetite, organisational values, competencies, authority and responsibilities. These considerations were found to be similar to the ISO 31000 (2009:10) considerations for establishing the context. It can thus be concluded for the purpose of this study, that the COSO internal environmental assessment is similar to the ISO 31 000 establishment of context.

Payne (2009:19) combined the terminology by referring to the "external context", which is taken to be a combination of the terms "external environment" and "establishing the context". She proposed that opportunities and threats are considered along with the PESTEL external considerations. She further proposed the internal considerations to include the operating style, objectives, risk appetite and culture.

According to OurCommunity (2013:1), the considerations for establishing the context include organisational aims, objectives, activities, structures and the method of operation. The guiding considerations proposed by this internet source mention the "soft issue" considerations, such as objectives and core activities, but also physical considerations, such as facilities, as part of establishing the context.

The Association of Governing Boards of Universities and Colleges (NACUBO, 2003:3) follows the COSO guideline that the internal environment needs to be considered, with reference to the culture, values and environment in which the organisation operates.

The King III Code (IODSA, 2009:77) also listed the consideration of organisational objectives and external factors (PESTEL) along with internal factors when establishing the organisational context.

It can thus be concluded from the sources reviewed that the consideration of the organisational context is one of the steps of an organisational risk management process that needs to be part of a continuous risk management cycle. Furthermore, it can be concluded that organisational context is established by considering external as well as internal factors. External factors are typically the PESTEL considerations, referring to political-, economic-, social-, technological-, environmental- and legal considerations that are external but influencing the organisation. Internal considerations towards establishing the context include the organisational culture, values, policies, resources,

restraints, standards, guidelines, contractual relationships, information, as well as infrastructure and assets and other similar considerations that make a contribution to the way the organisation operates. All these external and internal considerations need to be part of the first steps of a risk management process, namely establishing the organisational context.

### **2.10.3 Risk assessment process**

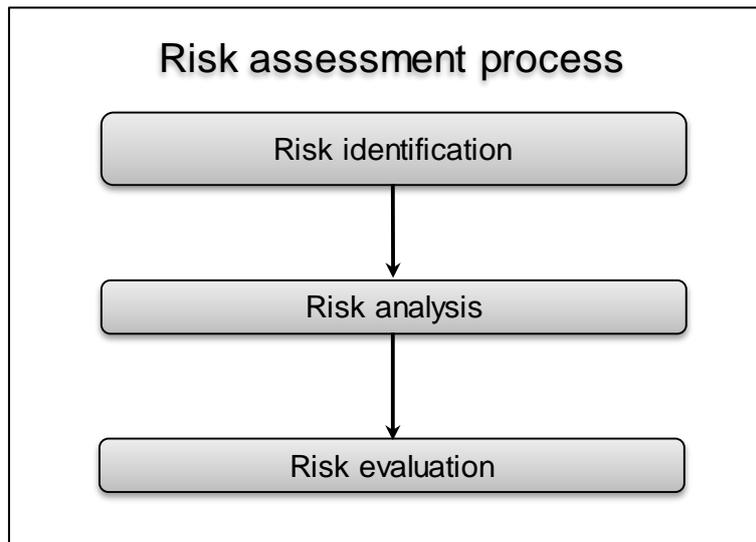
ISO 17799 (2014:1) defined risk assessment as a procedure to (1) identify risks; (2) analyse them with regards to the exposure and impact; to (3) eliminate or reduce the probability or impact thereof. This definition thus treats risk assessment as a combination of three subordinate activities of the five-step risk management process.

Rouse (2010:1) defined risk assessment as a process that includes risk event identification and risk analysis activities aimed at establishing the extent of threats to people or businesses. Rouse thus acknowledged two of the steps, namely risk event identification and risk analysis.

The Business Dictionary (2014a:1) described 'risk assessment' as a component of risk management that consists of risk event identification, determining the cause and effect thereof, evaluating various outcomes under different assumptions and probabilities. Determining the cause of a risk event is accepted to be risk event identification, while determining the effect is similar to determining the impact thereof. Components of two subordinate steps are evident in this definition.

According to COSO (2004:49), risk assessment is undertaken to provide information about unexpected events. COSO furthermore stated that an organisation assesses risks to determine the organisation's total risk profile. This enables the organisation to establish the total threat facing the organisation and the probability that risk events might prevent the organisation from realising its objectives. COSO (2004:49) also referred to and explained the terms 'inherent' and 'residual' risk assessment. 'Inherent risk' is the extent of risk exposure in the absence of risk mitigation actions and 'residual risk' is the risk exposure still present after risk mitigation steps have been taken. COSO stated that likelihood and impact assessment are part of the risk assessment activity. They proposed risk assessment tools, such as benchmarking, probabilistic- and non-probabilistic quantitative models, to be used to determine the risk exposure both on inherent risk level as well as residual risk level. In conclusion, determining the threats facing the organisation is accepted to be similar to risk event identification. The determination of inherent risk is accepted to be part of the risk analysis process, while residual risk is determined after the application of mitigation plans. In conclusion, the COSO (2004:49) literature referred to all the subordinate steps of the risk assessment process, as well as risk treatment activities.

ISO 31000 (2009:14) graphically demonstrates that risk assessment is a term used to describe the three-step activity of risk event identification, risk analysis and risk evaluation.



**Figure 2.8: ISO 31000 Risk Assessment Process**

Source: ISO 31000, 2009:14.

From the sources reviewed and for the purpose of this study, risk assessment is accepted to be a process consisting of three subordinate processes, namely: (1) risk event identification; (2) risk analysis; and (3) risk evaluation. These three subordinate processes are reviewed separately to provide insight in the full scope of risk assessment.

### **2.10.3.1 Risk event identification**

A risk event is defined by COSO (2004:41) as an incident or occurrence resulting from internal or external sources that might influence the organisation's ability to achieve its strategic objectives. The reference to internal and external sources links the first step of the process, namely establishing the context, to this second step of risk event identification. COSO stated that risk event identification is a function whereby management considers all potential events of which the occurrence and impact are not certain. COSO furthermore distinguished between risk events that may result in losses and events related to opportunities not to be missed or to be taken in the pursuit of stakeholder value. COSO (2004:41) aligned the factors considered during establishment of the context with risk event identification by stating that management needs to consider extensive numbers of internal and external factors that influence the organisation's ability to reach its strategic goals.

According to Carothers (2010:1), risk event identification is not only the first step of the risk management process, but also the most important step. He believes that a risk first needs to be identified before it can be analysed, managed or reported.

Carothers distinguished between 'passive risks' and 'active risks'. He stated that passive risks are risks assumed by an organisation without the organisation knowing the extent of their exposure and

therefore also not managed. 'Active risks' are risks that have been identified and managed. Carothers (2010:1) said that an organisation needs an active risk strategy, but that a thorough risk event identification process is an utmost requirement for such a strategy.

According to the King III Code (IODSA, 2009:82), risk event identification should not focus on a fixed list of risk types, but rather adopt a comprehensive approach to scan for all potential risk events that might influence the organisation's objectives.

The King III Code (IODSA, 2009:80) treated the topic of risk event identification differently from the previously-mentioned sources. The King III Code provided clues or guidelines to risk event identification, such as that the board of directors must specifically consider risks that affect the sustainability of the organisation. Furthermore, King III proposed that the services of experts are utilised and that the risk committee must be appointed to, among other, consider the significant risks facing the organisation. This guideline is accepted to be similar to risk event identification activities.

Under the heading of risk assessment, the King III Code stated that risk assessment should provide a perspective of the risks facing the organisation. This can be interpreted to mean that a wide scope of risks should be identified during the risk assessment process.

Most sources reviewed proposed several alternative methods for risk event identification. Carothers (2010:2) stated that risks could be identified by utilising one, more than one or a combination of the following techniques:

- Considering information obtained from checklists and internal survey results;
- Trends identified from studying flowcharts;
- Conclusions and trends made from reviewing insurance claims and policies;
- Outcomes of physical plant inspections;
- Outcomes of compliance review reports;
- Comparison between procedures and policies with actual operations;
- Revision of contracts;
- Recommendations and reports by experts;
- Financial statement analysis, specifically with reference to maintenance and loss damage payments.

COSO (2004:43) distinguished between risk event identification methods that focus on past events and those focusing on the future. According to COSO, the techniques focusing on the past, include overview of payment defaults, changes or trends in commodity price changes and lost time due to accidents. These techniques are similar to Carothers's revision of checklists, surveys, trends, flowcharts and all other reports providing insight into past operations and specifically past losses. COSO (2004:43) listed consideration of future demographic changes, changing market conditions and changes in competitor actions as future-orientated risk event identification techniques.

In conclusion, it can be deduced that a combination of several techniques could be used to identify risks that might impair an organisation's ability to realise its strategy, or alternatively stated, risks in the context of the organisation's purpose. In the absence of risk event identification steps, organisations carry the burden of passive risks or risks of which the extent is neither known, nor managed. Risk event identification processes identify the risks to be managed actively, thus active risks. There are numerous techniques to identify risks, some focusing on historical data and some on future projections. The risk event identification process is linked to establishment of the context as the context provides the clues towards the sources of risks to be identified. Risk event identification is also linked to risk assessment as risk assessment is applied to identify risks to provide perspective to the risks challenging an organisation.

### **2.10.3.2 Risk analysis**

ISO 31000 (2009:18) stated that risk analysis contributes to getting a better understanding of the risk, its origin, its exposure and the ways in which it might be treated. Understanding the causes and sources of a potential risk event, enables an organisation to identify potential consequences, including insight into the potential financial loss that a risk event might realise. These insights will enable an organisation to prioritise risk mitigation actions to minimise the potential effect of risk events. According to ISO 31000 (2009:18), risk analysis consists of the application of tools and techniques to establish the potential likelihood and impact of a risk event.

Rouse (2010:1) stated that risk analysis can be done either quantitatively or qualitatively: Quantitative measures use numerical techniques, such as calculation of probabilities; and qualitative analyses are subjective non-numerical techniques to determine the extent of risk exposure.

Investopedia (2014:1) stated that risk analysis applies methods to study uncertainty in order to determine probability and impact of uncertain future events. This source mentioned several quantitative tools used for analysis, such as cash flow streams, statistical analysis and forecasting methods. Both Investopedia (2014) and Rouse (2010) thus confirmed that risk assessment require qualitative and quantitative methods to determine the extent of risk exposure. The Business Dictionary (2014c:1) also acknowledged the use of quantitative and qualitative methods to reduce uncertainty related to risk.

Janssen (2010) explained risk analysis as the application of quantitative and qualitative measures to analyse risks. Quantitative measures are used to determine the loss probabilities to enable the organisation to forecast the potential financial loss from the potential risk event realising. The qualitative measures are non-numerical methods used to review threats and establish risk treatment methods and solutions (Janssen, 2010).

From the sources reviewed, it can be concluded that risk analysis uses quantitative and qualitative measures used to determine the probability of a risk event realising and the extent of financial exposure. Furthermore, it can be concluded that these risk analysis methods are undertaken to obtain better insight into the risk exposure on both inherent and residual risk exposure levels.

### **2.10.3.3 Risk evaluation**

The Business Dictionary (2014b) stated that 'risk evaluation' is a function undertaken by an organisation to determine its risk priorities.

The Actuarial Standards Board (ASB, 2012:2) defined a risk evaluation system as methodologies, tools and practices utilised to measure potential risk impact on the performance metrics of the organisation. The ASB (2012:3) listed economic capital models, stress tests and scenario tests as potential risk evaluation tools. These examples lead to the conclusion that the ASB (2012:1-3) used the term 'risk evaluation' in a similar manner than the sources above used the term 'risk analysis'. As this somewhat confusing use of terminology was found regularly during the literature review, the conclusion of this section aims at clarifying the differences between the steps and terms.

The European Environment Agency (EEA, 2011:1) stated that risk evaluation is about the perceptions of those affected by risks, the value issues or potential loss probability of a risk event and the trade-off between risk and benefit. The EEA (2011) clarified the above by stating that risk evaluation is done in an attempt to estimate what a risk means to the person affected by it. This source raised the role of perceived risk, over and above calculated or estimated risk. The perceived risk in the view of the affected parties serves as drivers for risk mitigation actions. This unconventional view of risk evaluation needs to be interpreted in the context of the source organisation, namely the European Environmental Agency. For instance, an environmental organisation will rely stronger on perceived risk than calculated risk as the effect of risk events on the environment is easier perceived than accurately measured.

From the sources listed above, it can be concluded that risk evaluation needs to be interpreted in the context of the specific organisation type. To obtain more views of risk evaluation as a step of the risk management process, the risk evaluation literature of the guideline risk frameworks ISO 31000 and the COSO Integrated Framework were reviewed.

According to ISO 31000 (2009:18), the purpose of the risk evaluation is to assist organisations to prioritise their risk profile. These priorities are then used to develop and implement a risk treatment plan. ISO 31000 (2009:18) proposed the alignment of the risk management process with risk strategy by stating that risk evaluation is done to be able to compare the exposure levels of different risks to the risk appetite and risk tolerance levels.

COSO (2004:56) stated that risk evaluation is done to determine inherent risk exposure with the intention to identify the risk exposure and to identify the priorities for mitigation plans to force down exposure so that the residual risk is within the organisation's accepted tolerance levels.

Risk evaluation could also identify the risks of which exposure is already within acceptable tolerance levels, thus risks not in need of specific treatment plans.

According to the King III Code (IODSA, 2009:83), the outcomes of the risk assessment, with specific reference to risk event identification and risk analysis, should be interpreted to distinguish among (1) those risks in need of immediate action, (2) those for whom contingency plans need to be developed, and (3) those only in need of regular review to ensure that the exposure has not increased. This means that risks identified should be ranked so that those with exposure levels above the acceptable tolerance level could be prioritised.

In summary, risk evaluation is the subordinate step of risk assessment, followed by risk event identification and risk assessment, and leading the way toward risk treatment. The primary goal of risk evaluation is to rank the identified risks in priority order. These priorities will then serve as base for prioritising mitigation actions and supporting budgets. Objective considerations, such as maximum probable loss, as well as subjective considerations, such as the perceived potential influence of a risk event, are considered during risk evaluation. Risk evaluation is directly linked to the first step, namely establishing the context, as risk exposure needs to be assessed in terms of the organisational context and organisational objectives. Risk evaluation will result in a prioritised work agenda for risk mitigation plans. Following risk analysis, organisations will decide during evaluation which risks needs treatment urgently, which risks need contingency plans for potential events, and which could be tolerated until exposure has increased.

In conclusion, risk evaluation is the third and last subordinate step of a risk assessment process. Risk assessment consists of risk event identification, whereby several tools and techniques are applied to identify all potential risks threatening the organisation's ability to realise its objectives. It furthermore consists of risk analysis which entails quantitative and qualitative methods applied to obtain more information about the probability of the risk event realising and the impact it would have on the organisation reaching its goals. The analysis tools focus on assessing historical data as well as utilising mathematical tools to calculate future trends. The risk assessment process is concluded by ranking the risks relative to the assessment results to prioritise all risks. These priorities serve to guide the organisation towards mitigation plans pointing out which risks need urgent interventions and which not. The section to follow reviews literature about the risk process activity following risk assessment, namely risk treatment.

#### 2.10.4 Risk treatment

Risk assessment is followed by management interventions in the form of risk treatment plans. The literature on risk treatment as part of the risk management process was reviewed.

According to the Southern Cross University (SCU, 2007), risk treatment involves the identification, assessment and application of treatment options and application of a risk treatment plan. SCU (2007) distinguished between several different treatment options, namely:

- Acceptance of risk exposure;
- Initiating activities to reduce the likelihood of an event or the impact thereof;
- Transfer of the risk to other parties via contracts or outsourcing; and
- Risk avoidance, thus ending the activity totally as the risk exposure is too high to continue the activity.

The European Union Agency for Network and Information Security (ENISA, 2014a:1) defined risk treatment as the selection of alternative treatment options and application of one appropriate action as part of a suitable treatment plan. The ENISA (2014:1a) confirmed that not all risks have the same damage or loss potential, thus an appropriate treatment action should be selected with the aim to maintain a tolerable risk exposure or positive outcome; changing the likelihood or outcome impact, increase potential outcome benefits, retaining residual risk level or sharing the risk with other parties. These outcomes are considered and one is chosen with full consideration of the organisational context and strategy. According to the ENISA (2014:1a), an action plan culminates from assessing the alternative treatment options. An action plan typically includes detail about the actions, allocated resources, roles and responsibilities, performance metrics, monitoring and reporting requirements.

The Institute of Enterprise Risk Management of Australia (IERM, 2014a:1-5) identified treatment options with reference to the Australian – New Zealand 4360:2004 Risk management standard, referred to as the AS/NZS 4360:2004. This standard proposed four treatment options. The treatment options are similar to the ENISA (2014:1) options mentioned above, namely to avoid, to reduce the probability or likelihood, to transfer the risk or to accept the risk. This source provided an extended list of practical examples as guide to response plans, such as preparing emergency plans to reduce the impact of an emergency, providing staff training to reduce the probability of an event, installing warning systems and many more. The Institute (IERM, 2014a:1) offered guidance to organisations in the form of risk response plan assessment tools. The assessment considerations include cost, timing, administrative efficiency, compatibility, effect on the economy, effect on the environment and risk reduction potential. In conclusion, this source offers similar treatment options than previous sources as well as guidance to assessing different options.

The Madrid Organisation (2014:4) stated that there are two types of major risk treatment strategies, namely: (1) avoidance strategies; and (2) minimisation strategies. Avoidance strategies focus on actions to reduce the *likelihood* of an event, while minimisation strategies focus on reducing the *impact* of an event.

The four avoidance strategy options are:

- Transferral of the risk;
- Reduction of the likelihood of occurrence or the impact thereof;
- Elusion by stopping the activity or using alternative methods to reach objectives; and
- Diversification by spreading the risk from one to several departments, markets, sections, suppliers or products.

The Madrid Organisation (2014:5) stated that when the potential event is a reality, there is only one minimisation strategy, namely the development of a contingency plan. The subdivisions of a contingency plan, deal with the coordination of activities to handle the crisis optimally, ensure the use of alternatives to overcome stumbling blocks and actions to normalise the situation.

The King III Code (IODSA, 2009:84) stated that management should identify risk response options, following the identification and evaluation thereof. The King III Code offers seven risk response options, namely:

- i) Risk avoidance;
- ii) Risk treatment, reducing or mitigation;
- iii) Risk transferral;
- iv) Risk acceptance or toleration;
- v) Exploitation in cases where risk exposure represents unused or suboptimal opportunities;
- vi) Termination of activities causing the risk exposure; and
- vii) Integration of two or more of the above.

The King III Code (IODSA, 2009:84) stated that the responsibilities for setting, executing and reporting on response plans should be specified in roles and responsibilities and that the board should review risk response plans and the risk register where the plans are registered.

COSO (2004: 55) used the term 'risk response', rather than 'risk treatment'. Rather than 'risk response options' or 'risk treatment strategies', COSO referred to 'risk response categories' when referring to avoidance, reduction, sharing or acceptance of risks. COSO (2004:56) stated that a risk response is chosen after consideration of (1) the potential effect the response has on the likelihood or impact of a risk event realising; (2) the cost of the response versus the benefits expected; and (3) the potential of still reaching organisational objectives beyond dealing with the risk exposure. According to COSO (2004:58), the risk response needs to force the exposure down to within acceptable exposure levels or alternatively stated, to be within accepted tolerance levels. If the risk

response plan does not force exposure down sufficiently, the risk response options need to be revisited and alternative measures need to be taken to realise the expected outcome.

ISO 31000 (2009:18-21) dealt with risk treatment plans. Risk response was defined by ISO 31000 (2009:18) as the review of options and selection of a response that will lead to modifying the risk. ISO 31000 (2009:19) proposed a cyclical risk response process, consisting of the following steps:

- Consider a treatment plan;
- Set a tolerance level
- Evaluate the response's effectiveness in lowering exposure to be within the tolerance level;  
and
- Review the process continuously.

ISO 31000 (2009:19) proposed five risk treatment options that are very similar to those proposed by the authors cited above. The ISO 31 000 treatment options are:

- i) Risk avoidance;
- ii) Risk taking in cases where the opportunity and potential pay-offs make it viable;
- iii) Risk reduction activities to lower probability and/or impact;
- iv) Risk sharing or transferring;
- v) Risk retaining by informed decision.

From the sources reviewed above, it can be concluded that risk treatment consists of activities to lessen the risk exposure to be within acceptable or tolerable exposure levels. Risk treatment follows risk evaluation. The information about a risk obtained through risk assessment is used to rank the risk relatively to other risks that the organisation faces. Risks are treated or responded upon within the context of the organisation's strategic objectives, tolerance levels, set appetite and priorities within the overall risk portfolio. Organisations decide on a suitable risk response strategy or risk response option, which could vary between accepting the risk, exploiting the opportunity, treating the risk to lower exposure levels, transferring or sharing the risk with other entities or terminating the activity that causes the risk exposure.

The sources reviewed above provide guidelines to assess the suitability of the chosen risk treatment strategy. Several considerations could be used to establish the suitability of a response, from cost to benefit, timing, acceptability and effectiveness to realise the required response. Risk treatment plans also provide insight into the controls and metrics to be monitored to ensure that exposure is within set levels.

Within the context of the organisation, risks are assessed by identifying risks, analysing them, evaluating the risk portfolio to obtain a priority list for risk treatment plans. Once this is done, the outcomes must sustain via continuous monitoring, revision and reporting. The next step was reviewing the literature on monitoring and review.

### 2.10.5 Monitoring, review and control

During the review of the steps of a risk management process, it was found that the monitoring and review followed risk treatment. The COSO framework (2004:61) included control activities among the steps, but the ISO 31000 (2009:14) and the King III Code (IODSA, 2009: 77) did not treat “risk control” activities as a separate step of the process.

During the revision of the ISO 31000 (2009:20) process, it was found that ISO 31000 included controls within monitoring and review. ISO 31000 (2009:20) stated that the purpose of the organisation’s monitoring and review process is to, among other, ensure that the control activities are effective and efficient to measure and confirm that planned and actual outcomes are aligned. For the purpose of this study, monitoring and review are accepted to include control activities.

As stated above, COSO (2004:61) treated control activities as a separate step of the COSO Integrated Framework risk management process. COSO described risk control activities as policies and procedures against which actual outcomes are measured. COSO (2004:61) proposed that control activities are integrated with risk response actions, as control activities set requirements and goals and are meant to measure compliance and provide assurance. Control activities could thus also be combined with risk treatment, but for the purpose of this study, it is grouped with monitoring and review.

According to ISO 31000 (2009:20), the purpose of monitoring and review is:

- To ensure that controls are efficient and suitable;
- To ensure that set standards and metrics are met continuously;
- To provide early warning when actual outcomes are outside set requirements;
- To obtain information for further assessment;
- To identify new emerging risks; and
- To detect any changes in the internal or external context.

The references to “further assessment” and changes to internal and external context confirm that the outcomes obtained from a single risk management process could not be accepted as applicable throughout. The outcome of a risk management process, thus risks identified, assessed, treated and controlled, does require continuous revision and refinement. The monitoring and review process is thus executed to establish if the controls are sufficient, as pointed out by COSO (2004:61), but also to review for new trends, new risks, new events or any other changes that require the whole process to be reviewed on grounds of new or additional information or circumstances.

COSO (2004:62-63) proposes top-level reviews, revision of performance reports, information processing to confirm accuracy and completeness, physical controls, such as equipment and inventory counts, as well as performance indicators as control activities to obtain information as inputs for the monitoring and review risk process.

The King III Code (IODSA, 2009:77) did not specifically refer to monitoring and review, but included “Measurement against Key Performance Indicators and Review / Report” as part of the step “continuous improvement”. This is accepted to be different terminology referring to similar activities, as measurement and monitoring are accepted to refer to similar actions. The King III Code (IODSA, 2009:85) referred directly to the continuous review activity by stating the requirement that boards should receive information and assurance of any changes to the internal and external environment, new emerging risks and the way risks are managed since the last assessment.

The King III Code (IODSA, 2009:85) proposed the following focus areas for monitoring and review:

- Comparison of set and realised objectives, including the comparison of risk management process objectives to actual outcomes;
- Reasons for non-compliance or not reaching objectives or goals;
- Review of the organisation’s ability to adapt to changes in internal and external environment;
- Coverage and quality of the monitoring and review process;
- Effectiveness and suitability of monitoring and review structures and processes; and
- Effectiveness of the organisation’s reporting processes.

The European Union Agency for Network and Information (ENISA, 2014b:1) stated that the presence of a monitoring and review process is a critical success factor for an organisation’s risk management process. It is via such a process that the current risks and mitigation plans remain relevant, especially in a dynamic business environment where changes are constant. The ENISA (2014b:1) stated that it is through the monitoring and review process that risk management becomes part of an organisation’s culture. It is furthermore essential that each stage of the risk management process is monitored and reviewed by reviewing the assumptions leading to the risk assessment, the data sources and methods of interpretation and the rationale behind the mitigation plan choices. The ENISA (2014:1) also pointed out that some of the records that form part of the monitoring and review process might be confidential and need to be treated with the appropriate classification requirements.

The Security Practitioner (2014:1) confirmed the ENISA (2014:1) statement that organisations are dynamic and that organisational change as well as external environment changes require continuous review and refinement of risk assessments and mitigation plans. The Security Practitioner (2014:1) listed three goals for the monitoring and review process, namely, to ensure: (1) that planned and realised outcomes are aligned; (2) that the process for collecting and interpreting information was appropriate; and (3) that new information obtained during the review process might lead to better insights.

According to the insurance company, Lloyds of London (2014:1), an organisation needs a process for monitoring its risk profile and responding appropriately on risk events. Lloyds said a risk profile serves as the key input for reviewing and refining business objectives, risk appetite and internal controls, as the information obtained during the review process could signal the need to re-evaluate

objectives, policies and internal controls. Lloyds (2014:1) stated that a monitoring and review process needs to focus on new and emerging risks, risks that have the highest loss potential for the organisation, the suitability of key controls for reliable outcomes, better and more cost-efficient risk mitigation alternatives.

The University of Leeds (2014:1) proposed that reviewing target dates must be set for all risk processes. Leeds proposed that the timespan to the next review must be a function of the risk rating score, where risks with a very high rating score are reviewed immediately and that risks with a low rating score are reviewed every year or every two years. Leeds (2014:1) proposed that the drivers for a risk assessment review include:

- Significant changes in the process or equipment used;
- Outcomes of an accident investigation;
- Information from review incident reports and data sheets;
- Results of safety inspections;
- New emerging information about hazards;
- Changes in legislation;
- High numbers of defects, breakages or faults; and even
- Organisational restructuring.

The University of Leeds (2014:2) stated that high outcomes of risk assessments must be used to determine training needs.

Following the review of the sources cited above, it can be concluded that organisations need to apply a continuous monitoring, review and reporting process as part of their risk management process, to ensure that the outcomes of the risk management process stay relevant. The dynamic nature of the business environment results in new trends and environment changes to be considered continuously during the risk management process. New information that becomes available needs to be included in the risk event identification, -assessment and -mitigation process. The monitoring and review process provides insight into the suitability of current control activities and serves as guide for new controls.

The monitoring, review and reporting process needs to ensure that business outcomes stay aligned with both strategic and risk management objectives to ensure that the organisation performs in line with its set strategy. Monitoring and review activities are thus important to identify gaps between set objectives and actual results. It also provides inputs for continuous change to stay on par with the dynamic business world they compete in. Furthermore, monitoring and review, point out shortcomings in the quality assurance process and serve as indicator of the effectiveness of the organisation's reporting activities.

It is thus essential for an organisation to have a monitoring and review step embedded in their risk management process focusing on all the steps of the risk management process. The focus areas of the monitoring and review process are, among other:

- Top-level reviews;
- Outcomes of performance reports;
- Accuracy and completeness of information processing activities;
- Physical controls, such as equipment and inventory counts;
- Performance indicators;
- Alignment of planned and realised outcomes;
- Appropriateness of the processes for collecting and interpreting information;
- Significant changes in the business processes or equipment used;
- Outcomes of accident investigations;
- Information from review incident reports and data sheets;
- Results of safety inspections;
- New emerging information about hazards;
- Changes in legislation;
- High numbers of defects, breakages or faults; and
- Organisational restructuring.

The list above serves as a guideline of focus areas for a monitoring and review process. The inputs and insights obtained from these monitoring and review activities, then need to be considered while executing the steps of the risk management process continuously. The final step of the risk management process reviewed is the step of continuous communication and consultation.

#### **2.10.6 Communication and consultation**

COSO (2004:67) had a marginally different approach to this step of the risk management process, as they combined information and communication, rather than communication and consultation.

COSO (2004:67) stated that companies identify and capture a wide range of information and then convey it over to personnel to serve as base for risk management and other managerial decisions and future activities. COSO (2004:67) stated that there are internal as well as external sources of information to be considered, including: financial as well as non-financial information, compliance information and information obtained from computerised information systems to be used for future business and operational decisions. As the types and sources of information to be gathered, as proposed by COSO, are similar to the information to be monitored and reviewed, it is concluded for the purpose of this study that COSO's gathering of information refers to the same activities reviewed in the previous section under the heading of monitoring and review.

COSO (2004:74) listed policy manuals, memoranda, notice boards, webcasts and video-taped messages as means of communication, but did not specifically refer to consultation.

The Insurance Commission of Western Australia (Risk Cover, 2014:27) stated that organisations need to develop an educational programme to convey risk management information and needs to the personnel of the organisation. The focus of this communication should be disseminating relevant policies and procedures, raising awareness of the risk facing the organisation, its strategies, educational sessions on the risk management process to familiarise and equip all staff to actively participate in risk management, and also to recognise and reward successes.

The Institute of Enterprise Risk Management Australia (IERM, 2014b:1) stressed the importance of communication and consultation by committing to improve understanding, to create opportunity for refinement of the function by taking different viewpoints into consideration, to promote insight into the different roles and responsibilities and thereby also enhancing ownership by all.

According to the IERM (2014b:1), an organisation needs to compile a communication plan, which addresses the following:

- The major issues challenging the organisation's ability to realise its strategic objectives;
- The focus groups to be communicated towards;
- Identification of the "champions" to lead the process and followers;
- Ways and means to reach internal and external stakeholders;
- Types of information to be communicated;
- Different communication methods for different focus groups; and
- Methods of how key concepts of risk management need to be conveyed.

The IERM (2014b:2) acknowledged the importance of consultation to enhance communication, by allowing for inputs about scope, aims and outcomes, timeous information, responding on requests for information, frequent and relevant feedback, making the communication process accessible to all staff and continuously encouraging constructive communication.

The documented outcomes of a communication and consultation process, according to the IERM (2014b:2) could include a list of stakeholders, a communication plan, a consultation plan, any formal reporting arrangements and mutually-agreed rules of engagement and conducting meetings.

ISO 31000 (2009:14) addressed communication and consultation as the first step, rather than the last, as many other sources did; this illustrates the principle that the steps of the risk management process should be applied continuously in a cycle. As in the case of the Institute of Enterprise Risk Management Australia (IERM, 2014b:1), ISO 31000 (2009:14) stated that organisations need to develop comprehensive communication and consultation plans early in the risk management development phase.

ISO 31000 (2009:14) stated that organisations can utilise the value-adding effects of a consultative process to form the first step of the process throughout. The organisational context could be established as part of a consultative process; risks could be identified, assessed and mitigated through consultation with key internal and external stakeholders. ISO 31000 (2009:15) stated that

a consultative process could enhance the buy-in, acceptance and participation of stakeholders and could benefit the decision-making process.

The University of Regina (2012:7) stressed the importance of the communication and consultation process for an effective ERM programme. Its risk management policy stated that information should be obtained from all the organisational levels of the university and that consultation should be as broad as practically possible. As proposed by ISO 31000 (2009:15), the University of Regina also recommended involving staff on all levels to identify risks from internal as well as external sources. The information should then be communicated back into the management and decision-making processes of the university according to a communication plan within an appropriate timeframe to enable staff to optimise the information obtained through the risk management process.

The University of KwaZulu-Natal (2011:16) stated that the objective of communication and training is to promote awareness of the risk management process throughout the institution. At this university, all existing communication channels are utilised to communicate, consult and provide training to university staff in all the aspects of the risk management process.

It can thus be concluded that a collective process of gathering information, also via consultation with all stakeholders from inside and outside the organisation, is part of a comprehensive communication and consultation process, that supports and promotes the establishment of a risk management organisation. It is further concluded that communication and consultation require a plan to be developed upfront to ensure that all stakeholders are involved, informed, consulted and thus included in the risk management process.

In conclusion, Section 2.10 provided a comprehensive overview of each of the components of the risk management process. The objective of this chapter was to provide a background of risk management by reviewing key terminologies and definitions, frameworks and key components.

According to Young (2010:186), the rationale for applying the steps of the risk management process, as reviewed throughout this chapter, is to demarcate the factors of operational risk towards quantification and qualification of these factors. This is done to provide sufficient risk management information to top management and the board of directors about past losses and future risk exposures. This information forms the base of a risk appetite, to be set by management and approved by the board to ensure that sound financial decisions are taken.

From the above, it can be stated that risk appetite is an important component of the risk management process. For the sake of a comprehensive risk management literature review, as well as towards researching potential links between risk management and strategy formulation, risk appetite as an element of risk management, is also reviewed in the next section.

## **2.11 RISK APPETITE AND RISK TOLERANCE**

Cremonino (2011:2) stated that 'risk appetite' represents the core of risk management as it serves as scale of measurement for an organisation's risk profile. Risk appetite is thus reviewed in more detail as it might encompass the link between risk management and strategy formulation. Cremonino stated that risk appetite is most effective when embedded in the organisational planning process, to provide a futuristic approach rather than serving only as a reporting and controlling framework. In this section, risk appetite and the complementary term of 'risk tolerance' are defined and their relevance within organisations' strategy formulation and strategic management processes are reviewed, to enable conclusions on their contribution.

### **2.11.1 Definition of risk appetite**

KPMG (2008:3) defined 'risk appetite' as the amount of risk a corporate organisation is prepared to take in pursuit of value. KPMG stated that organisations pursue value by realising its strategy via the realising of strategic objectives. The reaching of objectives normally requires the organisation to take risks in order to reach these objectives. Risk appetite is the amount of risk the organisation is willing to endure in the pursuit of these objectives.

Barfield (2012:9) defined 'risk appetite' as the translation of risk metrics into strategic and day-to-day business decisions and reports. Barfield made an important statement, namely that risk appetite provides a dynamic link between strategy and risk management.

Cremonino (2011:3) defined 'risk appetite' as a statement of how much risk is associated with the strategy the organisation has chosen. Each business strategy or related objective entails some risks, or when quantified, an amount of risk. By choosing the strategy or objective, the associated amount of risk applicable to this strategy, is chosen. Cremonino said that higher target profits or outcomes are typically associated with more risks or higher risk exposure.

RIMS (2012:3) provided several 'risk appetite' definitions from sources such as the ISO 73 Terminology Guide, COSO's 2009 article on strategic advantage, KPMG and Towers Perrin. RIMS then concluded to define risk appetite as the amount of risk that an organisation is willing to take on a risk-return trade-off principle in the pursuit of more desired and expected business outcomes.

Young (2010:182) reviewed several definitions of risk appetite and reached the conclusion that risk appetite relates directly to the various risk types, such as operational risk and financial risk. According to Young, there needs to be a risk appetite for each risk type; which means that a single definition for risk appetite for all risk types, could lead to confusion.

Young (2010:182) contributed by identifying a few key concepts that collectively provide guidance towards the definition of risk appetite. They are:

- The amount or degree of risk that is acceptable;
- The capacity of the organisation to endure or accept risk;
- The amount of risk that can be assumed;
- The amount of risk exposure that could be tolerated;
- The risk bearing capacity of the organisation.

In conclusion, the first few risk appetite definitions provided a few simplistic definitions of risk appetite, although each definition differed from the previous in some way. Young's review of the definitions of risk appetite pointed out that a single definition of risk appetite for all risk types could be confusing rather than clarifying. It is thus accepted that risk appetite needs to be defined according to the risk type, being it operational risk, financial risk or any other type of risk. The key words that provide insight into risk appetite, irrespective of the risk type, is 'amount' or 'degree' of risk, capacity of the organisation, risk assumed, exposure tolerated and risk bearing capacity of the organisation. In spite of the finding that there needs to be as separate definition for each different risk type, for the purpose of this study, risk appetite is thus defined as the amount or degree of risk that an organisation accepts, assuming that the organisation has capacity for the risk and is allowing this amount of risk and exposure.

### **2.11.2 Risk tolerance**

Barfield (2012:3) defined 'risk tolerance' as "the amount of uncertainty an organisation is prepared to accept in total or within a certain business unit". This definition might be confusing as it seems to be very similar to the definitions of risk appetite reviewed above. In this subsection, the differences as well as the complementary characteristics of risk appetite and risk tolerance are reviewed.

Barfield (2012:3) provided insight into risk tolerance by stating that risk tolerance is typically the amount of risk to be tolerated or accepted within upper and lower limits or set margins. It could also be expressed as the tolerable level of risk within a range above and below a specific quantitative goal.

Logic Manager (2014:2) distinguished between risk appetite and risk tolerance by stating that risk appetite is a statement that provides high-level information on the amount of risk to be taken in the pursuit of value. In contrast to risk appetite being a higher-level statement, risk tolerance sets the narrow acceptable level of variation around set quantitative margins.

Logic Manager (2014:2-3) stated that, if a company operates within risk tolerance levels, it provides assurance for operations within its risk appetite, while risk appetite provides a higher degree of comfort that the company's operations are focused on set objectives. From this, it can be concluded that risk appetite supports objectives, while risk tolerance levels provide the quantified levels for operating within risk appetite.

Barfield (2012:3) provided another clue towards understanding the differences and complementary nature of risk appetite and risk tolerance, by quoting the ISO 73 definition of risk tolerance. According to Barfield, ISO 73 defined risk tolerance as the tolerable amount of risk after controls had been implemented to lower the exposure.

In summary, the following characteristics of risk tolerance can be summarised from the literature reviewed above:

- Risk tolerance is the acceptable range of risk between lower and upper quantifiable limits;
- Risk tolerance is a lower-level statement, as opposed to risk appetite being a higher-level statement;
- Risk tolerance would typically be in quantifiable terms, while risk appetite will be set in holistic strategic terms;
- Risk tolerance levels support a risk appetite statement, while a risk appetite statement supports strategic objectives;
- Risk tolerance levels or margins are typically maintained through controls, while risk appetite is maintained through operating within tolerance levels.

### **2.11.3 The contribution, role and purpose of risk appetite**

According to Logic Manager (2014:2), one of the key contributions of risk appetite is that it sets boundaries. Logic Manager provided a simplistic explanation for the difference between risk appetite and risk tolerance, confirming what has been said above: risk appetite is the statement of risk to be taken, while risk tolerance is the set levels of variation around the objectives. Consequently, the conclusion is made that risk appetite is a forward-focusing planning input, stating the amount of risk that is acceptable when crafting a strategy and objectives, while tolerance is the levels of variation allowed around the objectives.

According to KPMG (2008:3), the boundaries set by the risk appetite statement does much more than specifying the amount of risk; it is a statement that expresses what is in the heart of the business. The risk appetite therefore provides critical qualitative information to all stakeholders about how the organisation does business. Risk appetite is thus a value statement to a wide range of stakeholders, such as the shareholders, employees, media, rating agencies, potential investors, customers and broader business community.

Cremonino (2011:2) stated that risk appetite best adds value when it is embedded in the organisational planning process to provide direction as well as a yardstick to balance growth objectives with associated risk levels. Furthermore, it serves as a transparent statement of the levels of risk that are incorporated in the company strategy.

Another core value-adding contribution of the risk appetite is that it serves as the cornerstone of the risk management framework that leads the way towards effective monitoring and governance. This is done via the risk appetite providing the mix of qualitative and quantitative measures to serve as

the base for monitoring and governance metrics. Organisations use the risk appetite statements to develop a robust governance and reporting framework that serves as the base for the operational day-to-day management decisions (Barfield, 2012:9 ; KPMG, 2008:4).

Barfield (2012:11) stated that organisational culture and strategy are inputs to risk appetite. This was confirmed by Cremonino (2011:3), who stated that the starting point of defining risk appetite is the current business culture and business model. Cremonino (2011:20) furthermore confirmed that risk appetite needs to be embedded in the planning process to guide business decisions as risk appetite sets the boundary conditions that form part of the budget.

Barfield (2012:12) provided further insight by stating that embedding risk appetite into the business requires management to establish limits for the different risk types, as stated by Young (2010:182). These limits are cascaded lower down into the organisation in the form of budgets and plans.

In conclusion, the following roles and contributions of risk appetite can be summarised from the sources reviewed above:

- It provides a forward-focusing planning input to strategic planning;
- It defines the boundaries of the business;
- It expresses what is in the heart of the business via a value statement to a wide variety of stakeholders;
- It provides a yardstick to serve as balance between growth targets and associated risk;
- It leads the way towards the organisations monitoring and governance framework.

In summary, risk appetite was found to contribute in the form of a forward-focusing planning aid that defines the boundaries of the business, while it provides input to stakeholders about the core values of the business. It furthermore serves to balance growth targets with associated risk and thus leads the way towards the organisational monitoring and review framework.

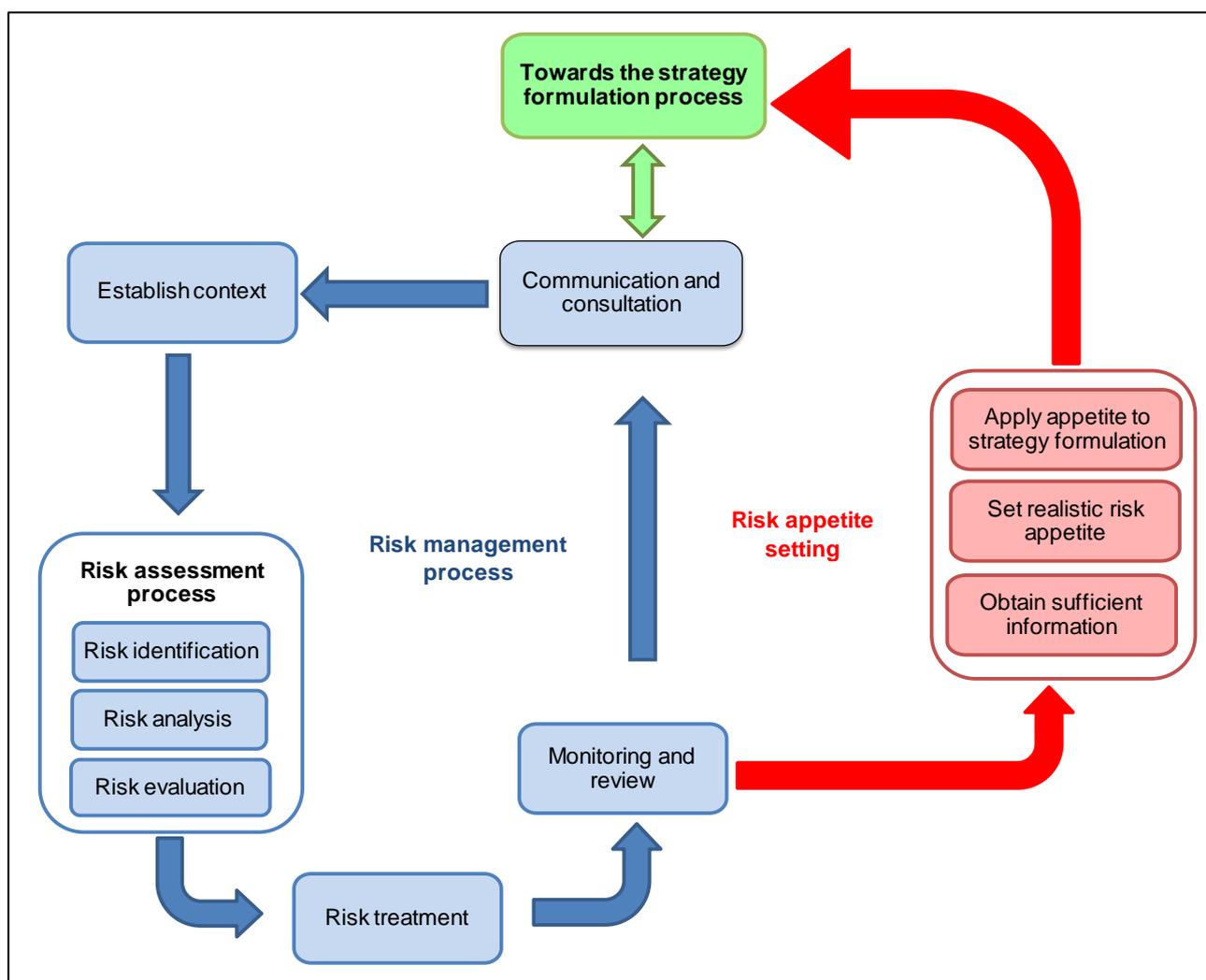
Young (2010:186) stated that risk appetite serves as a link between operational risk management and strategic planning. The management of operational risk appetite supports strategic planning by aligning strategic objectives with operations.

From the literature reviewed, it can be concluded that risk appetite setting is an important component of the risk management process. The process graphically depicted in Figure 2.8 above, thus needs to be expanded to include risk appetite setting as a component of the process. In Figure 2.9, the risk management process is combined with the risk appetite setting activities, which would typically inform the strategy formulation and management processes.

Figure 2.9 illustrates the proposed link between the risk management process as reviewed to this point, and risk appetite setting in support of strategic risk-embedded decision-making.

The process starts with the formulation of organisational strategy and supporting strategic objectives, followed by identification of operational risks exposed from the strategy. Management thus implements a risk management process towards managing risks and obtaining information about risk exposure via the application of the steps of the risk management process. This information is then used by management to set a realistic risk appetite, to be approved by the board. The appetite then guides the business decisions to be taken, towards realising the strategy.

In conclusion, from the literature reviewed, it can be concluded that risk appetite might be the link between risk management and strategy formulation that serves as the base for this study. In the next chapter, a risk-embedded approach to strategy formulation at universities is proposed, based on the literature study and findings of this chapter and the previous chapter.



**Figure 2.9: The link between risk management process and risk appetite setting**

Source: Compiled from Young, 2010:186.

## 2.12 SUMMARY AND CONCLUSIONS

The objective of this chapter was to provide background on risk management by reviewing key terminologies and definitions, frameworks and key components. This background serves as a foundation to research risk management as applied by universities as part of strategy formulation.

A number of key concepts were defined at the beginning of this chapter, to serve as base for the theory that followed. Risks were defined as potential events that are subject to an amount of loss exposure and uncertainty that could prevent the optimised achievement of objectives. It was also concluded that the actual risk event should be defined as it is an indication of the potential exposure and probability of a loss. The difference between risk and peril was found to be that 'risk' is about a potential loss-producing event and the extent of a loss, while 'peril' is the source or cause of the risk. Due to the uncertainty incorporated into a risk event, it should form part of a definition of risk, as it is an important component to consider when identifying strategic objectives. A risk exposure was defined as a numeric quantification of risk, which enables managers to prioritise risks.

Following from the above definitions of key components, the meaning of risk management, which is suitable for this study, was clarified. Risk management can be described as a process, followed by the board of directors, management and all staff; consisting of management activities; aimed at identifying and minimising exposures from all risk types; supporting the achievement of objectives; and promoting value creation by all the stakeholders.

Following the clarification of definitions, several sources were reviewed to establish the components of a risk management framework. A risk management framework typically consists of risk context/culture, risk strategy, risk governance, structures, roles and responsibilities and the risk management process.

Risk management strategy was defined as the approach adopted for managing risks embedded in the organisation's objectives and strategies. Risk governance was defined as the documented outputs of an organisation's risk management frameworks, policies, statements, reports and other documentation, that provides the mechanism for ensuring accountability, delegating authority and providing assurance. A typical structure consists of the board of directors, the executive management team, the group risk committee, the departmental risk committees and the independent internal audit function. From the structure, key role-players were identified and roles and responsibilities of each role-player were extracted. Finally, the roles and responsibilities were linked to the risk management components extracted.

The risk management process was reviewed and it was found that there are at least five steps of a risk management process, of which the second step, namely risk assessment, consists of three subordinate steps. The steps are (1) establishing the organisational context; (2) risk assessment (consisting of risk event identification, risk analysis and risk evaluation); (3) risk treatment; (4) monitoring and review; and (5) communication and consultation. Each of these steps of the risk process was reviewed in detail.

The organisational context is established by considering external as well as internal factors. External factors are typically the PESTEL considerations, referring to political-, economic-, social-, technological-, environmental- and legal considerations that are external, but influencing the organisation. Internal considerations towards establishing the context includes the organisational culture, values, policies, resources, restraints, standards, guidelines, contractual relationships, information and other similar considerations which determine the way in which the organisation operates, as well as infrastructure and assets that contribute to the way the organisation operates.

Risk assessment was found to be a process consisting of three subordinate processes, namely: risk event identification, risk analysis and risk evaluation. These three subordinate processes were reviewed separately to provide insight into the full scope of risk assessment. Risk event identification consists of several techniques to identify risks that might impair an organisation's ability to realise its strategy. Alternatively stated, risk needs to be identified in the context of the organisation's purpose. There are numerous techniques to identify risks, some focusing on historical data and some on future projections. Risk analysis includes quantitative and qualitative measures used to determine the probability of a risk event realising and the extent of financial exposure. Risk evaluation is undertaken to rank the identified risks in priority order.

Risk treatment consists of activities to lessen the risk exposure to be within acceptable or tolerable exposure levels. Risks are treated or responded upon within the context of the organisation's strategic objectives, tolerance levels, set appetite and priorities within the overall risk portfolio. Several considerations could be used to establish the suitability of a response, from cost to benefit, timing, acceptability and effectiveness to realise the required response. Risk treatment plans also provide insight into the controls and metrics to be monitored to ensure that exposure is within set levels.

Regarding risk monitoring and review, it was found that organisations need to apply a continuous monitoring, review and reporting process as part of their risk management process, to ensure that the outcomes of the risk management process stay relevant. Several information sources were identified as a guideline of focus areas for a monitoring and review process. The inputs and insights obtained from these monitoring and review activities, need to be considered while continuously executing the steps of the risk management process.

A further step of the risk management process was found to be communication and consultation. This step consists of a collective process of gathering information, also via consultation with all stakeholders from inside and outside the organisation. It forms part of a comprehensive communication and consultation process that supports and promotes the establishment of a risk management organisation.

The risk management process still did not provide clear guidance to the statement in the COSO Enterprise Risk definition that risk management is applied in strategy setting. Risk appetite was then reviewed in detail as it might encompass the link between risk management and strategy formulation. Young (2010:186) stated that the rationale for applying the steps of the risk management process, as reviewed throughout this chapter, is to demarcate the factors of operational risk towards quantification and qualification of these factors. This is done to provide sufficient risk management information to top management and the board of directors to be able to define a risk appetite that is suitable for reaching the strategic objectives, but is also within the limits of the risk tolerance levels. Young continued by pointing out that risk appetite serves as a link between operational risk management and strategic planning. The management of operational risk appetite supports strategic planning by aligning strategic objectives with operations.

This dynamic relationship between the risk management process, risk appetite setting and strategy formulation at universities in South Africa, is dealt with in more detail in the chapter to follow. Other chapters discuss the findings after this relationship was tested via a questionnaire to reach conclusions about the validity of the theory.

## CHAPTER 3

### STRATEGY FORMULATION – A LITERATURE REVIEW

#### 3.1 INTRODUCTION

This chapter focuses on strategy formulation theory. As this study in general is about risk management [embedded in strategy formulation], this chapter follows a general approach to obtain an overview of strategy formulation theory, rather than exploring strategy formulation extensively. An exploratory approach is followed, reviewing a number of theories varying from classic strategy formulation theories to more recent contributions. The aim of this exploratory review is two-fold, namely: (1) to identify the general strategy formulation steps for the sake of proposing the embedding of risk management steps; and at the same time (2) to search for existing theories with risk management steps embedded. It is acknowledged that an extensive and comprehensive review of strategy formulation theories is beyond the scope of this study, thus the exploratory sample of theories.

The definition of strategy is reviewed as point of departure. During the years 400-200 BC, Chinese warriors used the term 'strategy' to describe a combination of 'wisdom, science and craft' used to defeat their enemies. The Greek word '*strategos*', used approximately 330 A.D., meant 'general' and referred to the wisdom of military leaders to conquer their enemies. In contrast to the historical meaning of strategy as stated above, nowadays 'strategy' is a term used in the business environment to describe the 'wisdom, science and craft' deployed by a business to maintain sustainable competitive advantage (Horwath, 2006:1). Most organisations, but especially businesses, use the word 'strategy' to describe business activities aimed at entering new markets, obtaining or growing market share and thereby eventually ensuring economic sustainability.

Horwath (2006:2) referred to the difference between strategy and tactics to give a deeper insight into the meaning of the term 'strategy'. 'Tactics' refers to sets or sequences of proven action steps or best practices. According to Horwath (2006:2), tactics and strategy could be described as opposites. As tactics refer to sequences of short-term activities used under specific circumstances, strategy is a long-term approach focusing on unique and more complex dynamic goals. Horwath (2006:5) stated that strategy requires managers to make plans and take decisions with partial information or "the courage to accept uncertainty". The challenge is not only to manage under circumstances of uncertainty from not knowing all about their opponents, but also the complicating fact that opponents are constantly re-thinking, revising and changing their actions, complicating the counter-measures needed to maintain market share, especially within a ever-changing external environment.

COSO (2004) defined risk management as a process applied in strategy setting. The management of uncertainty represents common ground between strategy and risk management. The management of uncertainty is deeply rooted into strategy. During the last 50 years, risk management

as a complementary management function, evolved and developed as separate managerial support functions. Both these functions are related to the management of uncertainty.

This study reviewed strategy formulation theories towards identifying the elements of risk management as presented in Chapter 2.

## **3.2 SCOPE AND RATIONALE OF THE CHAPTER**

As stated in the introduction, this chapter reviews key definitions of strategy formulation, followed by an overview of an exploratory sample of strategy formulation theories. The scope of the strategy formulation theories to be reviewed are: (1) some early linear or non-turbulent strategy formulation theories; (2) a few more recent theories or non-linear theories in response to turbulent fast-changing business environments; and (3) a sample of strategy formulation approaches used by universities.

## **3.3 DEFINITIONS OF STRATEGY**

The definitions of the terms 'strategy', 'strategy formulation' and 'strategic management' are reviewed to clarify the meaning thereof and the potential relationships between strategy formulation and risk management. In the previous chapter, the COSO (2004:4) definition stated that risk management is applied within strategy setting. The definitions serve as point of departure for the investigation of the possible embedding of risk management into strategy formulation.

### **3.3.1 Strategy**

Mintzberg *et al.* (1998:9) defined strategy as "a combination of, among other, a plan, a pattern, a position, a perspective and a ploy or manoeuvre". Mintzberg *et al.* referred to these as the "five P's of strategy". The plan and patterns referred to by Mintzberg *et al.*, are accepted to refer to steps of activities or a process where risk management should be embedded. From these descriptive words, it can be concluded that strategy entails a number of activities, but the search for more specific alternative definitions was undertaken to find more activities in other sources to be considered when proposing the embedment of risk management.

An exploratory sample of definitions contributed the following insight towards the essence of strategy.

- Ghemawat (2002:37-38) stated that strategy is "a process including the application of (imperfect) competitive thinking to business situations..."
- The United States military defined strategy (Horwath, 2006:3) as "a combination of art and science using political, economic, psychological and military forces to increase probability of favourable consequences". Horwath (2006:5) further stated that strategy requires managers to make plans and take decisions with partial information or "the courage to accept uncertainty..."
- Jeffs (2008:1) referred to the "debate about whether strategy is a science or an art..." and raised the question whether strategy is based on learning, experience or 'gut feel'..."

- Oosthuizen (2004:20) described strategy as “actions aimed at the achievement of sustainable superior output performance”.
- Thompson, Strickland and Gamble (2005:3) defined strategy as “consisting of the competitive moves and business approaches that managers employ to attract and please customers, compete successfully, grow the business, conduct operations and achieve target objectives”.
- Davies (2000:25-28) provided a definition stating what strategy is not. He said that strategy can be best understood if defined in relation to its counterparts, namely policy and resources. Davies proposed the “PSR *troika*” or policy, strategy and resources *troika*. If policy described the “what” a company aims at establishing, strategy is the “how” it plans to reach the “what” part. He stated that policy is the “legislative” function of the company and strategy the “executive” function. The third part of the PSR *troika*, namely resources, is the materials and methods that provide the components of strategy. These components include functions, such as management and marketing, as well as processes, such as negotiations and motivations. Resources aid with the implementation of strategy and are often confused with strategy. The *troika* thus consists of policy or the “what”, strategy or the “how” and resources or the “with what” (Davies, 2000:26).

Based on the above-mentioned views and for the purpose of this study, strategy can be defined as a combination of skills, actions, competitive activities and business thinking towards realising favourable business outcomes or achievement of target objectives.

### 3.3.2 Strategy formulation

In this section, definitions of the process of strategy formulation are reviewed.

- Grimsley (2014:1) described strategy as a “business road map” and strategy formulation as the process of developing a strategy or business road map. He continued that strategy formulation requires a series of steps undertaken in a specific sequence, as the steps follow on each other towards a comprehensive outcome.
- The Saylor Foundation (2013:1) defined strategy formulation as the process followed towards choosing the most appropriate course of action to achieve strategic goals. The course of action or process then serves as a framework towards realising organisational goals.
- Kotelnikov (2014:1) defined strategy formulation as a process to establish the appropriate course of action for achieving organisational objectives.
- Barnat (2005:1) confirmed the process characteristics of the strategy formulation process and stated further that the aim of the process is to formulate a mission and supporting objectives. Barnat (2005:1) described strategy formulation as a process followed in order to distinguish between different potential strategy options. He stated that the term ‘strategic planning’ is commonly used as a synonym for strategy formulation.

From the above, strategy formulation can thus be defined as the process to choose one among different strategy alternatives, towards realising the organisational outcomes and striving towards reaching organisational goals. While strategy is the path, strategy formulation is the process to establish which path is the most suitable one. As strategy formulation and strategy management are both terms used when dealing with strategy, for the sake of clarity, the definition of strategic management is also reviewed.

### 3.3.3 Strategic management

Dess, Lumpkin and Taylor (2005:1) defined strategic management as (1) analytic activities; (2) decisions; and (3) actions, undertaken by the management of an organisation to steer an organisation towards a specific direction. Dess *et al.* (2005:1) stated that the organisation's strategic intent, other internal and external factors such as the external environment are analysed as part of the strategy formulation process. From the outcomes of this threefold analysis, a decision is made about the industry and competing market. Finally, strategic management consists of the identification and implementation of actions to steer the organisation into the chosen or intended direction. Dess *et al.* (2005:1) stated that strategic management is in essence the study of why some organisations obtain better growth and a better competitive sustainable advantage above other and what actions and strategic focuses are needed to obtain and maintain an advantage. Dess *et al.* (2005:1) supported the notion that operational effectiveness by itself does not guarantee growth and success, but modern business trends, such as forward and backward integration (referring to including or excluding of parts of the production process), just-in-time stock management (referring to the timeous ordering of stock rather than ordering it long in advance), and business process re-engineering need to be applied towards realising and maintaining advantages above competitors.

Jurevicius (2013:1) and David (2011:1) defined strategic management as both an art and a science to formulate and implement cross-functional decisions, thereby steering the organisation towards realising its strategic intent. While Jurevicius and David both shared the opinion that *analysis* is part of strategic management activities, Dess *et al.* (2005:1) stated that *decisions* and *actions* are also part of strategic management. Jurevicius furthermore listed *formulation* and *implementation* as activities that form part of strategic management. Jurevicius (2013:1), similar to Dess *et al.*, stated that the internal and external environments need to be analysed for the purpose of choosing the correct actions to realise a sustainable competitive advantage.

Jurevicius (2013:1) proposed a clarification of the terms strategic management and strategic planning, by stating that the two terms refer to the same thing. The difference, according to Jurevicius, is that strategic management is commonly used in academic publications, while strategic planning is commonly used in the business environment.

It is also necessary to clarify the differences or similarities between the terms 'strategy formulation' and 'strategic planning'. David (2009:36) provided an explanation to clarify the complementary use of these terms. He said that *strategy formulation* is also referred to as *strategic planning*, as a strategic plan results from the strategy formulation process. A strategic plan is thus the documented outcome of strategy formulation.

For the purpose of this study, strategic management can be defined as a process which is potentially a combination of an art and a science, consisting of the following activities:

- Internal and external environmental analysis;
- Decision-making;
- Action plan formulation;
- Strategy implementation actions.

The internal and external analysis activities are undertaken to establish the driving forces from the external and internal environment, which will guide the organisation towards choosing the industry in which to compete and also identify the market opportunities within the chosen industry. The outcomes of these analyses lead the way towards choosing a suitable strategy. The final part of a strategic management process is the identification and execution of actions to steer the organisation towards realising the set strategic objectives.

#### **3.3.4 Risk management**

As stated in the introduction, this study focuses on the link between strategy and risk management. Thus, the definition of risk management was reviewed in the previous chapter, prior to the comprehensive review of risk management theory for the sake of demonstrating observed links or complementary characteristics between the two management activities.

COSO (2004:4) defined risk management as a process, affected by the board of directors, management and other personnel, applied in strategy setting across the organisation in order to identify potential events that may affect the organisation and manage risks to fall within the risk appetite to provide assurance regarding the achievement of strategic objectives.

Cassidy *et al.* (2003: 4) stated that risk is any issue that impacts on an organisation's ability to reach its strategic objectives. The Casualty Actuarial Society (2003:8) acknowledged the relationship with objectives by stating that risk management contributes to strategic decision-making.

From this sample of definitions, it can be concluded that risk management is applied or incorporated in strategy formulation. Furthermore, from the statement by Grimsley (2014:1) reviewed above, a further complementary characteristic between strategy formulation and risk management is that both follow a process, as COSO (2004:12) also defined risk management to be a process. Another similarity is that both deal with uncertainty. Horwath (2006:5) stated that strategy is linked to

uncertainty. The ISO 31000 definition of risk emphasised the potential effect of risk events and uncertainty on reaching objectives. (Hilson, 2010:1).

It can thus be deduced that strategy formulation and risk management have in common (1) that both functions seem to be processes; (2) both deal with uncertainty; and (3) risk management seems to be applied within strategy formulation.

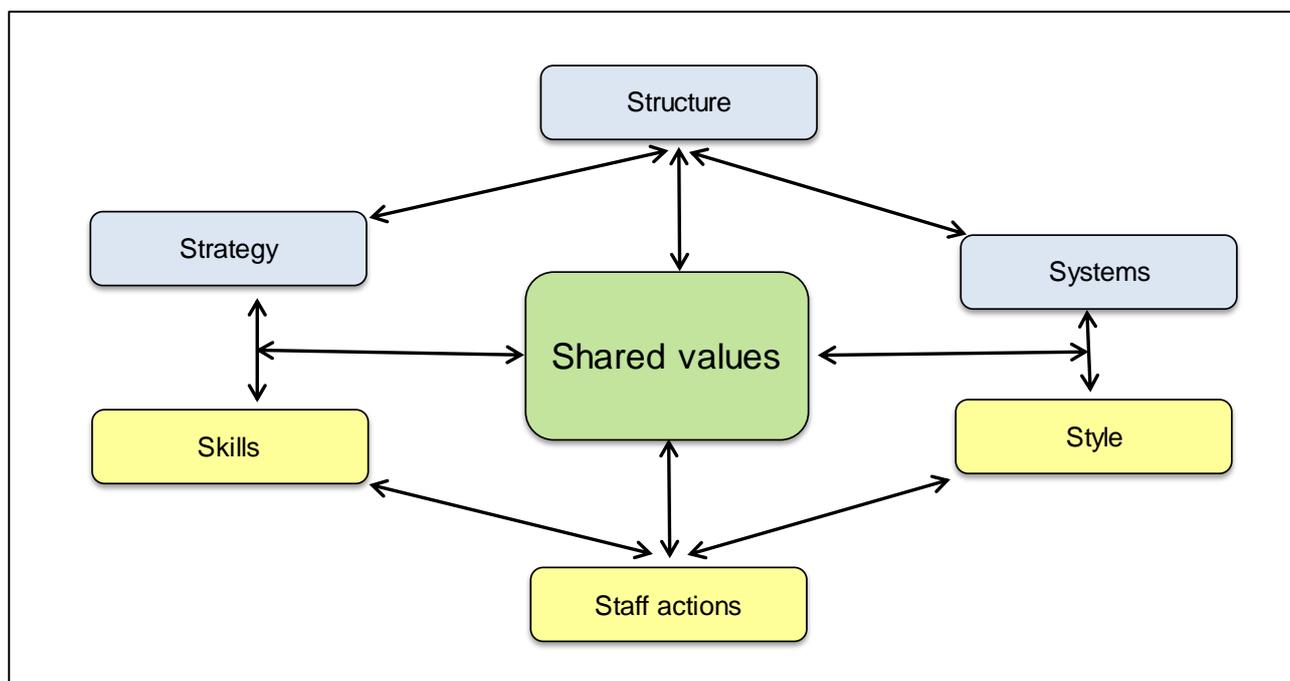
### **3.4 OVERVIEW OF STRATEGY FORMULATION THEORIES**

The classical strategy formulation theories that are reviewed in this chapter can be grouped in either the prescriptive or the descriptive strategy formulation traditions. The prescriptive school theories, also known as the micro-economic theories, are: (1) the Design School Theory; (2) the Planning School Theory; and (3) the Positioning School Theory. These prescriptive/micro-economic theories attempt to explain strategy formulation processes by providing guidelines of how it needs to be done. In contrast to these “prescribing” theories, the social school/descriptive theories, observe social interaction within leading organisations and attempt to explain strategy formulation processes by “describing” rather than “prescribing” social observations (Mintzberg *et al.*, 1998: 18-20). The rationale for this review is to see whether there are traces of risk management within these strategy formulation processes.

#### **3.4.1 Classical strategy formulation theories**

According to Mintzberg *et al.* (1998:5), the prescriptive and descriptive schools of thought are two complementary rather than opposing schools or traditions. This is illustrated by McKinsey via his 7-S framework (Oosthuizen, 2004:21; Value Based Management, 2009). The 7-s framework illustrates how prescriptive school elements, such as structure, strategy and systems, combine with descriptive elements, such as skills, style and staff, to explain strategy formulation processes.

Figure 3.1 below illustrates that the three hardware elements in blue (structure, strategy and systems), which are typically addressed in the prescriptive theories, are combined with the descriptive elements in yellow (skills, style and staff actions) typically present within descriptive theories. Collectively these elements form the building blocks of classical strategy formulation theories.



**Figure 3.1: McKinsey's 7-S framework**

Source: Adapted from Value-based Management, 2009.

From Figure 3.1, it can be concluded that an organisation can use a combination of organisational structures, support systems, strategy options, unique skills, management styles and staff appointments, all grouped together with shared values, towards formulating strategy.

The relevance of distinguishing between prescriptive and descriptive theories and the complementary nature thereof is to acknowledge the existence of descriptive theories. For the purpose of this study, the focus is on prescriptive theories as they contain elements such as structure, strategy and systems, which are conducive towards potentially aligning strategy formulation with risk management.

As stated earlier, the Design School, the Planning School and the Positioning School are at the core of the classical strategy formulation theories. Table 3.1 provides an overview of some theories, naming the founder author, its core contribution and the year in which the contribution was made. This serves as a 'road map' of the reviews to follow.

**Table 3.1: Founder authors of the prescriptive schools of strategy formulation theories**

Schools	Founder author	Publication / Contribution	Year
	Alfred Chandler	"Strategy and Structure: Chapters in the History of Industrial Enterprise"	1962
	Philip Selznick	"Leadership in Administration".	1957
	E.P. Learned <i>et al.</i>	"Business Policy: Text and Cases"	1965
Planning School	Igor Ansoff	"Corporate Strategy"	1965
Positioning School	Michael Porter	"Competitive Advantage" "Competitive Strategy"	1985 1990

Source: Compiled from Haugstad, 1999:1.

Each of these three schools is discussed in more detail in the ensuing sections in order to provide insight into the components of each theory for the sake of obtaining a general overview of strategy formulation activities.

### 3.4.1.1 The Design School

Mintzberg *et al.* (1998:25-28) stated that the Design School proposes a process-orientated approach to strategy formulation. The process consists of a set or a sequence of considerations, focusing on the external environment, strengths and weaknesses as well as opportunities and threats.

According to Mintzberg *et al.* (1998:29), the external environment influences to consider, are: (1) the society; (2) the government; (3) the economy; (4) the market; (5) suppliers; and (6) competition. After considering these external influences, the Design School entails the selection of one among different strategic options for reasons that fits their organisation's objectives best.

According to Haugstad (1999), the contributing authors of the Design School were Alfred Chandler (1962), Phillip Selznick (1957) and E.P. Learned *et al.* (1965). Their contributions to the Design School can be summarised as follows:

#### i) Chandler

Chandler was a historian who studied the structures of modern corporations or as the title of his book describes it, *History of Industrial Enterprise*, published in 1962. He challenged conventional economic theory of perfect competition and proposed a link between an organisation's strategy and its organisational structure (ProvenModels, 2009a:1; Smith, 2005). Chandler's contribution was that strategy is a function of structure or structure a function of strategy.

Ghemawat (2002:38-39) stated that during the 19th century and as recent as in the early 1960s, it was a common belief that individual companies or competitors could not influence the market, as market forces constantly created a situation of perfect competition among all competitors. Perfect competition means many small companies producing similar products without any advantage or disadvantage compared to their competition. The industrial revolution created new trends and beliefs. Ghemawat (2002:38) pointed out that advantages of economies of scale together with

access to capital and credit opened the door for companies to grow beyond their local markets. Companies could thus choose between strategy options, such as expansion, market penetration, diversification and many more. The classical economic theorem of perfect competition, also known as Adam Smith's "invisible hand" theory, made way for Chandler's "visible hand" theory, whereby companies could exercise business options which could improve their competitive situation. These business options were referred to as their business strategy.

According to ProvenModels (2009a:1), Chandler generalised four sequential stages through which large industries develop. The four stages are: (1) acquisition of resources; (2) establishment of a functional structure for optimal efficiency; (3) adoption of a strategy for growth and diversification; and (4) restructuring towards a suitable form to manage the company.

Chandler believed that strategy, which he defined as long-term goals and objectives, dictates structure, defined as the design of the organisation (Ghenawat, 2002:38-39; ProvenModels, 2009a:1).

In conclusion, Chandler proposed the alignment of organisational structure to support the chosen strategic option as a step of the strategy formulation process. By structuring the organisation towards a specific strategic option, such as expansion or diversification, the organisation could improve its competitive position relative to other market players.

#### ii) **Selznick**

Selznick introduced the notion of distinctive competencies (Mintzberg *et al.*, 1998:25). These competencies were defined as the leadership capabilities that were responsible for transforming an organisation into a successful operation (Hurt, 2008:1). Selznick contributed with his notion that strategy is formulated following the consideration of unique and scarce distinctive competencies among the people within the organisation.

#### iii) **Learned, Christiansen, Andrews and Guth (LCAG)**

This "LCAG" model acknowledged and used Selznick's notion of "distinctive competencies" and took it one step further by focusing on a fit between the firm and its environment. Learned *et al.* (Provenmodels, 2009:1) proposed the well-known "SWOT analysis". This analysis refers to the analysis of strong points, weak points, opportunities and threats as inputs to consider during strategy formulation. Thus, the consistency contribution by Learned *et al.* was that organisations formulate strategy by choosing which strategic direction is best supported by the organisational internal capabilities, while at the same time also keeping the external influences in mind (Hurt, 2008; Mintzberg *et al.*, 1998: 25; NetMBA, 2009; ProvenModels, 2009b).

The aim of including the contributions above is to obtain an overview of the development path of strategy formulation, thereby identifying existing or potential relationships between the risk management and strategy formulation processes.

In conclusion, the Design School's primary contributions to strategy formulation can be summarised as the following activities or building blocks towards an organisational strategy:

- Assessment of internal organisational capabilities;
- Alignment of strategy with the organisational structures;
- Consideration of available competencies; and
- Consideration of external influences.

Although none of these contributions directly or indirectly mention the consideration or management of risks, these steps are revisited again when reviewing the risk management process, to establish if they are complementary steps in both processes.

In the next section, the classical Planning School's contributions to strategy formulation theory are reviewed, to identify further building blocks towards strategy formulation and the possible links between strategy formulation and risk management processes.

#### **3.4.1.2 The Planning School**

The Planning School is the second of three classical schools that contributed to strategy formulation theory by prescribing the considerations, processes and choices involved.

While the Design School focused on a simple and basic set of steps to follow during strategy formulation, the Planning School expanded on these basic steps. It added sequence and techniques to the contributions made by the Design School and ended up with a more detailed and more complex sequence of steps to be followed to formulate an organisational strategy. The Planning School's premises were that strategy will follow from the systematic application of a set of considerations.

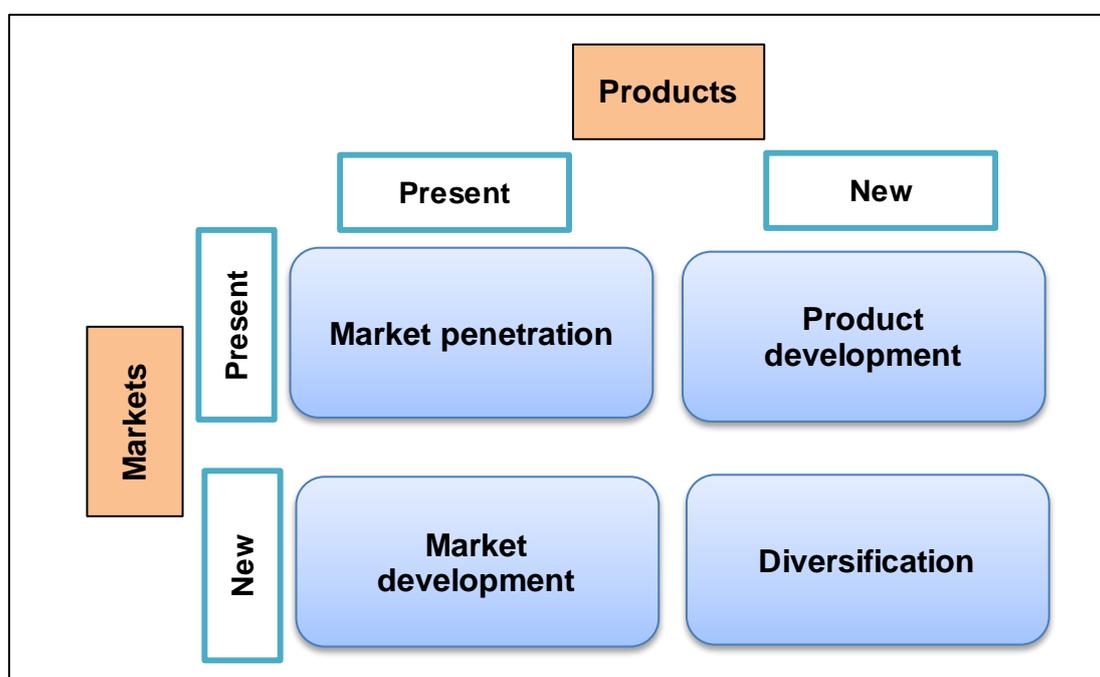
Haugstad (1999:1) described Ansoff as the founder and main contributor of the Planning School. The Russian-born Ansoff immigrated to the United States of America (USA) in 1936 and was active in both academic circles as well as the business world. He published the book, *Corporate Strategy*, in 1965. According to Haugstad (1999:1), this publication together with Porter's Positioning School theory, formed the classical strategy formulation theory. Ansoff was accordingly referred to as "the father of corporate strategy" (Thinkers, 2003:1).

According to Chandler (1978:180), Ansoff's *Corporate Strategy* is a landmark text that provides an analytical profile to the concepts and methodology of strategic decision-making. Lowry and Hood (2004:134) confirmed Ansoff's remarkable contribution by quoting Hussey (2007) as follows: "Of course much that is new and different has been added, but the rock on which everything has been build was provided by Igor Ansoff".

According to Thinkers (2003:1), there was little knowledge on the theory of strategy formulation before the publication of Ansoff's *Corporate Strategy* in 1965. Katsioloudes (2006:599) stated that companies were reliant on traditional ways of planning, such as setting an annual budget and

projecting it into the future. This practice was referred to as “long-range planning” which later became known as the “old name” for strategy formulation, originally used for strategic planning before it developed to more recent levels of complexity (Thinkers, 2003:1). Long-range planning was criticised for its inability to accommodate futuristic changes or different market circumstances. Ansoff argued that companies need to systematically consider changes in the internal and external environment to assist in planning for the future. Strategizing was seen as a process of systematically considering external and internal environmental changes and to respond to these stimuli (Thinkers, 2003:1).

One of Ansoff’s contributions was the “2x2 Matrix”. This matrix uses the two dimensions of products and markets on two different axes. On the horizontal axle, products and services are set on a timeline distinguishing between current products and new products, while markets are set on the vertical axle, also with the timeline distinguishing between present markets and new markets. This matrix offers four potential strategic options (Cordos & Mihalcea, 2008:184; Lowry & Hood, 2004:135). The “2x2 Matrix” is graphically depicted in Figure 3.2.



**Figure 3.2: Igor Ansoff's 2x2 Matrix**

Source: Adapted from Lowry and Hood, 2004:135.

The four strategy options offered by Ansoff's 2x2 Matrix are:

- i) Market penetration – increasing the sales volumes of an existing product towards a larger market share or towards becoming the market leader.
- ii) Market development – increasing sales volumes by penetrating new markets.
- iii) Product development – increasing sales by developing a new product.
- iv) Diversification – extending the existing business portfolio by adding new products or using new technologies.

As with the Design School, the Planning School posts no direct references to risk management, but includes a comprehensive set of considerations, which are similar to the risk management process, which is dealt with in the next chapter. In the next section, the contributions made by the Positioning School are reviewed to serve as a platform to determine if there are similarities or links between risk management and strategic formulation processes.

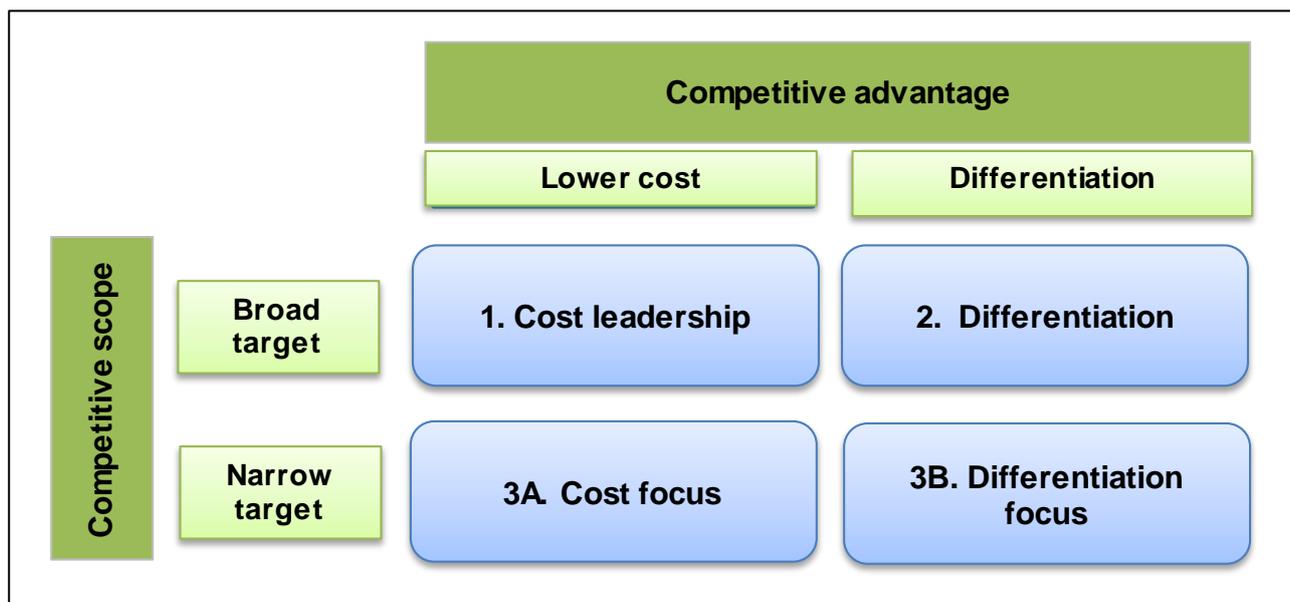
### **3.4.1.3 The Positioning School**

The Positioning School is the third of three classical strategy formulation theories from the prescriptive tradition that are reviewed. The aim of this review is to determine if this theory refers directly or indirectly to risk management. According to Mintzberg *et al.* (1998:82), the Positioning School contributed to strategy formulation theory in the form of strategy positions or strategy content. Choices were available from a few basic strategies. Mintzberg *et al.* (1998:82) acknowledged Michael Porter as the leading author of the Positioning School, following his publication of the book *Competitive Strategy* in 1980. According to Mintzberg *et al.* (1998:82), the Positioning School did not start afresh with a revolutionary approach, but added onto the previous work from earlier classical schools such as the Design School and Planning School. The founders of the Positioning School accepted most of the grounded premises that formed the bases of both the earlier Planning School and the Design Schools. The primary new contributions by the Positioning School were in the form of additional content. The strategy options that were offered by Porter gave researchers the opportunity to appreciate the strategy itself, rather than only a process to follow during strategy formulation, as was proposed by the earlier schools. The substance of strategy was thus expanded by the Positioning School. While the prior schools offered a repetitive process, the Positioning School provided a menu of options, each with a unique substance. According to Mintzberg *et al.* (1998:82), this had blown new energy into the prescriptive schools that received all new attention from the “knowledge hungry” managerial world.

The managerial online source, Facilitating Impact (2008:1), stated that the Positioning School turned the focus of strategy formulation from the process of strategy formulation towards choosing one of a few strategy options. Previous schools emphasised the process to be followed towards strategy formulation and saw no limitation in the number of different outcomes that were possible, as long as following the process was all that was needed to formulate strategy. Porter and the Positioning School on the contrary, identified a limited choice of strategy options. Within each market, there were only a few basic “positions” to choose from. A competitor could choose one of the following strategy options listed below. Porter used a diagram (Figure 3.3) to illustrate the major strategy choices or options.

According to Porter (1985:11-16) the few strategy options or “positions” are:

- Cost leadership is the strategy choice aimed at producing and offering the product at the lowest possible cost, focusing on the segment of buyers that will always buy the cheapest offering.
- Differentiation is the strategy that focuses on offering a product or service which is totally unique. This can be a product that looks different, works differently, offers better performance, and offers unique styling with more functions or any other offering making the product or service totally unique in comparison to the rest of the offerings in the market place.



**Figure 3.3: Michael Porter’s generic strategies**

Source: Adapted from Porter, 1985:12.

The Differentiation and Lower cost focus strategies could target a broad market or a narrow market. If a broad target strategy is chosen, a diverse portion of the total target market will be focused upon. Choosing a narrow target strategy, means offering a limited product range or product cost, focusing on a specific or narrow market. The needs, tastes or buying power of a specific small group of customers are thus targeted, when this strategy options are selected, as explained by Mintzberg *et al.* (1998:102-104).

The Positioning School did not totally discard the process approach proposed by the earlier schools, but contributed to earlier schools by adding content in the form of position choices. The strategy formulation process, as proposed by Porter (1985: 11-16) and Mintzberg *et al.* (1998:100-102) consists of the following steps:

- Competitors within an industry have a generic set of strategies to choose from.
- The market place is competitive and competitors must distinguish their offering from the rest to secure a share of the market.
- Planners and managers analyse the market and choose one of the generic options.

- Executives choose, adapt and implement a suitable strategy and adapt their company structure towards a best fit. Structure thus follows on strategy, rather than strategy following structure.

In conclusion, while the Design School and Planning School contributed to strategy formulation theory by proposing a systematic process of considerations, the Positioning School expanded on them by providing strategy options in the form of strategy content, over and above the process. Although the school was criticised for its narrow focus, restricted context, top-down approach and oversimplified process, it provided an important building block towards modern-day strategy formulation processes by means of providing a matrix of options and proposing that strategy follows from selecting and implementing one of the strategic options.

The rationale for reviewing these early strategy formulation theories is to establish whether risks or the management thereof is considered in any of these strategy formulation processes or options. As with the previous classical theories, the Positioning School contained no specific reference to risks or the management thereof, as there is a clear lack of specific risk management factors in these strategies, which becomes clear in the next chapter.

In summary, two broad classical strategy formulation schools of thought were identified, being the prescriptive school and the descriptive school. The difference between these schools is that the prescriptive schools prescribed the process to follow or strategy options to choose among. The descriptive school theories culminated from observing organisations and proposing their actions as strategy. The prescriptive school theories were chosen to review in more detail as these theories encompass the following of sequences of steps and choosing between set strategy options. As risk management also follows a process, as stated in the COSO definition (COSO, 2004:4), this study focused on the prescriptive school theories rather than descriptive theories. Following the review above, no specific or implied link to the management of risks were found.

In the next section, resource-based strategy formulation theory is reviewed to expand the search for specific or implied links between strategy formulation and risk management.

### **3.4.2 Resource-based strategy formulation theory**

In this section, the resource-based strategy formulation theory is reviewed as part of strategy formulation exploration. As the name 'resource-based strategy' indicates, the premise of this school of thought is that strategy is chosen on grounds of the available resources. This school of thought supports the notion that strategy is a function of the organisation's available scarce resources, rather than a selection from a set of strategy options.

According to Zhang (2005:20), strategy is a function of the available resources and the firm thus needs to assess their available resources and develop a strategy which uses and optimises these resources.

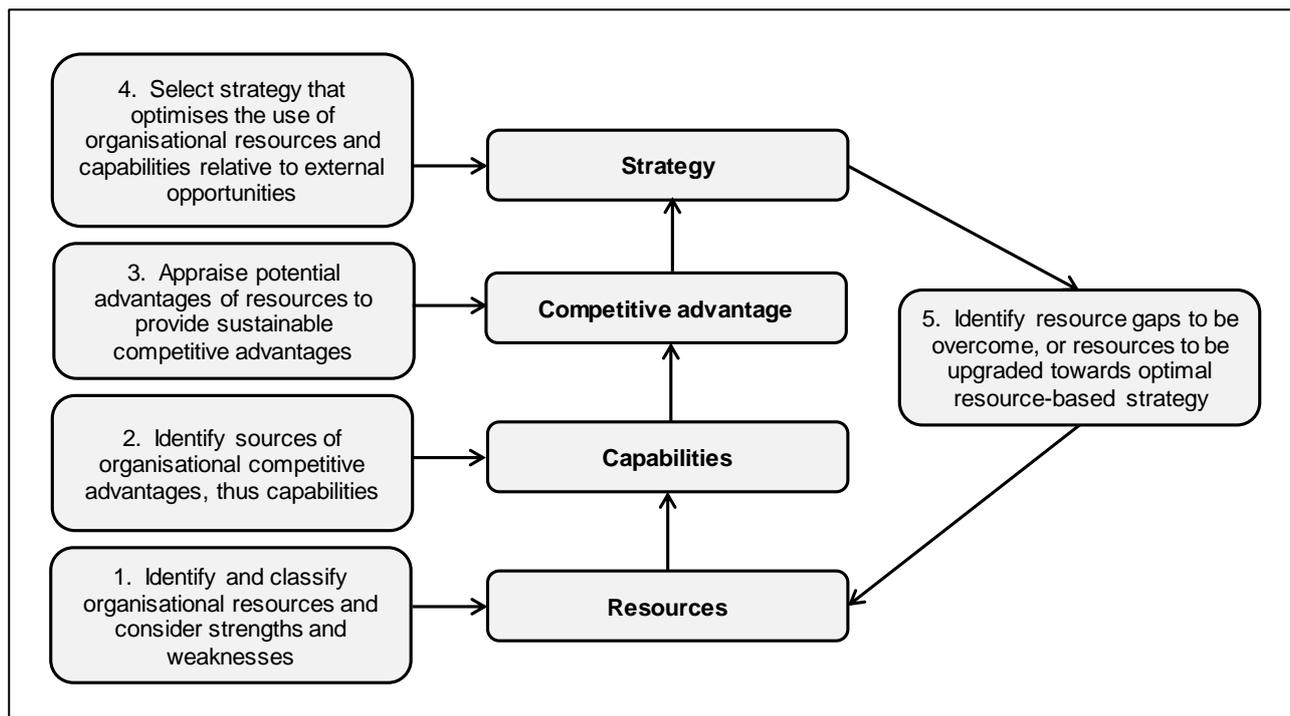
Kay (1999:1-2) stated that strategy is not planning, visioning or forecasting by senior managers with superior insight and superior will, but a set of analytical techniques used to develop insight and understanding of the company and its unique attributes. Kay thus referred to the set of analytical skills as a unique or scarce organisational resource determining the strategy that the organisation needs to follow. This is quite different from the Porter viewpoint, that organisational structure and conduct lead the way to performance and that external forces, such as number of competitors and the degree of rivalry, determine success. According to Kay (1999:2-3), the existence of internal characteristics or “internal resources” is neglected as element towards strategy formulation.

Kay (1999:3) used the term “economical rent” to explain the essence of the resource-based view in detail. He stated that companies deploy capital in the hope to recover their cost of capital and also to earn a premium above the cost of capital. This premium can be described as economic value added. Companies will break even when their earned economic rent is sufficient to recover the cost of their capital. The excess above break-even is the economic rent or economic value added, which is a function of distinctive capabilities optimised by the firm. These distinctive capabilities are capabilities unique to the company. They can be in many forms varying from managerial skills to other human skills, geographical positioning, access to information, licences, experience or unique physical attributes. Kay (1999:4) distinguished between reproducible capabilities and distinctive (not-reproducible) capabilities. Distinctive capabilities are the base for competitive advantage; if they are reproducible, competitors will “copy” the advantage and it will not be a sustainable competitive advantage. The successful strategy thus requires that managers or entrepreneurs identify the unique distinctive advantages, set a structure that makes maximum use of the distinctive advantages, and implement it successfully. This is the essence of the resource-based approach, reviewed by Kay (1999:4).

According to Grant (1991:1), the interaction between resources and capabilities guides the way towards competitive advantage and eventually strategy. Figure 3.4 illustrates the five-step process focusing on resources, capabilities and distinctive competitive advantages towards an organisational strategy. The five-step process can be summarised as follows:

- i) Identify the full scope of available resources, classify them and determine the strong points and weaknesses of the resources relative to the resources of competitors.
- ii) Identify and assess the unique capabilities available in the organisation relative to the capabilities of competitors.
- iii) Assess the advantages that the combination of resources and capabilities could bring to the organisation that could provide a competitive advantage relative to the resources and competencies of competitors.
- iv) Choose a strategy that optimises the unique offering of resources and competencies.
- v) Establish what resource gap exists and overcoming it by bridging the gap to realise sustainable competitive advantage.

It is noted that this interpretation of resource-based theory does not include any reference to risks or the management thereof.



**Figure 3.4: Resource-based approach: A practical framework**

Source: Adapted from Grant,1991:1.

Ohmae is the founder of the 3Cs Framework and among those who believe in the principles of resource-based theory (Value Based Management, 2009:1). The 3Cs refer to: (1) the Customer; (2) the Corporation and (3) the Competition.

Ohmae proposed strategic options focusing on (1) the customer's objectives, and (2) the organisation. It is these focuses that acknowledge resources and thus support the resource-based view (Value Based Management, 2009:1). He stated that it is not necessary to maintain a competitive edge in every function, as long as the organisation has a relative strength in at least one or some of the functional areas of operations. Other corporate strategic options are to make, buy or apply competencies towards improving cost effectiveness. The "make or buy strategy" option requires the organisation to have skills and competence to make or alternatively buy needed resources. This forward integration option could realise savings in manufacturing costs and provide the organisation with a competitive edge, if the skills or competencies are available to manufacture rather than buy (Value Based Management, 2009:1).

Ohmae (Value Based Management, 2009:1) referred to the "*Hito-Kane-Mono*" phrase, commonly used by Chinese managers and meaning "people, money and things". This phrase refers to people, money and things being in balance to ensure optimality without any wastage. According to Ohmae (Value Based Management, 2009:1), there needs to be just enough money, skills and resources or else some of the resources will be wasted and thus work against reaching a situation of optimal

performance. This potential optimal performance is a requirement for sustainable competitive advantage. Neither Ohmae's interpretation nor any of the other resource-based theorists cited above, refers directly or indirectly to risk or management thereof in any way.

Barney (2005:11) stated that resources have to be heterogeneous by nature and not perfectly mobile to be transformed from a short-run competitive advantage to a sustainable competitive advantage. Valuable resources for sustainable advantage must thus be scarce and impossible to imitate or substitute. These requirements will ensure sustainability of the competitive advantage resources (Barney, 2005:11; 13-15).

Barney (2005:11; 13-15) proposed the "VRIO" criteria as part of the resource-based theory. The VRIO criteria for resources to be valuable for resource-based strategy are:

- Valuable, thus enabling the owner company to utilise the resources to add more value than its competitors.
- Rare, as it must create an advantage and non-scarce resources will not render an advantage to its company.
- In-imitable, to support and maintain the criteria of rareness.
- Non-substitutable, as this will prevent competitors to utilise a similar advantage to overcome the rareness.
- Organisation readiness to exploit the resources and reap opportunities before others.

This interpretation of resource-based theory does not refer to risk or consider the management thereof in any way.

Bryson (2004:32-51) developed a strategy change cycle for non-profit organisations. The ten steps (Bryson, 2004:33), illustrated in Figure 3.5, could serve as a summary of the linear theories described to this point, as it encompasses most of the different building blocks of strategy formulation theory of the micro-economic school. Bryson's cycle consists of ten steps to be followed by non-profit orientated organisations towards setting and renewing strategy. The driving factors beyond this school of thought are the resources, rather than human thought processes.

During the literature review of strategy formulation, the one proposed by Bryson (2004:33) was among those reviewed. Bryson incorporated the influence of most researchers of the micro-economic school into his proposed process. His process, although not regularly cited, serves well as a summary or general approach for strategy formulation processes. Although this study acknowledges that there are alternatives that could also be used and that offers suitable strategy formulation process alternatives, Bryson's process was chosen since a explorative approach is followed towards a general approach.

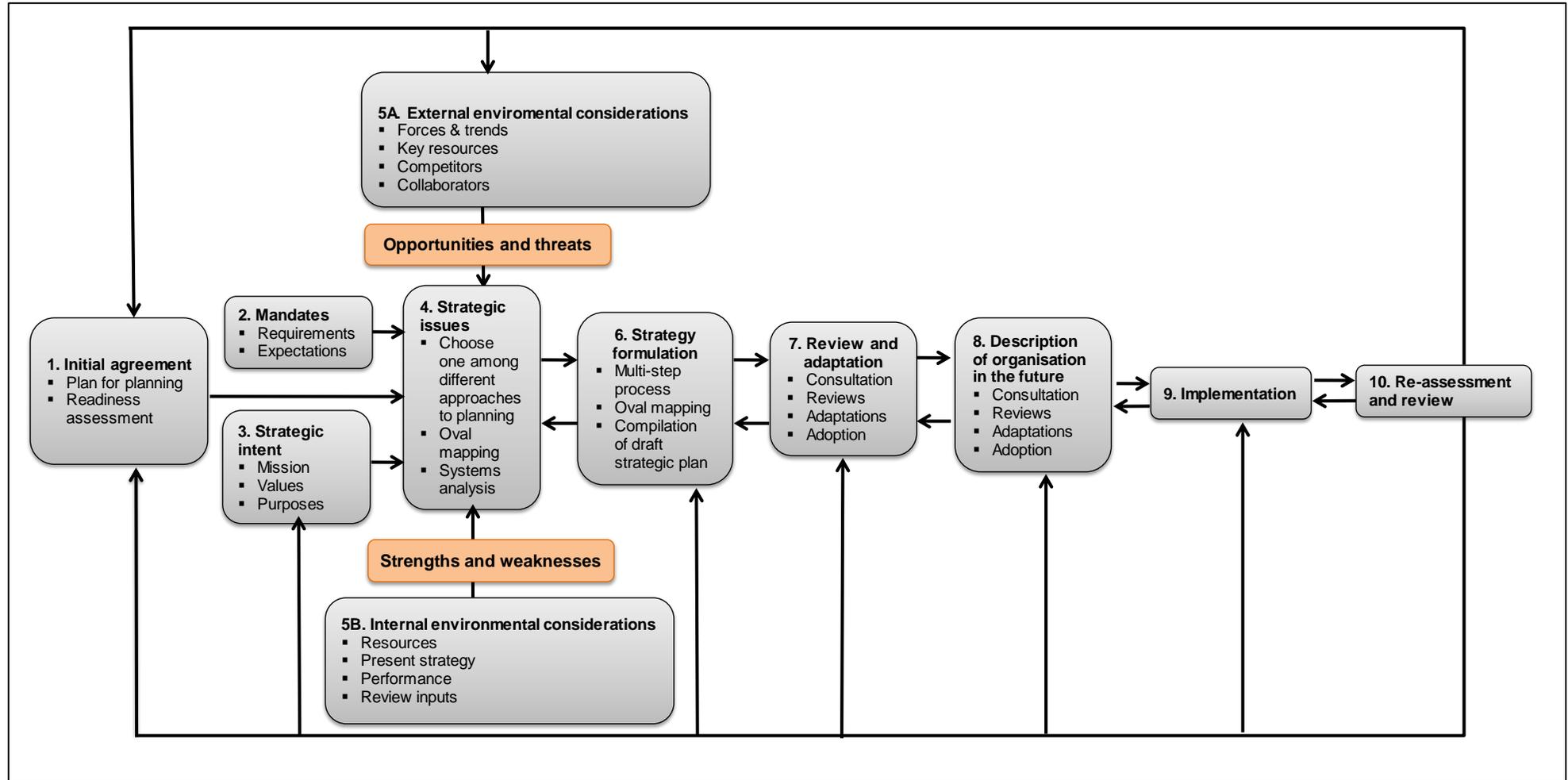


Figure 3.5: Ten-step strategic planning process

Source: Adapted from Bryson, 2004:33.

The Bryson (2004:33) process consists of ten steps. The first step is an initial agreement rather than a set strategic intent or vision. Confirming mandates and confirming mission and values follow the initial agreement. The fourth step is to identify the strategic issues via considering the external and internal environment. The internal environment considers the resources, present strategy and performance. This step thus relates to the resource-based view of for-profit processes. The rest of the steps are strategy formulation, strategy and plan revision, description of the organisation in the future, implementation and re-assessment.

As in all the other strategy formulation process sources reviewed, Bryson's steps as graphically illustrated in Figure 3.5 do not refer to risk or the management thereof in any way as stated in the COSO (2004:4) risk management definition.

The development path reviewed to this point was linear, logical and sequential. The focus areas of the schools reviewed were on strategy formulation process, strategy content positions, strategy following structure and vice versa and also, strategy following resources. None of the classical strategy formulation theories referred directly or indirectly to risk management or consideration of risks during the crafting of strategy. It can thus be concluded from the literature review thus far, that there is no proof of risk management applied in strategy, as claimed in the COSO risk management definition (COSO, 2004:4).

Before the process review thus far could be accepted to be sufficient to form a general approach for strategy formulation, more recent and more diverse strategy theories are also reviewed for the sake of identifying alternative or further generic steps to be included in a general approach. In the next section, non-linear theories are reviewed. These theories, also described as alternative models, were selected on grounds of the reasoning that classical theories are not capable to provide guidance for strategy formulation in all circumstances, in the modern turbulent business environment.

### **3.5 ALTERNATIVE MODELS**

The two models reviewed were selected on grounds of their diverse approaches. The first model is called the 'Hypercompetition' theory and was developed by D'Aveni (1994). The second alternative model is called the 'Delta Project' theory and developed by Hax and Wilde (2001). These models are included on grounds of their relative modern and different approaches in comparison to the classical theories. The selection of these two models is still part of the exploratory nature of this part of the study.

#### **3.5.1 Hypercompetition by D'Aveni**

According to D'Aveni (1994:235), classical strategy theory was about finding a unique competitive position within the market and then to keep the superior market position or competitive advantage by "slowing down" competitors wanting to copy the "recipe" for sustainable advantage. The classical process included considering environmental issues, choosing goals, selecting tactics to reach the goals and finding or allocating the resources needed to execute the tactics. D'Aveni pointed out one

major flaw with classical theory, namely that classical theory failed on the assumption of a stable competitive environment as the modern competitive environment is rather more volatile than stable.

D'Aveni (1994:236) criticised classical theory for several unrealistic assumptions, among other, the assumption that values and beliefs of organisations remain static, that organisations with unique assets can ensure sustainable competitive advantage from those assets, and that companies have a goal to sustain dominance in only one specific market. He also questioned the classical assumption that companies can set a plan to sustain the unique advantage for prolonged periods of up to five years.

D'Aveni thus placed the old 7-S framework on its head, as it was based on static assumptions. According to McKinsey's original 7-S framework, sustainable advantage resulted from a fit between the structures and processes of the organisation. D'Aveni (1994:239) stated that external and internal fit sometimes tends to be incompatible as companies with a rigid internal fit are unable to adapt to external volatility. D'Aveni proposed an alternative 7-S framework focusing on "short-term market conditions and dynamic strategic interactions among rivals" (D'Aveni, 1994:240).

In summary, D'Aveni's theory of hypercompetition showed insight into modern market trends. Markets conditions are not static and companies that have a static strategy, policy or goals, will find themselves outdated very fast. A focus on a long-lasting fit between resources and processes will make a company unable to respond to fast-changing market demands. D'Aveni proposed a dynamic approach aimed at identifying and responding to market changes and opportunities faster than competitors could and to disrupt the stability of the competitors.

D'Aveni's new 7-S model contains one part that is somehow related to risk management. According to D'Aveni, a company needs a "vision for disruption" as a skill to create advantage above rival companies (D'Aveni, 1994:248). Vision for disruption is described as "identifying and creating opportunities for temporary advantage". With some imagination, this can be seen as similar to identifying potential events that put the status quo at risk, thus risk event identification. It is also possible to see the activity of creating opportunities for temporarily advantage as similar to creating risk opportunities. Risk opportunity refers to opportunities that are to be taken as it is in the best interest of the organisation and represent what the stakeholders would expect. The Hypercompetition model thus has a relation to one of the steps of modern risk management, although D'Aveni did not relate it to risk management directly.

In conclusion, the review of the alternative strategy formulation theory above acknowledges several trends that are applicable to modern businesses. This theory might be useful to point out the shortcomings or questionable assumptions of classical strategy formulation theory, but is in no way closer than classical theory to including risk management in the strategy formulation processes. To this point, the conclusion still stands that risk management is not considered or applied in strategy formulation. Such a conclusion could not be based on the review of a single alternative theory; thus,

a second alternative theory was reviewed in the search for confirmation or signs that risk management is applied in the strategy formulation process.

The second theory from among the sustainable theory group reviewed is the “Delta Project” theory by Arnold Hax and Dean Wilde (2001)

### 3.5.2 The Delta Project model

Arnold Hax and Dean Wilde formulated a set of frameworks for modern organisations to formulate strategy and assist managers in executing the strategy. Hax and Wilde’s work was inspired by the extreme turbulences experienced in the business environment during the last two decades. As was the case with Richard D’Aveni and his Hypercompetition theory, Hax and Wilde realised that conventional theory did not succeed in guiding managers with strategy formulation in the modern times. Hax and Wilde also criticised classical theory by pointing out the contradiction between the classic theory’s product focus, while the modern trend is towards market networks. The modern economy is networked via the internet and 21<sup>st</sup> century technology and is thus capable to offer more than just the classic “product” focus. Networking by applying backward and forward integration, made customer relationship management a new focus among modern competitors (Hax & Wilde, 2001:8),

The differences between classic and new market trends as perceived by Hax and Wilde have been summarised in Table 3.2.

**Table 3.2: Comparison of classic and modern market characteristics**

Characteristic	Classic theory	New/modern market trends
Focus	Product focus	Client focus
Strategy	Combinations of costs, quality, features and speed	Bonding with the customer and offering a total solution.
Source of competitive advantage	Who offers the best product?	Customer relations independent of the product.
Choice of products	Standardised through mass distribution models	Products are enhanced with customer lock-in characteristics.
Selling strategy	Conventional sales force	Total customer experience and thus customer lock-in.
Customer knowledge	Low to zero	Use granular metrics to develop an extensive knowledge base of customers.

Source: Compiled from Hax & Wilde, 2001:7-8.

The Delta Project model offers four complementary contributions which they deem as essential to the new economy (Hax & Wilde, 2001:9). These four contributions are:

- i) The triangle which offers three new strategy options;
- ii) Adaptive processes as a link between strategy and the execution thereof;
- iii) Aggregate metrics as aggregate measures of success; and
- iv) Granular metrics as the essential indicators of three distinctive properties, namely: non-linearity, concentration and sensitive dependence. These three properties are essential indicators of the levels of networking and bonding.

### **3.5.2.1 The triangle**

The triangle that offers three additional strategy options in a triangular or delta format is: (1) The best product strategy option; (2) Total customer solution strategy; and (3) System lock-in strategy option. The content of these three additional options are summarised to establish whether risk management is applied in one or more of these options.

#### **i) The best product option**

This is the closest option to the classic options. It could best be described by terms such as low cost, mass production and marginal differentiation, with all the focus on the product and little to no focus on the client or his needs. If choosing this strategy option, the primary source of competitive advantage is based on cost savings from product economics and supply chain dynamics. Innovation was predominantly in the form of development or improvement via more streamlined production processes (Hax & Wilde, 2001:10).

#### **ii) Total customer solution strategy**

This option focuses on and adds value to the customer experience. This option aims at enhancing the value to the customer by expanding the product offering towards a “serve all needs in one” customer solution. A set of corporate capabilities are combined to offer not only a single product, but a solution to the customer’s needs. It does not imitate other products, compete for best cost or outdoing competitors, but puts together a combination of solutions aimed at making life easier for the customer (Hax & Wilde, 2001:11).

#### **iii) System lock-in strategy option**

This is an extension of the total customer solution in the sense that it goes even one step further by “locking in the customer” to enforce customer loyalty. This option focuses on identifying, attracting and nurturing complementary services to expand the customer experience so far that the customers have difficulty in purchasing the product of a competitor as it would then lose out on some of the “added” offerings of the total product. In essence, this option combines a standard offering with complementary offerings to “lock customers in”.

In conclusion, these three strategic options resemble modernistic strategy options, but they do not in any way refer to risks being identified or managed as part thereof.

### **3.5.2.2 Adaptive processes**

Hax and Wilde (2001) proposed three processes as the key pillars of the notion they call the “adaptive processes”, whereby strategy setting and execution are linked. These adaptive processes are: (1) operational effective production; (2) customer targeting; and (3) continuous innovation,. Although potentially relevant to modern strategy formulation theory, there are no links or signs between these strategy options and risk management processes.

### **3.5.2.3 Aggregate metrics**

Hax and Wilde (2001:20) proposed “aggregate metrics” as the measurement of the overall success and performance of the company. The aggregate metrics also need to be adapted for the different strategy options and are in contrast to conventional financial measures of success, such as return on assets (ROA), return on investments (ROI) and earnings before interests and taxes (EBIT).

The aggregate metrics measures of success focus on cost drivers when focusing on operational effectiveness, profit drivers when focusing on the customer, and renewal drivers when focusing on innovation. Again, there is no link, similarities or references to the identification or management of risks.

### **3.5.2.4 Granular metrics**

According to Hax and Wilde (2001:21), granular metrics are indicators of future performance. Granular metrics is related to the modern strategic focus on bonding. Again, there were no references or similarities between this contribution and risk management. It can thus be concluded that the Delta Project theory in no way resembles any form of modern risk management process.

### **3.5.3 Summary**

Based on the above-mentioned, the following conclusions can be made.

- The definitions of strategy formulation as reviewed, do not refer to or imply that risk management is part of strategy theory.
- Several classic linear strategy formulation theories were reviewed, and no link or resemblance to risk management was found in any of the classic strategy formulation theories.
- The definition of chaos strategy formulation theory as non-linear strategy formulation theory was reviewed and no proof of risk management embedded in this theory was found.
- Two theories from the group of sustainable strategy formulation theories were reviewed and still no sign of risk management was found.

Following from the review of the above sample of strategy formulation theories, it can be concluded that risk management is not applied as part of strategy formulation processes in these samples reviewed.

As a final step to establish whether risk management is applied in strategy formulation, the focus was shifted from theory to practice, to establish if a sample of organisations do indeed consider and apply risk management principles during strategy formulation theories. If it was found that the theory did not describe the application of risk management, but a practice review demonstrated that risk management had been applied, it could be concluded that theories fail, but practice prevails. As this study focused on strategy formulation at universities, a sample of universities from around the globe were chosen and their strategy formulation processes were reviewed to obtain insight into processes. This review aimed to identify processes where components of risk management are embedded in strategy formulation, to serve as guideline for such an embedded process.

### **3.6 STRATEGY FORMULATION AT A SAMPLE OF UNIVERSITIES**

This chapter provided an overview of an exploratory sample of strategy formulation theories. Thus far, no specific or implied reference to risk management was found in any of the theories reviewed. The empirical part of the study that follows the literature review was aimed at universities in South Africa in comparison with financial and other sector companies in South Africa. Accordingly, the literature study included a review of strategy formulation processes at an exploratory sample of universities. The aim of this part was to obtain insight in the processes followed by universities and also, to determine whether risk management steps are embedded in the strategy formulation processes of the sample institutions.

Following a search for information about strategy formulation processes at universities, it was found that not many universities published the inner detail of their strategy formulation processes online. The sample of universities reviewed was chosen on grounds of the availability of information. This review is the outcome of purposeful sampling of secondary data by means of published articles about the strategy formulation processes. These universities represent different countries within several different geographical regions or continents. Information on their strategy formulation processes was readily available on the internet. These universities are:

- University of Dar-es-Salaam, Uganda, Central Africa;
- University of Namibia, Southern Africa;
- Dublin City University, Ireland;
- University of Warwick, United Kingdom; and
- Cleveland State University, Ohio, USA.

During the review of articles about the strategy formulation processes at the above universities, the aim was to identify trends in the process of strategy formulation, with a focus on:

- The underlying principles as starting point of the strategy formulation process;
- The key role-players in strategy formulation;
- The strategy formulation and renewal timelines; and
- The steps involved in the process.

Most important was to establish whether there was any direct or implied reference to risk management in any or all of their strategy formulation processes, as proposed in the COSO (2004:4) definition.

### **3.6.1 Starting point of the strategy formulation process**

The first part of the review was to identify the underlying principles which serve as starting point for each of the sample universities. Three of the five sample universities, namely University of Namibia (Nghihangwa, 2007), University of Dar-es-Salaam (Luhanga, 2010) and Warwick University (Dyson, 2002), initiated their processes by revisiting their existing strategic intent.

According to Kogler-Hill, Thomas and Keller (2009:20), the strategy formulation process at Cleveland State University started with an information-gathering process as their point of departure. At Cleveland, they used questionnaires to gather information from students, staff and other role-players. This information gathering via questionnaires from role-players represents the starting point of their process.

According to Munck and McConnell (2009:35) Dublin City University started their strategy formulation process with the revision and combination of “internal component strategies” as point of departure for their process. Their internal component strategies are accepted to be existing internal strategies of different units or divisions of their institution. There was not much detail published on the methodology they used to revisit the strategic intent.

In conclusion, from the review of the sample of institutions, it is concluded that their strategy formulation processes started with the following:

- Revision of their strategic intent also referred to as their vision for existence;
- Process of information gathering from different stakeholders;
- Revision of strategies from the institutions internal components.

### **3.6.2 Key role-players involved in planning**

The second focus of the review was to identify key role-players involved in formulating strategy at the sample of universities. This was done to establish if there is any reference to the Chief Risk Officer present and participating in the strategy formulation process.

According to Luhanga (2010:7073), University of Dar-es-Salaam utilised the Directorate of Planning and Development for the strategy formulation function. Munck and McConnell (2009: 35) stated that at Dublin City University, their President was the strategic leader, assisted by the Head of Strategic Planning. Kogler-Hill *et al.* (2009:20) said that at Cleveland State University, a joint Faculty-Admin Planning Committee was responsible for strategy formulation. According to Dyson (2002:631), Warwick University utilised a [Strategy] Steering Committee. According to Nghihangwa (2007:60), the University of Namibia used a Transitional Planning Committee for the strategy formulation

process. Reviews of the role-players lead to the conclusion that although different titles were used, the planning was essentially undertaken by the same combination of role-players.

Based on the above-mentioned views, it can be concluded that strategic planning at the sample of universities was done either by semi-permanent planning committees formed for the duration of the planning process or an internal department responsible for strategy formulation. It was also found that at least three institutions had an internal department or a permanent staff of senior executives that were responsible for strategic planning and review. It was found that none of the sources referred to the Chief Risk Officer specifically being part of the strategic planning process. Although the possibility exists that the Chief Risk Officer is included in the Faculty-Admin Planning Committee, Strategy Steering Committee or Transitional Planning Committee, the risk management function or functionary was not explicitly mentioned.

### 3.6.3 Timeframe of strategic planning and renewal thereof

The next focus of the review was to establish the timeframe for renewal or review of the process. This was done to establish if the strategy formulation processes at the sample of universities correspond with regard to the timelines of the planning and review processes.

Luhanga (2010:7076) stated that at the University of Dar-es-Salaam, they planned for five years within a rolling fifteen years' cycle. The University of Namibia and Warwick University also used a five-year rolling plan within a long-term cycle. The five-year rolling plans within a longer timeframe relate back to the classic long-range planning rolling over mentioned by Katsioloude (2006:599). It thus seems that universities still find this form of strategy formulation valid, even during modern "turbulent" times. While non-linear strategy formulation processes seem to take preference to classic linear processes in the business environment, classic linear processes still seem to be of value at the sample of universities studied.

Following the review of the point of departure, strategic planning teams and timeframes of planning, Table 3.3 was compiled as summary of the findings.

**Table 3.3: Strategy formulation base of the sample universities**

	University of Dar-es-Salaam	University of Namibia	Dublin City University	Warwick University	Cleveland State University
<b>SAMPLE INSTITUTIONS</b>					
<b>Source</b>	Luhanga, 2010.	Nghihangwa, 2007.	Munck, 2009.	Dyson, 2002.	Kogler, 2009.
<b>Base / Point of Departure</b>	Vision, mission, guiding themes, values, future direction	Vision and mission to guide development	Component strategies combined towards corporate plan. Mission used for foresight scenario planning.	Discussion on the mission and characteristics of the institution.	Information gathered via student and role-player polls, previous plans and reports

Researcher compiled from sources cited

From the review, it was found that the most common planning timeframe is five years within a longer time period. Thus, from the review of the five sample universities above, it was found that their common starting point is to revisit their strategic vision or intent or to gather and review information from key role-players and existing supporting strategies. The people involved in the process were found to be full-time directorates responsible for planning or non-permanent structures such as the Transitional Planning Committee, Steering Committee or Joint Faculty-Admin Planning Committee. None of the sample institutions referred to the risk management function during this part of the review.

The search for risk management processes embedded in strategy formulation processes was then expanded to focus on key issues addressed during the strategy formulation process and the steps of the process.

### 3.6.4 Key issues focused upon during the strategy formulation process

The sources describing the strategy formulation processes of the sample institutions were compared to establish whether there was a trend in the key issues guiding their processes, or in the steps of the processes followed. This review was also aimed at identifying any traces of risk management embedded in any or all of these processes. At first glance, the strategy formulation processes seemed to be as unique as the key issues summarised in Table 3.4.

**Table 3.4: Strategy formulation focus on key issues of the sample universities**

SAMPLE INSTITUTIONS	University of Dar-es-Salaam	University of Namibia	Dublin City University	Warwick University	Cleveland State University
					
<b>Source</b>	Luhanga, 2010.	Nghihangwa, 2007.	Munck, 2009.	Dyson, 2002.	Kogler, 2009.
<b>Key issues</b>	Management framework, Transformation, Demand, Quality, Capacity, Infrastructure	Engage society and stakeholders in an environment conducive to innovation, knowledge creation and learning	Energy, Urban Planning, Technology, Role of Science, Work-life balance, Mobility, Considering Government, The Media	Customer engagement, Invention and Discovery, Marketing and Delivering	Communicative planning, Human commitment, fostering a collaborative organisational culture.

Researcher compiled from sources cited

Following the review of the sample institutions' processes, it was found that there is no visible trend in the key issues focused upon, as each institution focused upon its unique internal quests relevant at the time the planning commenced.

University of Dar-es-Salaam and University of Namibia used a process that can best be described as a classic input-output process. Both institutions started with a review of governance processes, governance in general and supporting structures. Following the internal and external environment assessment, objectives were identified. The objectives were refined to become outputs, which were consulted with role-players towards gaining general acceptance (Luhanga, 2010: 7072-7079; Nghihangwa, 2007:57-65).

Dublin City University (DCU) used a process that can best be described as a foresight/futures approach. Munck and McConnell (2009:31-33) explained this approach of foresight thinking not as an attempt to predict or forecast the future, but rather as a methodology towards identifying opportunities and constraints. The opportunities and constraints, which relates to the SWOT analysis, served as base for the succeeding scenario planning process. Although all the elements of the classic input-output process, similar to University of Dar-es-Salaam and University of Namibia, were present, it was unique in the sense that it had a futures approach. Their choice of six major scenarios is similar to the selection of key scenarios to serve as their strategic intent. DCU's process is thus similar in steps, but in a reverse sequence, where intent is the outcome and scenarios the focus (Munck & McConnell, 2009:31-33).

It can thus be concluded that issues are chosen in response to the institution's unique internal and external issues at the time of undertaking the strategy formulation process. Furthermore, the internal and external issues driving the processes were indeed unique at each university. None of the institutions referred to future, current or past risks as a key issue or consideration that was taken into consideration during their strategy formulation process. From this review, it is thus concluded that risk management was not a key issue during the strategy formulation processes at any of these sample universities.

In the next section, the strategy formulation processes of these institutions are reviewed to establish whether risk management is embedded in their strategy formulation processes.

### **3.6.5 Strategy formulation process**

The processes at the sample of universities reviewed, are summarised in Table 3.5 below.

**Table 3.5: Strategy formulation processes of the sample universities**

SAMPLE INSTITUTIONS	University of Dar-es-Salaam	University of Namibia	Dublin City University	Warwick University	Cleveland State University
					
Point of departure	Vision, mission, values, future direction				
Strategic planning team	Directorate of Planning and Development, Steering Committee				
Timeframe	5-year planning in 15-year rolling plan				
Process	<b>Classic Inputs-Outputs:</b> Steps - (1) Corporate review, (2) governance & structures, (3) objectives, (4) inputs, (5) outputs and consultation	<b>Scenarios:</b> Steps - (1) Foresight project, (2) consultation, (3) scenarios on PESTE grid, (4) 6 major opportunities	<b>SWOT:</b> Steps - (1) Resource-based SWOT, (2) ideas, (3) priorities, (4) 10 broad strategies	<b>Elective process:</b> Steps - (1) Communication plan, (2) SPUR I - Speed dating, Aligning, Champion Interviews, (3) SPUR II - Actions, metrics, timeline & process (4) Integrated metrics, scorecard, timetable	

Researcher compiled from sources cited

In the previous sections, it was found that there was no specific reference to risk management as part of the strategic planning process. The last part of the review focuses on the strategy formulation process, to establish whether risk management is embedded in their processes.

The strategy formulation process at Warwick University can best be described as the classic input-output process utilising the SWOT analysis to do an internal and external assessment and provide strategy options or opportunities. Dyson (2002:633) described the Warwick process as a SWOT process that is resource and competency based. The Warwick process thus resembles steps three to five of the process described by Bryson (2004:33) and graphically depicted in Table 3.5 above. Bryson proposed these steps to be re-affirming the strategic intent (step 3), considering the key issues at the point in time (step 4), and considering the internal and external influences (step 5). Warwick University then considers the availability of internal resources, listed and considered strategy ideas, places the ideas in order of priority and develops ten broad strategies or objectives to focus upon. Although thus not totally similar, the process proposed by Bryson (2004:33) and the process used at Warwick University, have several steps in common.

The strategy formulation process followed by Cleveland State University provided a modern alternative to the classic processes. Kogler-Hill *et al.* (2009:16-25) described the processes in a way that seems different and unique at first, but on review, it again entails all the elements of the classic processes. It starts with communication, followed by interactive discussion called "speed dating" towards creating ideas, alignment of ideas into specific focuses, identification of champions per focus and interviewing key role-players. Although the identification of the risks per idea would have ideally slotted in here, the term 'risk event identification' was not used. The Cleveland steps are grouped

together in the first “SPUR” or “Strategic Planning University Review” sessions. Cleveland State University (Kogler-Hill *et al.*, 2009: 21) follows the first SPUR session with a “SPUR II”, which consists of action plans, metrics, timelines and processes, followed by integrated metrics, scorecards and a timetable. Although Cleveland’s process consists of similar basic steps, it provides in-depth insight into the details of the process, but without any reference to risk being considered during the process.

The University of Dar-es-Salaam (Luhanga, 2010:7077-7080) starts their process with a review and confirmation of the strategic objectives. This is followed by a review of the existing and needed governance structures as part of a corporate review process. The next part of the process is to obtain inputs from several different supporting sources, amongst other the existing policies, styles, planning inputs and finance inputs. Although inputs from planning teams or risk management about risks related to any specific strategy option would have typically fitted well into this process, inputs from risk management were not mentioned and it can thus not be concluded that risk management is incorporated in this step. According to Luhanga (2010:7078-7079), the gathering of inputs is followed by focusing on outputs, such as academic programmes and activities, in response to the inputs. The University of Dar-es-Salaam process is then concluded with a range of consultative meetings towards finalising the institutional strategy. Risk management was not mentioned or referred to as part of this process.

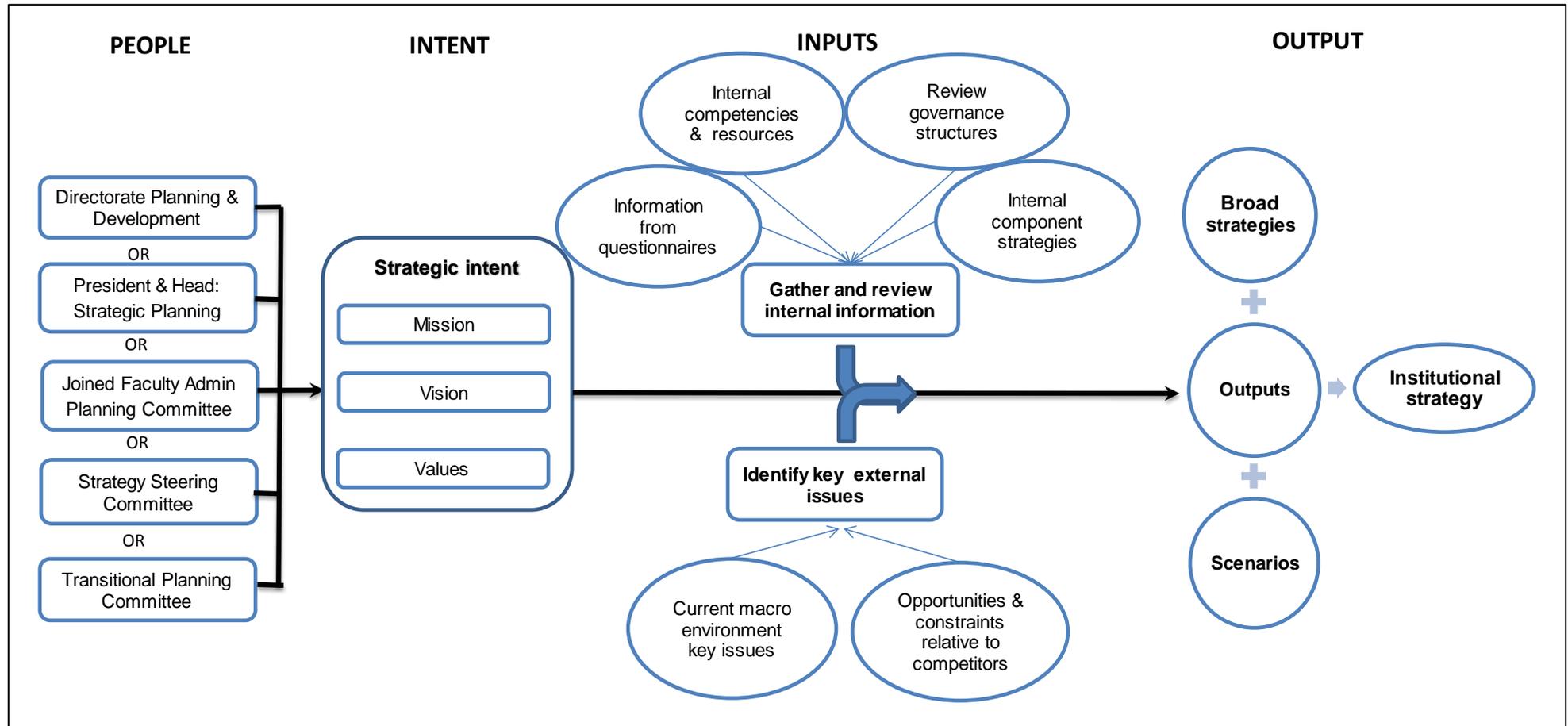
According to Ngihangwa (2007:61-65), the University of Namibia starts their process with the revision of existing developmental plans and directions. This is very similar to the process of revision of the strategic vision or strategic intent. The second part of their process consists of the consideration of faculty intents as inputs to the institutional process and the consideration of governance structures supporting the strategy. The reviewing of governance structures part of their process was found to be similar to the University Dar-es-Salaam process which was reviewed earlier. The next step is to identify and assess the specific strategic needs identified by the planning committee. The realisation of the needs is then translated into strategic objectives and goals. These goals that followed from the needs identification, are obtained from inputs provided by faculties as well as from reviews of prior plans. The University of Namibia strategy formulation process is concluded with a process of identification of key strategy objectives and the required performance output metrics for each of the objectives. This process, which is similar to the one followed by University of Dar-es-Salaam, did not refer to or incorporate risk management or risk in any part of their process.

According to Munck and McConnell (2009:31-39), DCU starts their strategy formulation process with a consultation process with stakeholders and a foresight project, identifying the direction in which the sample university aims to grow. From the foresight workshop, different foresight scenarios are developed and presented at a scenario session or workshop with futures prospective. The outcomes of these sessions are scenarios and external inputs combined in a grid, which could be referred to as the scenario-PESTEL grid. Their strategy is compiled by matching the scenarios that overlapped with the strategic opportunities that the planning group find the most attractive for the institution,

based on their available skills and resources. This process does not refer to risks being considered or even opportunity risks forming part of the considerations. It is thus concluded that this process also neglects to specifically refer to the incorporation or consideration of risks or risk management in their strategy formulation process.

In summary, a combined process will typically consist of steps reviewing prior plans, consulting with role-players, identifying resources and competencies potentially providing a sustainable competitive advantage and concluding the internal and external environmental assessment with a SWOT. The process will then continue with the teamwork to identify potential futures scenarios. The institution's strategic intent is then chosen from the different possible scenario options. The value of this review is in the confirmation that there is a common set of focus areas or steps followed irrespective of the sequence.

Figure 3.6 contains a graphical illustration of a strategy formulation process compiled from the sample of sources reviewed earlier in this chapter.



**Figure 3.6: Compiled strategy formulation framework for universities**

Source: Researcher compiled from sources reviewed.

It was found that the people or organisational structure participating in the strategy formulation process, are either a directorate for Planning and Development, the President and head of strategic planning, a Joint Faculty Admin Planning Committee, a Strategic Steering Committee or, in case of a need for strategic or organisational change, a Transitional Planning Committee. The sources reviewed did not provide the detailed organisation of these committees. This review is meant to provide exploratory insight and not to present an ideal or recommended process.

The first step of the process at the majority of sources was found to be reviewing or renewing the strategic intent, which consists of setting or confirming the organisational vision, mission and values. The next step is to obtain inputs towards the process from internal and external sources. The internal sources contributing to strategy can be information obtained from staff members and stakeholders, possibly obtained through a questionnaire, consideration of internal resources which possibly gives the institution a competitive advantage, inputs from reviewing the existing governance structures and inputs from existing internal components or subdivision strategies. The external factors that need to be reviewed to obtain planning information are current issues on a macro level influencing businesses in general, as well as all the opportunities and constraints relative to those of the competitors. All the information gathered from the sources mentioned above, is then set into broad strategies, key inputs or strategic scenarios. From these outputs, the institutional strategy can then be formulated.

In conclusion, from the review of strategy formulation theory at the sample of universities, no reference to any form of risk management was found.

### **3.7 SUMMARY AND CONCLUSION**

To this point, an exploratory sample of strategy formulation processes were reviewed. None of the processes reviewed contained components of the risk management process as presented in the previous chapter. Prior to making conclusions following the literature review to this point, some important issues or questions need to be addressed.

#### **3.7.1 Q1: How many sources are enough?**

It was stated earlier that this study followed an exploratory research design. The motive was thus not to explore all possible sources prior to making conclusions and recommendations. The exploratory process aimed at reviewing a wide scope of resources. Grundy (2003) reviewed the contributions of major strategy formulation gurus. He recognised a total of 40 gurus in his book for their remarkable contribution to strategy formulation theory. The work of 19 of these gurus was included in this exploratory review. In addition to these sources, articles and books about strategy formulation processes by a further 23 authors were included in this exploratory review, as referenced. The review further includes the work by five authors who published strategy formulation processes at universities. Articles and frameworks published by two very reputable organisations, namely the Institute of Directors in Southern Africa (IODSA) and the International Standards

Organisation (ISO), were reviewed. In spite of this review's wide focus, the researcher acknowledges that it is impossible to review all sources or to choose or calculate a number of resources that will be sufficient to draw conclusions. To overcome this issue of sufficiency, the study does not claim to reach all or include all. The exploratory nature of this study aims at exploring sources and then proposing a solution which might aid organisations in strategy formulation, rather than making unrealistic assumptions or findings.

### **3.7.2 Q2: How does one demonstrate the absence of an idea? Is the absence of evidence the same as evidence of absence?**

In response to these questions, it is necessary to yet again state that it is impossible to conclude that risk management is not applied in strategy or that no sources exist that indicate how risk management steps need to be embedded into strategy formulation processes. This study accepts the modest approach to state that an exploratory sample did not provide evidence and thus a risk-embedded process is proposed in the next chapter, without making any further statements about shortcomings or evidence in this regard. It must be noted that this part of the literature review was approached from the strategy formulation sources point of view, as opposed to the risk management point of view. It is acknowledged that many risk management sources refer towards strategy, but from a strategy point of view, the references to the risk management process were not found.

This chapter reviewed strategy formulation theory and practice to establish whether risk management is applied during the strategy formulation process, as claimed in the COSO risk management definition. The chapter dealt with the early linear or non-turbulent strategy formulation theories, a few more recent theories or non-linear theories in response to turbulent fast-changing business environments, and strategy formulation approaches followed by universities.

Strategy formulation was defined as the process of choosing one among different strategy alternatives, towards realising the organisational outcomes and striving towards reaching organisational goals. In comparison, risk management was defined as a process, affected by the board of directors, management and other personnel, applied in strategy setting across the organisation in order to identify potential events that may affect the organisation and manage risks to fall within the risk appetite to provide assurance regarding the achievement of strategic objectives.

Two classic strategy formulation schools of thought were reviewed, being the prescriptive school and the descriptive school. The difference between these schools was that the prescriptive schools prescribed the process to follow or strategy options to choose. The descriptive school theories culminated from observing organisations and proposing their actions as strategy. As risk management also follows a process, as stated in the COSO definition, this study focused on the prescriptive school theories rather than descriptive theories. No specific or implied links to the management of risks were found.

Resource-based theory as well as a strategy formulation theory for non-profit organisations were also reviewed, and it was found that none of these theories referred to the risk management process embedded in the strategy formulation processes. No direct or implied reference to the management of risks was found during this review. In the section that followed, two theories from the group of modern sustainable strategy formulation theories were reviewed and no sign of risk management was found in either of these theories reviewed.

As this study focuses on strategy formulation at universities, a sample of universities from around the world was chosen and their strategy formulation processes were reviewed to make conclusions about the presence or absence of risk management as part of the strategy formulation processes. As in previous reviews, the review of strategy formulation processes at the sample of universities provided no reference to any form of risk management.

Following the literature review of strategy formulation theories to establish if the components of a risk management process are embedded, it can now be concluded that risk management does not form part of strategy formulation theories reviewed.

In Chapter 4, a risk-embedded approach to strategy formulation is proposed.

## CHAPTER 4

### AN INTEGRATED STRATEGIC AND RISK MANAGEMENT PROCESS

#### 4.1 INTRODUCTION

This study aims to contribute towards a risk-embedded strategy formulation process. Feurer and Chaharbaghi (1995:38) stated that strategy formulation and risk management share the common motive of managing uncertainty. From the definitions reviewed in the previous chapters, it could be stated that strategy formulation aims to provide direction when managing the uncertain future, while risk management aims to manage outcomes of uncertain future events.

In the second chapter, definitions of risk management and related terms were reviewed. The definitions of risk, risk management and several other terms relevant to the study field of risk management were reviewed. This was followed by a revision of key risk management components, which collectively form part of the risk management process. Following the revision of leading risk management frameworks and processes, such as the ISO 31000 framework and process, the role and function of risk appetite as component of risk management were reviewed. It was concluded that risk appetite could serve as the link between frameworks such as ISO 31000 and strategy formulation processes.

In the third chapter, several classic strategy formulation theories were reviewed. These theories, which contributed to modern strategy formulation theories and practices, were reviewed as part of an exploratory literature review. Among the theories reviewed were the Design School Theory; the Planning School Theory, the Positioning School Theory and the resource-based theory. More recent theories and models, such as the hypercompetition model and Delta Project model, were also reviewed. Following these reviews, it was concluded that risk management steps had not been applied, or incorporated into any one of those theories reviewed. Sources describing strategy formulation processes at a sample of universities were also reviewed. The conclusion was yet again made that risk management steps had not been embedded in any of the strategy formulation processes that were reviewed.

#### 4.2 AIM

This chapter aims at proposing a risk management process embedded strategy formulation process. This is done by aligning a general approach strategy formulation process with a general approach risk management process, extracted from the sources reviewed in previous chapters. This risk-embedded strategy formulation process is presented to form the basis of a risk-embedded strategy formulation process for tertiary institutions.

### 4.3 A PROPOSED RISK-EMBEDDED STRATEGY FORMULATION FRAMEWORK

The University Risk Management and Insurance Association (URMIA, 2007:7) listed the following factors as driving forces towards transformation of tertiary institutions:

- Fierce competition for skilled and qualified academics and staff;
- Competition among institutions to draw students to grow in numbers;
- Increasing scrutiny from external role-players such as funding agencies;
- New technology and the application thereof towards teaching and research;
- Entrepreneurial ventures beyond those traditionally pursued by tertiary institutions;
- Increased levels of regulatory controls;
- Litigating actions;
- Political and social involvement; and
- Funding.

These transformational forces require new strategies, which go hand-in-hand with conventional strategic issues and new business-related risks. URMIA (2007) re-confirmed the COSO (2004:4) statement that universities need to consider the risks associated with their business strategy. Willson, Negoj and Bhatnagar (2010:1) stated that a growing number of universities need to move towards integrating risk management into their strategy formulation process, as it is becoming more common that key role-players (such as the Council, president and managers) throughout universities participate in identifying, assessing and mitigating risks. Willson *et al.* (2010:2) furthermore stated that the integration of risk management in strategy formulation processes can be expected at institutions where risk management matured beyond the baseline compliance risk management maturity level. Willson *et al.* described the “Optimized Practices” level as the most mature risk management compliance level that institutions could reach. When an institution reaches this maturity level, risk management is integrated within the organisational strategy as well as within the day-to-day operational activities.

Zapalac (2006:1) confirmed the notion of risk management enabling institutions to set and align their risk appetite with institutional strategies. This is similar to the statement by Cremonino (2011:2) that risk appetite best adds value when it is embedded in the organisational planning process applied to decision-making to balance growth objectives with associated risk levels.

In conclusion, several sources have confirmed the notion that risk management needs to be applied in strategy setting. This study supports this notion by proposing a process to integrate risk management steps into an institution’s strategy formulation process. In the next section, the strategy formulation process is aligned with the risk management process to form a single complementary process.

### 4.3.1 Risk management process

In Chapter 2 the theory of risk management, including the COSO theory and ISO 31000 framework, was reviewed. The ISO 31000 framework was adopted as the guiding framework for this study, and adapted towards the end of Chapter 2 to include risk appetite and risk tolerance setting along with the steps proposed by ISO 31000. Figure 2.9 was developed from sources reviewed to serve as the generic risk management process to be applied into Bryson's (2004:33) strategy formulation process.

The steps of the risk management process as reviewed in Chapter 2 and graphically illustrated in Figure 2.9, are the following:

- Step 1: Establish the context
- Step 2: Risk assessment, which is subdivided in the steps, namely:
  - Sub-step 2.1: Risk event identification
  - Sub-step 2.2: Risk analysis
  - Sub-step 2.3: Risk evaluation
- Step 3: Risk treatment
- Step 4: Monitoring and review
- Step 5: Risk appetite setting, which is subdivided in three steps, namely
  - Sub-step 5.1: Obtain sufficient information
  - Sub-step 5.2: Set realistic risk appetite targets for each risk type
  - Sub-step 5.3: Apply risk appetite to strategy formulation
- Step 6: Consultation and communication
- Step 7: Apply appetite to formulated strategy

The details of these activities were reviewed in Chapter 2. In the next part, the two processes are integrated into a single process.

### 4.3.2 Strategy formulation process

As stated in the introduction, Chapter 3 focused on the review of a sample of strategy formulation theories, as reviewed in Section 3.4 and 3.5. Following the review, the conclusion was made that no traces of risk management was found in any of the reviewed theories.

Strategy formulation theories of a sample of universities were reviewed with the aim to establish whether there was any evidence that risk management had been integrated into their strategy processes, but also to obtain insight into strategy formulation processes at tertiary institutions. The insight obtained from the literature sources reviewed in Section 3.6 of this research report was applied towards a generic framework for strategy formulation at tertiary institutions.

The framework was based on the following commonalities found during the review of the theories as well as processes applied by the sample of tertiary institutions:

- People involved in the strategy formulation process;
- Review or confirmation of the tertiary institution's strategic intent as point of departure;
- Key external issues guiding or leading the strategy;
- Outcomes in the form of broad strategies, scenarios or process outputs;
- An institutional strategy as a final output.

The framework compiled in Figure 3.6 depicts the components generally found to be present in most reviewed literature sources. These components are: (1) people involved; (2) the intent; (3) inputs; and (4) outputs of a proposed generic strategy formulation process at tertiary institutions.

Figure 3.6 presents these components in straight-line format from identification of the people involved, through revisiting the strategic intent towards institutional strategy. These components provide insight into the components of a strategy formulation process, but lack the detailed steps that need to be followed to formulate strategy. Figure 3.6 was thus found to be informative but not useful as the strategic base of a risk-embedded strategy process.

A suitable process and source for this purpose was found to be the ten-step process of Bryson (2004:33). This process (Figure 3.5) was chosen on grounds that it provided a general approach generic process, consisting of sequential steps to be followed. The ten steps of a typical strategy formulation process proposed by Bryson (2004:33), as adapted in Figure 3.5, serve as a summary of the theories reviewed. These ten steps contain most of the different building blocks of strategy formulation theory of the micro-economic schools.

Although Bryson's process represents a generic strategy formulation process, it was selected for this study on grounds that the steps and process corresponds well with the university focused summary presented in the previous chapter. Bryson's process consists of the following ten steps to be followed when crafting an organisational strategy (Bryson, 2004:33):

i) **Step 1: Enter into an initial agreement**

The process starts by reviewing the current and previous strategy formulation outcomes, or strategic plans and intents. This step entails reaching an initial agreement which includes the setting of a planning timeline, formulating a planning programme and identifying intended outcomes. Collectively, these prior reviews, timeline and programme could form the initial agreement that sets the platform for a strategy formulation process at universities and other organisations.

ii) **Step 2: Confirm mandates**

At a tertiary institution, the planning team would typically need to be mandated by the university council and university management. Even if initiated by the council members or executive management, the planned strategy formulation or renewal process should ideally follow after a comprehensive consulting and communication process, to ensure that the planning team has

mandates from all stakeholders such as the council members, student representative bodies and potentially also the staff labour unions. In the South African case, the Department of Higher Education and Training (DHET) could also be requested to support the initiative. The mandates received from these role-players could form part of the initial agreement, in which case the second step is executed simultaneously with the first step. Although some of the role-player groups, such as the staff union or Student Representative Council (SRC), will typically not have jurisdiction to oppose the process, their support could be sourced as part of this step. These first two steps thus address the “people” component of the framework.

iii) **Step 3: Strategic intent**

The third step is to set, confirm or renew the overall strategic intent. Munck and McConnell (2009:35) explained this step as a combination of revision of the vision and mission, for existence; It is a process of gathering information from all different stakeholders, revision of prior strategies and identification of recent and relevant strategic issues to be addressed as part of the strategic focus. The strategic intent includes the review, confirmation and communication of communal organisational values, as well as goals and objectives from current and previous strategies that are still current and relevant for the future strategy. This third step addresses the “intent” part of the framework proposed in Figure 4.2.

iv) **Step 4: Strategic issues**

Key or strategic issues refer to the driving forces that need to be considered during the planning process. The review of key issues at a sample of institutions as described in Chapter 3, showed no common grounds or resemblance between the key issues of the different sample institutions. It can thus be concluded from this review that strategic issues are specific, current and unique issues that the specific organisation needs to address at the current time. Key issues can ideally be identified at universities by inviting as many role-players as possible to propose issues to be focused upon, and include the modal inputs into the process. A questionnaire could be distributed or a survey could be used to establish what key issues need to be considered during strategic planning. Bryson (2004:33) stated that it will be necessary to choose between several issues and mapping tools or system analysis tools that can be used to sort and prioritise the possible issues towards the few that are chosen to guide the process. For example, in Chapter 3, Dublin City University concluded with energy, urban planning, technology, the role of science and balancing the work-life forces as the key issues for their strategy formulation process (Munck & McConnell, 2009).

v) **Step 5: External and internal environment considerations**

This step entails a comprehensive fact-finding mission. The dual focus of this fact-finding mission is to obtain all relevant inputs from external as well as internal sources that need to be considered during the planning process. The external environment considerations could typically be all external factors that could influence the institution directly or indirectly on political, economic, social, technological, environmental, legal or sustainability grounds, using the acronym, PESTEL. The

internal sources would typically include available resources, especially scarce human capabilities or other resources providing a unique competitive advantage. Furthermore, historical and current strategic plans need to be considered, as well as other relevant plans and intellectual property that could direct, support or guide the institutional strategy.

vi) **Step 6: Formulate the organisational strategy**

The actual strategy formulation process could consist of different sequential steps. These steps could ideally be structured within a strategy formulation programme, consisting of several meetings or discussion sessions. Some of these sessions could be attended by the full planning group, or they could be divided into smaller groups to focus on specific issues. Oval mapping, whereby different ideas are jotted down on cardboard and stuck onto a planning board to create a visual overview, could be used as a valuable tool to allow the planning team to visualise all options at the same time. The outcome of this process is that all options are considered, some are kept and others disqualified so that the remaining ones could be compiled into a draft strategic plan, which then serves as a basis for the consultation process to follow towards eventually approving the strategy (Ackermann, et al. 2004).

vii) **Step 7: Review and adaptation**

The draft plan serves as a basis for further consultation within the planning group, but also with role-players or stakeholder groups that do not form part of the core planning group. Following the consultations, more inputs or alternative options might be considered, part of the plan could be reviewed and alterations might be made before the draft plan is adopted to become the preferred strategy.

viii) **Step 8: Description of the future organisation**

The aim of a strategy is to serve as road map for leading the organisation into the future. This step serves to ensure alignment between the strategy and the vision of the future organisation. The strategy thus needs to be a “road map” to take the organisation to the envisioned future. This step serves to ensure that the set strategy is aligned with the futuristic view of the organisation. This step will not only confirm alignment or point out misalignments, but will also serve to motivate the organisation to accept and follow the set strategy to realise the future organisation. It is during this step that the strategy could be given a name or slogan for example “Strategy 2020 through 100% Global Partnership” associating it with the future aimed for.

ix) **Step 9: Implementation**

The implementation phase is when the organisation adapts or changes its operations to align operations to realise the set strategy. Part of implementation is to budget for the changes and allocate resources to enable the changes. Implementing strategy is a comprehensive activity and in itself a managerial activity of which the detail is beyond the scope of this study. Implementation will typically consist of operational plans, business plans, budgets and other operational activities.

#### x) **Step 10: Re-assessment and review**

As stated above, a strategy is typically a road map leading the university or organisation into the future. During the implementation phase, all operations will be aligned to take the organisation to the visualised outcome over an execution period, of typically five years. During this implementation phase, there could be many external or internal influences or forces that will challenge the alignment of planned outcomes with intended outcomes. A continuous re-assessment and review is thus necessary to ensure that the operations stay focused on the strategy and that the strategy stays focused on the visualised future position and format of the institution. If a misalignment is identified between the visualised future, the strategy as road map to the future or the operations to realise the strategy, the plans need to be revised to ensure alignment. Re-assessment and review are thus important continuous activities to ensure realisation of the strategy.

#### **4.3.3 Summary**

The Bryson process reviewed above, was chosen as a suitable process with steps lending itself best for aligning the strategy process with the risk management process. Each of the ten steps was described as it could typically be applied to strategy formulation at a university.

In the next section, the process developed during the risk management literature review, is applied to propose a risk management process for universities as well as for other types of organisations. At the end, the two processes are integrated into a risk-embedded strategy process. It is acknowledged that the Bryson process is neither the only process that could be used for this alignment, nor a faultless process and could thus potentially be improved via the embedding of risk management. However, the Bryson process is used as a general approach process on grounds of the findings that it contains most of the components found in the literature review.

#### **4.4 A PROPOSED RISK-EMBEDDED STRATEGY FORMULATION PROCESS**

Thus far, the two processes of strategy formulation and risk management were investigated as two separate processes. The next step is to propose a combined process, which could be used by universities in South Africa. However, the literature study clearly indicated a general absence of the components of risk management in the strategic planning processes. Therefore, the aim of this section is to combine the steps of the two processes into a single complementary process consisting of both strategic planning and the risk management components.

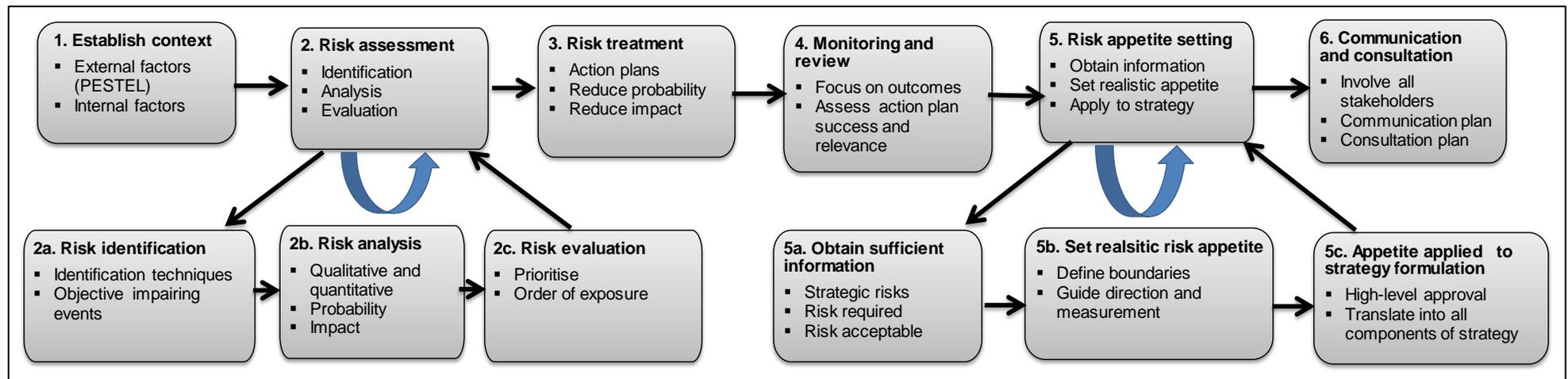
The first step towards a single complementary risk-embedded strategy formulation process was to adapt and then present the two processes in straight lines next to each other. This was done for two reasons, namely, (1) to identify potential duplicated steps, and (2) to identify a chronological sequence for the proposed combined process. The straight-line process in Figure 4.1 contains the same steps as the process in Figure 2.9, in which the steps of the risk management process were expanded to include the steps of risk appetite setting. The top line contains the six primary steps, while the bottom line contains the secondary steps.

In the process graphically illustrated in Figure 4.1, risk appetite is the end result of the risk management process. The risk management process of the proposed risk-embedded strategy formulation process, contributes six primary activities to the combined risk-embedded strategy formulation process. They are steps:

- R1: Establish the risk organisational context;
- R2: Assess identified risks by analysing and evaluating them;
- R3: Apply mitigation plans to treat the risk;
- R4: Monitor and review;
- R5: Risk appetite setting; and
- R6: Communication and consultation.

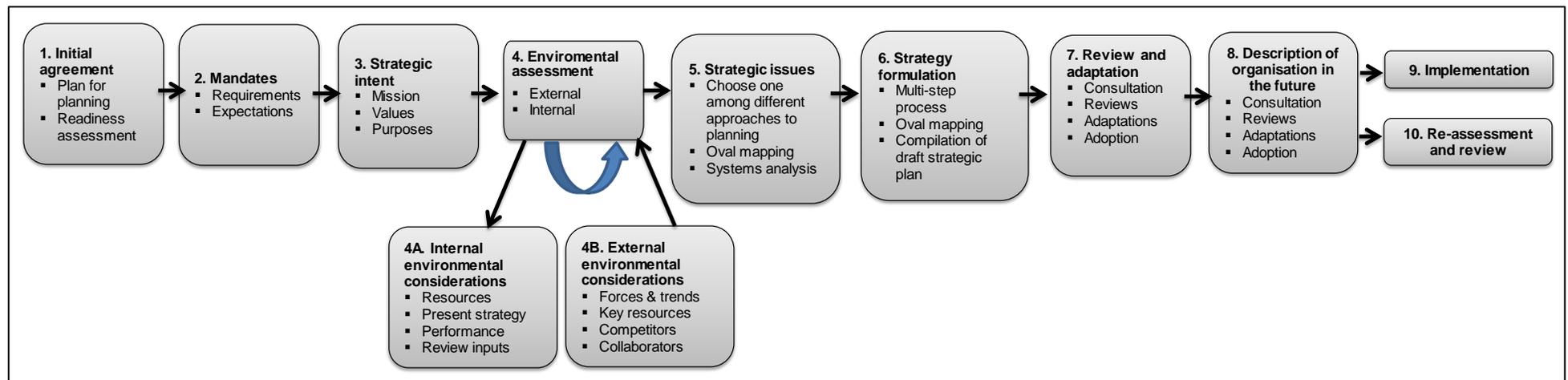
The next step towards crafting a combined risk-embedded strategy formulation process was to set the generic strategy formulation process by Bryson (2004:33) in a similar straight-line format. The ten-step process is graphically illustrated in Figure 4.2. The steps are strategy formulation steps:

- S1: Confirm the initial agreement;
- S2: Confirm the mandates from all role-players;
- S3: Review or confirm the strategic intent;
- S4: Assess the external and internal environment;
- S5: Identify strategic issues;
- S6: Formulate the strategy;
- S7: Review and adapt the draft strategy;
- S8: Describe the organisation in the future;
- S9: Implement the strategy;
- S10: Continuously re-assess and review.



**Figure 4.1: Risk management process presented in a straight-line format**

Source: Researcher compiled from sources reviewed.



**Figure 4.2: Strategy formulation process presented in a straight-line format**

Source: Researcher compiled from sources reviewed.

On review of the two linear processes, it was found that the primary challenge towards a combined process is to synchronise the two processes so that the different steps follow a chronological sequence and thereby mutually complement the new combined process. The establishment of a logical sequence required several adaptations towards creating a single process.

The steps of the strategy formulation process were treated as fixed components, with the steps of the risk management process as the variables integrating into the strategy process. This was done with the fact in mind that strategy formulation processes are established processes at many organisations, while the steps of the risk management process are only in the primary stages of implementation at many organisations. The outcome, following the combination of the processes, delivered a comprehensive twelve-step process. Furthermore, the combination of the two processes, lead to three groupings where different steps from both processes were combined, as illustrated and described in the section to follow.

The steps of environmental assessment and risk context establishment could be combined on grounds of the common focus and complementary nature of these steps. Environmental assessment could also be combined with risk assessment through its three sub-activities, being risk event identification, risk analysis and risk evaluation. The third combinable step within the proposed process is the risk appetite setting process, which consists of obtaining information, defining risk appetite and applying the appetite to the strategy process.

Figure 4.3 illustrates the proposed risk-embedded strategy formulation process. If an institution follows this proposed process, the COSO (2004:4) statement that risk management is applied within strategy setting, will be true.

The steps depicted in blue, originated from the Bryson (2004:44) strategy formulation process, while the steps depicted in green, originated from the risk management process.

In the next sections, the steps of the proposed risk-embedded strategy formulation process are described. For each of the twelve steps, an overview of the activities, the contributing process from where the activity originates, any complementary or similar processes and key responsibilities of the role-players contributing to the step, are summarised.

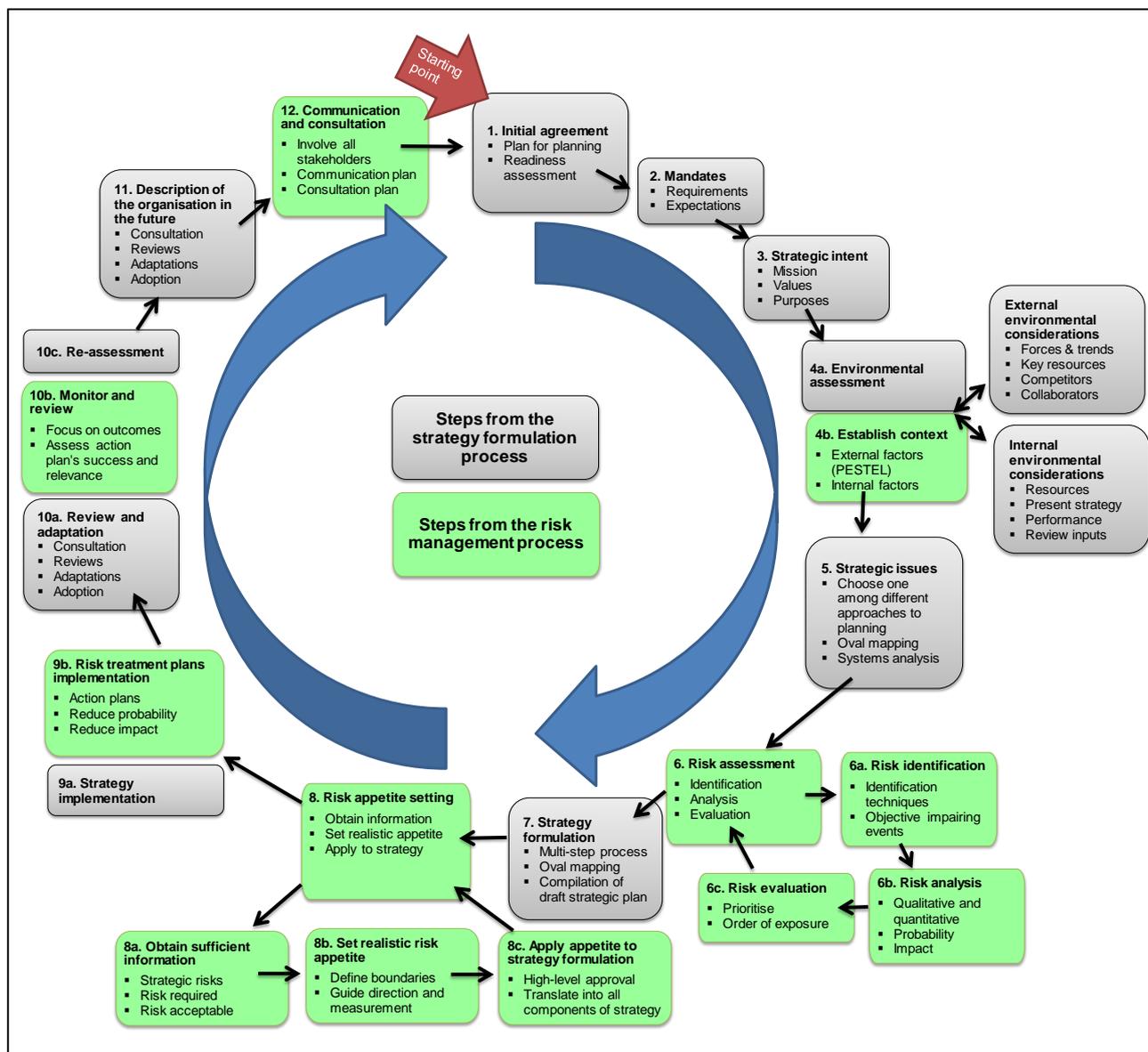


Figure 4.3: Proposed risk-embedded strategy formulation process

Source: Researcher compiled from sources reviewed.

#### 4.4.1 Step 1: Initial agreement

This step entails the planning of the strategic planning process, and entering into an agreement with role-players about the execution of the process. The initial agreement serves as notice of the intent and readiness of the institution to undertake a strategy formulation process. By publishing the plan, the organisation informs stakeholders of their intention to set or review strategy. At some organisations, this step might be intended to inform role-players as well as to invite potential inputs prior to the process.

This first step of the proposed risk-embedded strategy formulation process originated solely from the strategy formulation process. There is no similar or complementary step from the risk management process which corresponds with this step.

The key role-players enabling this step are the CEO and the executive management team. As described in Chapter 2, the roles and responsibilities enabling the initial agreement, are the following:

- The CEO needs to lead the process for crafting the organisation's strategy and provide leadership and direction to the team of top managers and set norms, especially by demonstrating leadership integrity, ethical values and a high level of personal ethics and suitable managerial conduct.
- The executive management team needs to lead, guide and support the process of strategy development.

It can thus be concluded that the CEO and executive management team are responsible to take the first step towards the combined process by setting or approving a "plan for planning". Furthermore, the CEO and management team need to inform and thereby consult with key stakeholders regarding the intent to commence in strategic planning and the approach and method that will be followed.

#### **4.4.2 Step 2: Obtaining planning mandates**

Although an organisational strategy influences, directs and guides the whole organisation, it is only the members of the strategic planning team that are actively involved with the planning. At a university, the council will typically have the mandate to approve the strategy formulation process, strategic plan and objectives. For the sake of overall buy-in, the planning team needs to be mandated by key role-players, especially those not directly participating in the planning process. Obtaining mandates is the second step of the combined process, whereby role-players not actively participating in the planning, provide the support to the planning team in the form of a mandate or formal support for the process as per initial agreement.

As with the development of the initial agreement, this step originates solely from the strategy formulation process, with no complementary or similar steps from the risk management process.

The key role-players participating in this stage, are the members of planning team, who are responsible to identify all stakeholders, create opportunity for prior consultation, present the elements of the initial agreement to them and obtain their mandates.

#### **4.4.3 Step 3: Strategic intent**

This step entails that the planning committee sets, reviews or reconfirms the organisational strategic intent. The strategic intent is the vision the organisation sets for its future and the organisation's mission or reason for existence. Organisations either set a new intent with a new vision and mission or re-affirm their existing intent. The strategic intent serves as a reminder of where the organisation wants to go and what their purpose for existence is. At a university, the strategic intent would typically be a vision statement as well as their mission or reason for existence. In practice, the methodology for reviewing strategic intent entails that the planning facilitators present the planning team with the existing strategic intent and then facilitate discussion about the relevance of the

existing as opposed to alternative strategic objectives. The relevant parts of the current as well as the new objectives will then be combined or adapted towards a new strategic intent that will guide the rest of the planning process.

As in the previous two steps, this third step originates from the strategy formulation process with no complementary or similar steps from the risk management process. This corresponds with the process illustrated in Figure 4.3 where the first three steps are depicted in grey, as they originate from the strategy formulation process.

The key role-players and their responsibilities include the following:

- The CEO needs to lead the process for crafting the organisation's strategy and approval of supporting policies and standards. Furthermore, the CEO needs to guide, lead and support the management team towards realising the organisational goals within the parameters of effective corporate governance.
- The executive management team is responsible to lead, guide and support the process of strategy development, including identifying strategic objectives and ensuring an effective control function. Furthermore, the executive management team needs to support subordinate managers on all levels to translate organisational strategy and objectives into subordinate strategic objectives and guide them towards realising these objectives.

#### **4.4.4 Step 4: Environmental assessment**

The consideration of external and internal factors potentially influencing an organisation's strategy, is the fourth step of the proposed integrated strategy formulation process. This third step of the combined process is a combination of the fourth step of the strategy formulation process with the first step of the risk management process. During the literature review, it was found that the first step of the risk management process, referred to by ISO 31000 as "establishing the context", is very similar in nature to the fourth step of strategy formulation, being "environmental assessment". As both steps refer to similar activities, it was concluded that these steps could be integrated into a single step.

Ansoff (Thinkers, 2003:1) stated that companies need to systematically consider external and internal environmental influences to assist in planning for the future. It can thus be concluded that environmental assessment is a process of systematically considering external and internal environmental changes and to respond on these stimuli by accommodating challenges from external sources or optimising opportunities from internal sources.

During the strategy formulation process at a tertiary institution, the consideration of external factors could be assessed by a group of participants or a presentation by specialists, bringing insight into economic, environmental, social or any other external focus area. The external focuses are sometimes referred to as the PESTELS considerations, referring to political, economic, social, technological, environmental, legal and sustainability considerations. Different risk event scenarios

could be developed and considered by the planning team to guide the development of alternative strategies for different scenarios.

A popular alternative method for environmental assessment is to conduct a SWOT analysis, where SWOT referring to the strengths (S) and weaknesses (W) distinctive capabilities of the organisation, while the external or environmental influences are identified by analysing the external opportunities (O) and threats (T). The holistic idea is that organisations should choose a strategy which is best supported by the internal capabilities, while keeping the external influences in mind.

The identification and review of the external and internal environment, combined with establishing the context, is the fourth step of the twelve-step risk-embedded strategy formulation process.

The key role-players contributing to this step are the members of the planning team, including the executive management team and potentially also specialists that can contribute in the form of presenting information that informs the environmental assessment. From the risk management process review in Chapter 2, the following roles and responsibilities are summarised:

- The board of directors or in the case of a university, the council, needs to encourage executive management and to show commitment towards successful risk management process embedded strategy formulation process.
- The CEO needs to provide leadership and direction to the team of top managers, and also demonstrate integrity and ethical values and lead the organisation towards crafting and complying to set norms, high ethics and suitable managerial conduct. Furthermore, the CEO needs to promote a culture of ethics and integrity.
- The Chief Financial Officer (CFO) needs to support the Chief Risk Officer (CRO) to establish a risk management organisation with risk management embedded in all day-to-day activities of managers, and needs to set a personal example with regards to ethical conduct and professional competence, so that the organisation's image gains from the credibility of the CFO.

#### **4.4.5 Step 5: Strategic issues**

This step entails the identification of strategic issues that serve as drivers for the strategy to be set. These strategic issues were identified during the fourth step, being the environmental assessment. This step, following the environmental assessment, is considered as core direction provider for the strategy to follow. Bryson (2004:44) explained this step as choosing between several different approaches, after each approach has been graphically presented via oval-mapping. Oval mapping refers to the drawing, graphically depicting or mapping of different options in an oval form on a display board for participants to visualise all alternatives simultaneously. During the literature review of the strategy formulation processes at the sample of tertiary institutions, it was found that each of the sample universities focused on a unique combination of current issues. This totally diverse and unrelated key issues at the sample institutions, lead to the conclusion that these institutions chose

issues relevant to their unique external and internal environment at the time of undertaking the strategy formulation process. One of the sample universities identified transformation, demand, quality, capacity and infrastructure as their drivers, while another chose energy, urban planning, technology, role of science and balancing work and life, as its key issues (Ackermann *et al*, 2004).

This step originates from the strategy formulation process. Strategic issues can also follow from identifying strategic risks. It is thus also a possibility to consider [strategic] risks identification along with considering strategic issues. After thorough consideration, it was decided that this step will not be combined with identifying strategic risks, as risk event identification, being it strategic or other, will be a separate step following after identifying strategic issues. The rationale for keeping risk event identification and risk issues apart, is that risk event identification has a wider scope, outwards view, while risk issues are chosen on grounds of internal considerations, such as strategic intent.

As in the previous steps, the key role-players enabling this step, are the members of the strategic planning team. Their contribution towards this step is to apply their knowledge, skills and mind to prioritise the key issues so that the strategy focuses on a few key strategic issues, among several alternatives. All five the steps proposed to this point, originated from the strategy formulation process, with only the environmental assessment step found to be similar to establishing risk context. It can thus be noted that the steps from the risk management process emerge later in the combined process.

#### **4.4.6 Step 6: Risk assessment**

Risk assessment is a process within the total process, as it includes three sub-activities, being risk event identification, risk analysis and risk evaluation. Rouse (2010:1) defined risk assessment as the identification and analysis of risks that entail a threat of some kind to people, businesses processes or business outcomes. According to ISO 31000 (2009:18), risk analysis contributes to gaining a better understanding of the activities and their associated risks, the origins thereof and the ways in which they might be treated. Understanding the causes and sources of a potential risk, enables an organisation to identify potential consequences and potential financial losses that might incur. These insights will enable an organisation to prioritise risk mitigation actions to minimise the potential effect of risk events.

This process originated from the risk management process. It is the second step originating from the risk management process, following the step of establishing the context. The sequence of steps to this point and especially the fact that four of the first six steps originate from the strategy formulation process, illustrate the fact that risk management supports the strategy process towards a risk-embedded strategy process, rather than separate steps.

The enabling key role-players and their contributions are the following:

- The executive management team supported by managers at all levels are responsible for establishing a process for risk event identification, assessment and review, and overseeing the development and application of effective risk mitigation plans. In practice, this will entail that managers act as risk champions responsible for leading and participating in risk event identification sessions and provide input and support towards assessing identified risks, to enable prioritising of identified risks.
- It is the role and responsibility of the CRO to provide guidance and support to managers on all levels, thereby developing risk management competencies and skills throughout the organisation. This will be beneficial towards creating an in-depth understanding of the risk profile of the organisation or generic risks associated with the type of business or organisation. Furthermore, it is the responsibility of the CRO to ensure that all departments within the organisation participate in identifying and managing their risks.
- It is the role and responsibility of the CFO to partner with the CRO towards formulating the organisational strategy which includes the risk management strategy and developing a risk appetite for approval by the board of directors.

#### **4.4.7 Step 7: Strategy formulation**

Risk assessment provides comprehensive risk-related information about the key issues. Following this step, there will be sufficient information to choose the best among different strategic options. The next step is thus to formulate a draft strategy in the form of strategic objectives and plans to steer the institution towards realising its objectives. The strategy, objectives and plan for realising it, need to be suitable and in response to the key issues and risks identified during the prior steps of the process. The process would typically entail the breaking down of the overall strategy into several strategic objectives. After consideration of alternatives and their associated risk exposures, the specific objectives are chosen. The outcomes of the risk assessment done during the previous step, enable the planning team to choose the better alternative strategy options. All the information obtained is used in a draft strategy. The oval mapping tool could typically be utilised again to graphically present the different components as part of a strategic display (Ackermann *et al*, 2004).

This step was contributed to the combined process from the strategy formulation process. All the steps prior to this step, serve to provide insight and information to be used for choosing the optimal strategy options. The two steps taken from the risk management process, being (1) establishing the risk context and (2) assessing the risks related to the key issues, contribute to the strategy being a risk-embedded strategy process.

The key enabling role-players and their responsibilities are the following:

- The CEO is responsible for leading the process of crafting the organisation's strategy. The CEO furthermore needs to guide, lead and support the management team towards realising the organisational goals within the parameters of effective corporate governance.
- The management team is responsible to lead, guide and support the process of strategy development, including the identification of strategic objectives. Furthermore, the management team needs to support subordinate managers on all levels who are responsible to translate organisational strategy and objectives into subordinate strategic objectives and guide them towards realising these objectives.
- Managers on all levels are responsible to lead subordinates to reach organisational goals by taking risks within the set risk appetite limits of the organisation.
- It is the role and responsibility of the CRO to develop a risk management strategy and plan in support of the organisational strategy and present it to executive management and the board of directors for their approval.

In conclusion, this seventh step could be described as drafting the road map towards the destination the organisation wants to go. The next step, setting risk appetite, could be described as the speed that the organisation is willing to travel and "bumps in the road the organisation is willing to face" to get to the destination. In revision, risk appetite was defined in the previous chapter as the risks that the organisation is prepared to take or endure in the pursuit of value, i.e. realising its strategy.

#### **4.4.8 Step 8: Risk appetite setting**

According to Cremonino (2011:2), risk appetite needs to be embedded in the organisational planning process to provide direction as well as to serve as a yardstick to balance strategic objectives with associated risk levels. Cremonino (2011:20) furthermore stated that risk appetite needs to be embedded in the planning process to guide business decisions as it sets the boundary conditions that is part of the budget. Barfield (2012:11) stated that organisational culture and strategy are inputs to risk appetite, thus the positioning of risk appetite setting after the draft strategy formulation step.

Young (2010:186) said that risk appetite provides a link between operational risk management and strategic planning. The management of risk appetite supports strategic planning by aligning strategic objectives with operations.

In conclusion, risk appetite setting has three sub-processes, being (1) obtaining sufficient information about the strategic objectives and risk exposure, (2) stating a realistic risk appetite, and (3) applying the risk appetite to the strategy. Risk appetite thus serves as a forward-focusing planning aid that defines the boundaries of the business, while it provides input to stakeholders about the core values of the business.

At a university, the risk appetite will need to be formulated to guide the extent of risk exposure allowed to realise each of the different strategic objectives. It will be in the form of a defined statement describing the amount of risk the organisation is willing to take in the pursuit of realising each of the different strategic objectives. The planning committee could provide guidelines and inputs to the Chief Risk Officer or management committee, which will use the inputs to formulate a suitable risk appetite statement. The risk appetite statement will be presented along with the strategic plan to the Council members for their approval. Once it is approved, it becomes a complementary part of the strategy.

This step originates from the risk management process. During the literature review of this step of the process, it was found that risk appetite setting consists of three sub-steps, being (1) obtaining sufficient information, (2) defining a risk appetite, and (3) applying the risk appetite to the organisational strategy.

The key role-players enabling this process and their roles and responsibilities are the following:

- The board of directors, or Council in the case of a public university, are responsible to set risk appetite by approving the risk appetite statement presented by the planning committee.
- The CEO is responsible to see to it that a risk appetite is formulated to be presented to the board for their approval.
- The members of the executive management team lead their subordinates to reach organisational goals by taking risks within the set risk appetite limits of the organisation.
- It is the role of the Chief Risk Officer to develop and present the organisation's risk appetite statements and propose risk tolerance levels for consideration and approval by executive management and the board.
- The CFO partners with the CRO towards formulating the organisational strategy which includes the risk management strategy and the development of a risk appetite for approval by the board of directors.

In conclusion, risk appetite setting is a process of defining and approving the extent of risk an organisation is willing to take in the pursuit of value or in the pursuit of realising its strategy. This step contributes qualitative value to the combined risk and strategy formulation process.

#### **4.4.9 Step 9: Implementation of action and risk mitigation plans**

During the process of integrating the risk management with strategy formulation, the two steps of strategy implementation and risk treatment were thought to be two separate steps. In comparison, it was found that both steps were similar in the sense that they both entail putting the plan into action. Strategy implementation entails the execution of action plans for the sake of realising the strategy, while risk treatment entails execution of action plans to manage risks inherent to the activities or plans. These two steps could be applied simultaneously and could be mutually inclusive. Therefore,

the two steps have been combined and are presented as implementation of action and risk treatment plans.

The implementation activities could include subdividing the strategic objectives into operational objectives and further into operational actions. Furthermore, implementation activities could include application of risk mitigation plans to reduce risk exposure. The operational action plans along with the risk mitigation actions will typically be supported by operational budget provisions. Operational controls will be applied along with the action plans to monitor and thereby ensure that exposure is within tolerance levels, which are aligned with the risk appetite.

In conclusion, at a university, strategy implementation would typically be the execution of action plans, combined with the continuous cyclical application of the risk management process to identify new risks, assess them, manage exposure downwards and measure residual exposure levels against set risk appetite and tolerance levels. These activities will be executed in a continuous cycle until the set objectives are reached.

This step culminates from both the risk management and strategy formulation processes. It is one of the steps where each of the two processes contributes to the new combined step. The two contributing steps are strategy implementation from the strategy formulation process and application of risk mitigation actions from the risk management process.

The key role-players and their roles and responsibilities for executing this step, include the following:

- The board of directors are responsible to set priorities regarding risk treatment and action plans and ensure the allocation of sufficient capital, both for strategy implementation plans and risk mitigation plans.
- Executive management are responsible for establishing processes for risk event identification, assessment and review, and oversee the development and application of effective risk mitigation plans. Furthermore, they are responsible for reviewing the risk register continuously to see to it that mitigation plans and control measures are applied to maintain risk exposure within set tolerance levels.
- The role and responsibility of the Chief Risk Officer (CRO) is to ensure that all departments within the organisation participate in identifying and managing their risks.

#### **4.4.10 Step 10: Monitoring, review, re-assessment and adaptation**

This step is proposed as a combined alternative to three steps of the two separate processes. The three steps that have been integrated into one are: (1) review and adaptation of strategy action plans, (2) monitoring and review of the effectiveness of risk mitigation plans, and (3) re-assessment and review of the process and activities that are part thereof. As stated by COSO (2004:61), the monitoring and review process is executed to establish whether the controls are sufficient to maintain exposure within a set margin. Furthermore, this step is meant to identify new trends, new risks, new events or any other changes that require the whole process to be reviewed on grounds of new or

additional information or circumstances. According to Bryson (2004:44), the seventh step is to consult with role-players to ensure that the outcomes are as planned. From a risk management point of view, monitoring and review is done to ensure that residual risk exposure is within acceptable risk tolerance levels. Once risk exposure is within acceptable risk tolerance levels, the organisation will be within its approved risk appetite level. In conclusion, the tenth step is a combination of consultation processes to ensure that plans and outcomes are aligned with strategic objectives within a changing business environment.

As stated above, this step culminates from combining three steps from both the strategy and risk management processes.

The key role-players and their roles and responsibilities are the following:

- Managers are responsible for assessment and review, following the development and application of effective risk mitigation plans. This includes reviewing the risk register continuously and seeing to it that mitigation plans and control measures are applied to maintain risk exposure within set tolerance levels.
- The Chief Risk Officer is responsible for collection of risk management performance data for feedback and reporting to management and the board.
- The Internal Audit functionaries are responsible for assessing the effectiveness of the risk management programme, reporting to top management on the audit findings and auditing the effectiveness of the risk management programme. This includes assessing and reporting on the effectiveness of internal controls, following of procedures and processes and compliance to internal policies and regulatory requirements. Furthermore, the Internal Auditors are responsible to provide objective assurance to the board of directors on the functions audited, provide inputs and guidance to refine processes, elevate the risk management maturity level and improve the effectiveness of controls.

#### **4.4.11 Step 11: Description of the organisation in the future**

This self-explanatory eleventh step is very similar to the previous step, as it entails consultation with key role-players, review of outcomes, adaptation of plans and adoption of new plans. The difference between this step of the process and the previous is the end focus. During the previous step, outcomes are reviewed against set metrics, such as set action plans, set tolerance levels and other micro standards. Micro standards refer to the comparison between outcome and micro steps of the process. The eleventh step has a similar focus, with reference to consulting, adapting existing plans or adopting new ones, but with the difference that the focus during this step is of a macro nature. Macro refers to comparing the strategy as a whole to assess if the strategy and related components are capable of transforming the organisation from the existing to the visualised future organisation. At a university, this step could include a review of what needs to be the key issues and an assessment of the strategy to ensure that it still addresses the key issues, or alternatively to adopt

alternative resolutions or action plans that will guide the organisation to become the required future organisation.

This step of the combined process originated from the strategy formulation processes.

The key role-players and their roles and responsibilities for this step are the following:

- The CEO is responsible for providing leadership and direction to the team of top managers, throughout the process, but also when assuring that the process is still focusing on the right future goal.
- Managers on all levels are responsible to provide support to subordinate managers on all levels to translate organisational strategy and objectives into subordinate strategic objectives and to guide them towards realising these objectives.

#### **4.4.12 Step 12: Communication and consultation**

The final step of the twelve-step risk-embedded strategy formulation process is the step of communication and consultation of the outcomes of the process. The Institute of Enterprise Risk Management Australia (IERM, 2014b:1) stated that communication and consultation improve understanding, lead to and contribute to refinement of the risk-embedded strategy outcomes, consider a wide variety of inputs and viewpoints, promote insight in different roles and responsibilities and thereby also enhance ownership of all role-players. According to IERM, (2014b:1) an organisation needs to compile a communication plan, addressing and communicating the primary issues that are challenging the organisation's ability to realise its strategic objectives. The communication plan should identify the intended communication target groups, the ways and means to reach external and internal stakeholders, the types of information to be communicated, the different communication methods for different focus groups and methods of how key concepts of risk management need to be conveyed. In a similar fashion, a consultation plan should be developed as part of the communication and consultation step of the process. The consultation plan should identify the key stakeholders to be consulted, the mediums to reach them and the intended outcomes of the consultation process.

At tertiary institutions, there are many stakeholders and role-players and this final step of the risk-embedded strategy process is a very important part towards aligning the organisation's different components and role-players to success. The planning team should typically appoint a skilled plan drafter to compile the communication and consultation plans. Typically, these plans are presented to the management team for approval before implementation.

This twelve-step risk-embedded strategy formulation process, graphically depicted in Figure 4.3, is proposed as the process to follow to confirm that risk management is applied within strategy formulation, as stated in the COSO (2004:44) definition. The next section offers a brief summary and conclusion of this chapter.

## 4.5 SUMMARY

This chapter aimed at the development and proposal of an integrated strategy formulation and risk management process, also referred to as a risk-embedded strategy formulation process. In this chapter, a generic risk management process was deduced from the sources reviewed in Chapter 2, while a generic strategy formulation process was deduced from the theories reviewed in Chapter 3. These two deduced generic processes were combined to form a risk-embedded strategy formulation process for tertiary institutions.

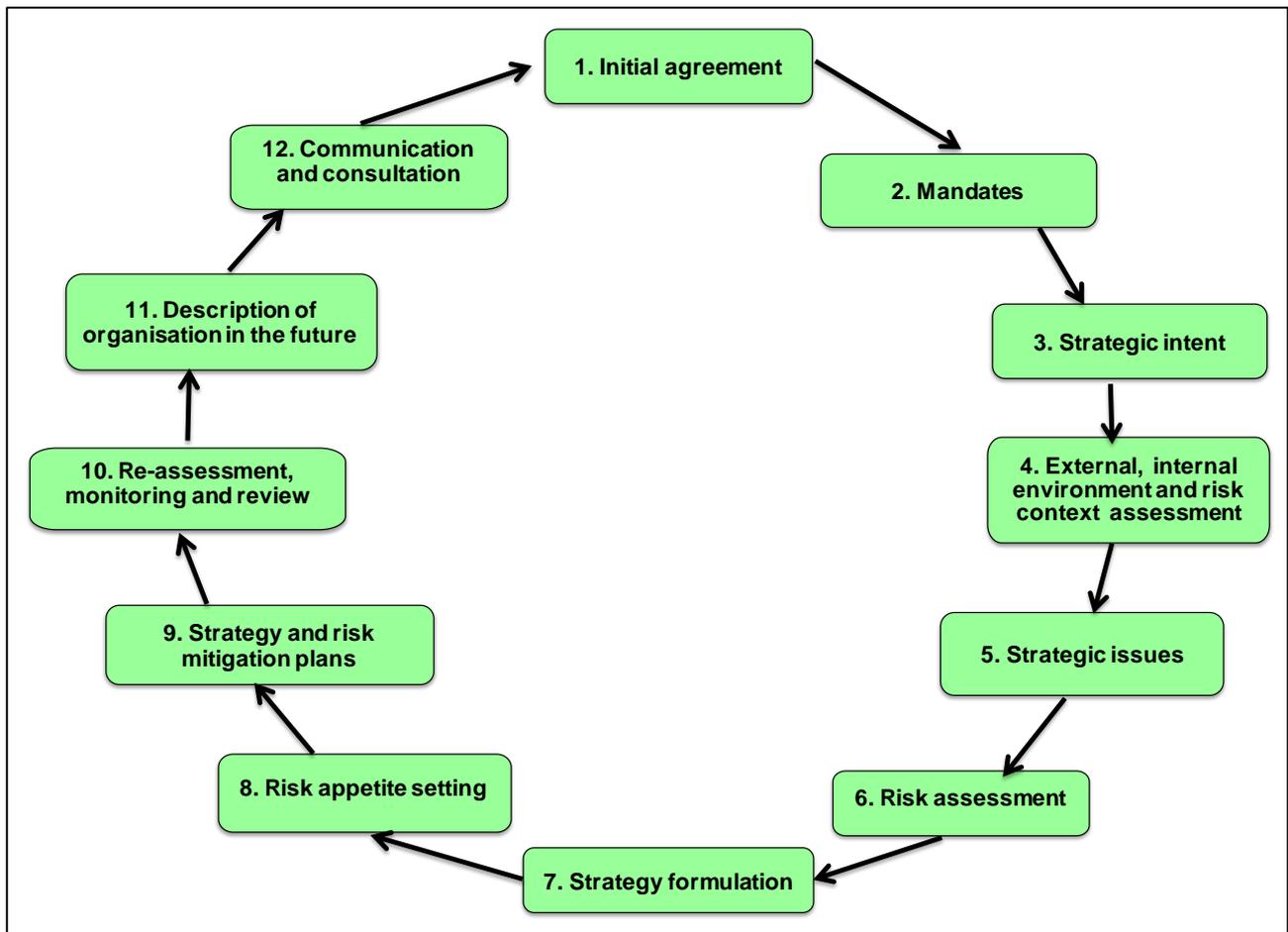
The Bryson (2004:44) ten-step strategy formulation was chosen as a suitable process with steps lending itself best for aligning the strategy process with risk management process. Each of the ten steps was described as it could typically be applied to strategy formulation at a university. In the section that followed, the ISO 31000 framework was adapted to include risk appetite and risk tolerance setting along with the steps proposed by ISO 31000. The outcome was an ISO 31000 risk management framework, with risk appetite setting incorporated as part of the process.

In Section 4.4 the two processes were combined into a single twelve-step process. Figure 4.3, which graphically presented the comprehensive combined twelve-step process with all its sub-steps in a cyclical format, can be summarised in a simple format as illustrated in Figure 4.4 below.

As the sequence of the steps had to make logical sense, the two generic processes were depicted in a straight-line format. The characteristics of each of the steps were considered to make conclusions on the order of the steps. During the combination process, the conclusions were made that three steps of each of the two processes could be combined into mutual complementary single steps, namely:

- Environmental assessment with Establishing the context;
- Strategy implementation with Implementing risk mitigation plans;
- Re-assessment, review and adaptation with Monitoring and review.

The proposed combined process is summarised and presented in Figure 4.4.



**Figure 4.4: Summary of the risk-embedded strategy formulation process**

Source: Researcher compiled from sources reviewed.

It was found that the first four steps of the process originated from the strategy formulation process. Steps that originated from the risk management process only became relevant after the initial agreement was entered into, the mandates were obtained and the strategic intent established.

It was furthermore found that the identification of strategic issues, followed logically after the environmental assessment and risk context establishment. The identification, analysis and evaluation of risks, which combined form part of risk assessment, logically follow after the key issues have been identified, as each key issues entails a unique number of risks. Only after the risks associated with each key issue have been considered, the optimal combination of key issues can be selected and combined into an organisational strategy. Once the strategy was formulated, it was possible to utilise the information obtained to formulate a risk appetite for each objective of the strategy, to serve as guideline of the optimal risk exposure needed and to be taken to realise the objective, in the pursuit of value. The strategy implementation and risk mitigation plans have common grounds because both entail implementation of actions and activities towards a goal. The difference between action plans and mitigation plans is the motive. Action plans are the route towards an outcome, while mitigation plans are the action plans to lessen or minimise the risk exposure. The final steps of the process entail reviewing the processes and outcomes, and ensuring that they are

aligned with the visualised future of the organisation. The twelve-step process ends with communication and consultation, which could lead back to the starting point of the continuous process. The key role-players and their core contributions to each of the steps, were reviewed in the overview of the steps.

#### **4.6 CONCLUSION**

This aim of this chapter was to propose a combined risk-embedded strategy formulation process. In the previous chapters, the literature of the risk management process and the strategy formulation process were reviewed, after which the conclusion was made that there are no specific or implied integration between the two processes.

In this chapter, a twelve-step risk-embedded strategy formulation process was developed. For each of the twelve proposed steps, it was stated what the step entails and from which of the two processes it originated. Furthermore, the key role-players and their key contributions towards each of the steps were proposed. The outcome of this chapter is thus a proposed risk-embedded strategy formulation process. If this process is followed, the COSO (2004:4) requirement for risk management applied during strategy setting will be true.

In the next chapter, the research design towards empirically testing this proposed process is explained.

## **CHAPTER 5**

### **EMPIRICAL RESEARCH DESIGN AND METHODOLOGY**

#### **5.1 INTRODUCTION**

In the previous chapters, a comprehensive exploratory literature review was documented of the processes of risk management and strategy formulation. The aim of these reviews was to obtain insight into the general steps to be followed towards managing risks, as well as towards crafting strategy, for the sake of refining or developing a generic risk-embedded strategy formulation process.

Although it is generally accepted that risk management is applied in strategy, the exploratory strategy formulation literature review as documented in Chapter 3 did not provide examples of step-by-step processes to follow towards embedding the risk management process into strategy formulation. Thus, in Chapter 4, a risk management [process embedded] strategy formulating process was proposed and presented to aid organisations to embed risk management into strategy formulation.

The objective of the empirical component of this study was to expose the model developed and presented in Chapter 4 to the opinions of managers involved in strategy formulation and risk management at universities as well as a separate sample of non-university counterparts. Approximately the same number of university responses and non-university responses had been received.

The objective of Chapter 5 is to describe the research design and methodology used to meet the research goals described in section 1.6. This involves a biographical descriptions of respondents, establishing the opinions of the respondents on the proposed embedded model and testing whether the responses of the university respondents are statistically different from those of non-university respondent.

#### **5.2 RESEARCH METHOD**

The research methodology of this investigation involves a comprehensive literature review of the respective fields of strategy formulation and risk management. This lead to a proposed integrated model derived from the literature study which is tested by means of opinions expressed in sample surveys by respondents from universities and organisations involved in risk management. Analysis was done by means of descriptive statistics as well as formal statistical tests of hypotheses, testing propositions that were derived from the theoretical model.

#### **5.3 DATA COLLECTION**

##### **5.3.1 Target populations and samples**

This study primarily focused on universities in South Africa. Over and above public universities, a second population was studied being respondents from financial sector organisations as well as risk

management companies. The frame representing these companies was obtained from RubiQ, a risk management services company. The non-university sample companies are typically seen as experienced participants in the field of risk management. The inclusion of this non-university respondents made it possible to test hypotheses about the similarities or differences between university responses and those from business organisations involved in risk management.

The population for this study was general managers, chief operating officers, financial managers, risk managers, strategy managers and other members of executive management teams at public universities as well as counterparts at financial and management consultancy companies in South Africa. The roles and responsibilities towards risk management were included in the literature review, Chapter 2.

As there are only twenty six public universities in South Africa, it was decided not to set a minimum sample size, but rather to continue collecting responses until meaningful conclusions were deemed possible. The process of inviting participation had continued until eighty responses had been received in total, thirteen of which was found to be incomplete duplications. Of the sixty seven remaining responses, thirty four were forthcoming from universities and thirty three from non-university institutions.

### **5.3.2 Questionnaire**

The questionnaire consisted out of four sections, namely: (1) biographical data; (2) statements aimed at obtaining insight into respondent organisations' risk maturity levels; (3) statements obtaining opinions about the principle of embedding risk management into strategy formulation; (4) statements establishing support for the key elements of the proposed process; and (5) statements testing the level of application of the proposed key elements. These sections are detailed below.

The complete twelve-step process was not tested in a systems context. The reason for individually testing the underlying principles rather than the process as a whole, was that respondents would not have had opportunity or exposure to the total integrated process. The key elements referred to above are steps where strategy and risk activities had been combined or a specific sequence of steps were proposed. Thus, the combination of combined steps and sequence of the process formed the underlying statements towards which respondents had to indicate their level of agreement or disagreement. Taken together, the collective responses served as an indication of the acceptability of the principles and key elements underlying the proposed process.

The questions in the questionnaire (Appendix A), were made up as follows:

i) **Biographical data**

The first five questions of the questionnaire were used to obtain biographical information about the samples of respondents. The biographical details allowed a collective profile of respondents which provided an indication of the experience and functional exposure of the respondents in the two groups. The biographical information that was collected included: (1) the sector in which respondents were employed; (2) their positions in their organisations; (3) their years of service; and (4) their experience in strategy formulation; as well as in (5) risk management.

ii) **Maturity levels of respondent organisations**

Complementary to testing the acceptability of principles and application thereof, the opportunity was utilised to establish the risk maturity characteristics of participating organisations. The opinions of respondents about the maturity characteristics of their companies were collected.

iii) **Degree of support for embedding risk management steps into the strategy formulation process**

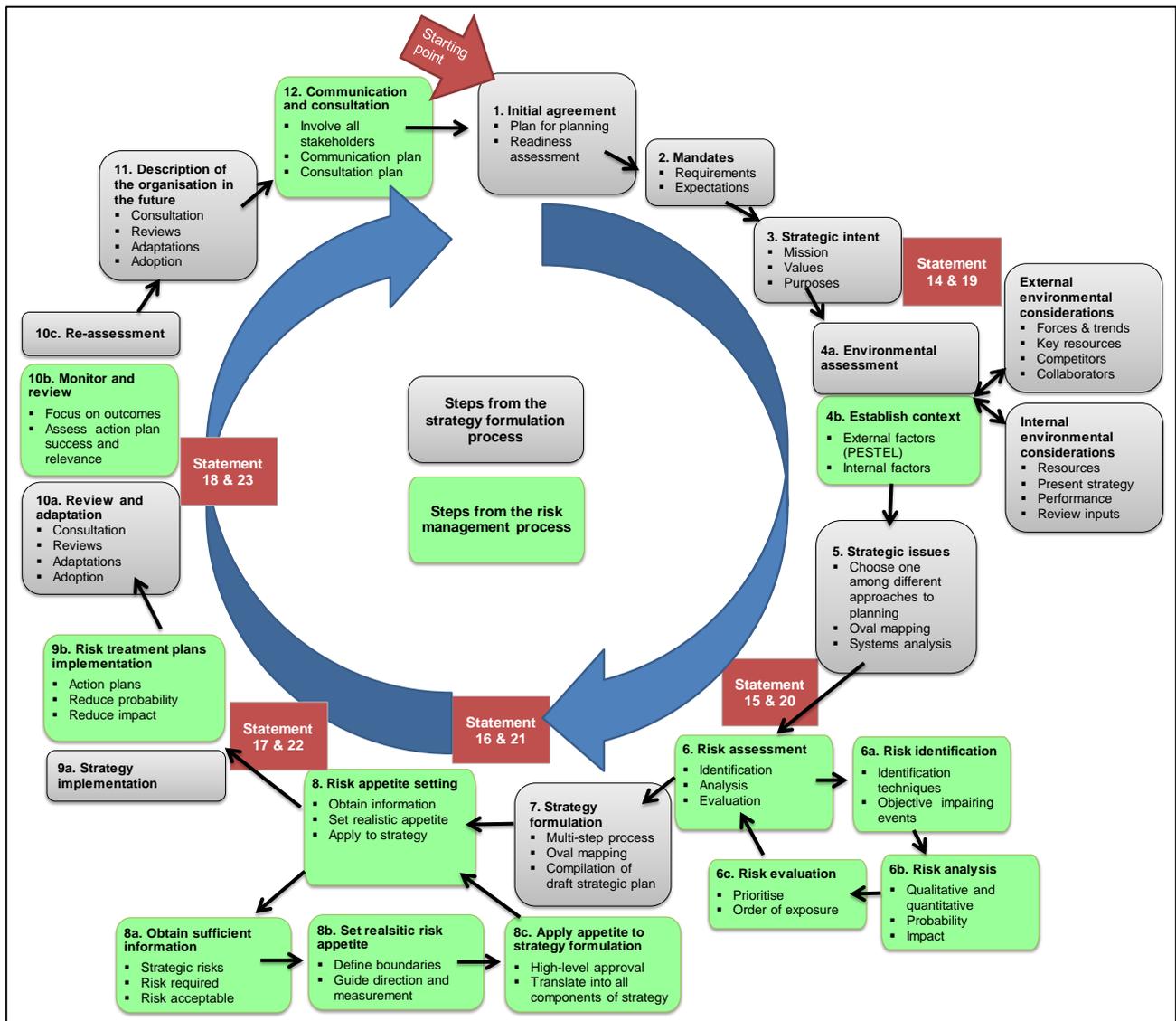
Prior to establishing support for the detail components of a risk-embedded strategy process, support for the overall principle was established. Three statements were included in the questionnaire to establish whether the respondents agreed or disagreed with the principle that the risk management process needs to be embedded into the strategy formulation process.

iv) **Statements establishing support for some individual key elements of the embedding process**

The five statements that followed dealt with the individual principles of the proposed risk-embedded strategy formulation process. The statements were compiled from the literature review and conclusions of Chapter 4, especially the elements of the risk-embedded strategy formulation process graphically presented in Figure 4.3. The proportions of respondents who collectively agreed, disagreed, or indicated that they were unsure, served as indication of the acceptability of the key underlying principle in support of the process. The key individual principles that were subjected to testing, were those steps of the process which had been combined or set in a specific sequence. The majority of respondents had to be in support (strongly agree and agree) to judge the proposed process as acceptable. Figure 5.2 illustrates which questions applied to different parts of the proposed process.

v) **Statements establishing the level of application of the underlying principles**

A further five statements established to what extent respondents' organisations applied the principles tested in the previous section. If the majority of respondents collectively supported a principle (strongly agree and agree), it served as further independent indication of the value of the principle.



**Figure 5.2: Questionnaire statements applicable to key concepts of the risk-embedded strategy process**

Source: Researcher compiled from sources reviewed.

A copy of the questionnaire is attached as Appendix A.

In summary thus, the first five questions were meant to provide a collective biographical profile of respondents and their experience and exposure to strategy formulation and risk management. The remaining 18 statements provided insight into the risk maturity levels of respondent organisations, tested support for the principles underlying the embedded process and established to what extent respondents' organisations already applied the principles. The extent to which organisations already applied the principles also contributed towards insight regarding risk maturity levels. The grouping of respondents into two groups, namely (1) university respondents and (2) non-university respondents, was done for the sake of testing hypotheses about the similarities or differences in responses between a sample of university respondents and a sample of non-university counterparts.

### 5.3.3 Measurement scale

For this study, a five-option Likert scale was used. This scale was chosen because it standardised the responses towards making proportional conclusions from the results. Trochim (2006:1) stated that the Likert scale offers a simple-to-use uni-dimensional scaling option. He motivated the use of the Likert scale as a uni-dimensional scale for testing complex concepts, such as the underlying principles of the process proposed in this study.

Respondents had to select one from five ordinal responses to indicate to what extent they agreed or disagreed with the statements. Respondents were presented with a statement to which they had to execute one of five choices, namely: (1) Strongly disagree; (2) Disagree; (3) Unsure; (4) Agree; or (5) Strongly agree.

### 5.3.4 Pre-testing and data collection

The questionnaire was tested for confusing or ambiguous statements by a trial respondent group prior to distributing it to the members of the two populations. Four trial respondents were interviewed. Three of the four were risk management experts with more than ten years of service in senior management positions at SA universities. The fourth trial respondent interviewed is a retired professor working as consultant. Trial respondents were presented with the questionnaire during individual personal interviews. They were requested to explain what their understanding of each statement was. Refinements were then made to address potential ambiguity. Refinements were made after the first and second interviews. There were no ambiguity identified during the third and fourth interviews. Consequently, the pre-test was terminated after the fourth interview.

Following the pre-test, the members of the first population was approached and asked to complete the questionnaire. In a similar way, the members of the non-university population whose names appeared on the RubiQ database, were approached. The data collection process was maintained until 80 anonymous responses had been received, more or less equally distributed between the two populations.

Although participation was anonymous, the unique computer IP addresses of respondents indicated that thirteen of the eighty responses had been generated on computers that had already submitted an earlier response, thus indicating that thirteen of the responses were duplicates. The conclusion was thus drawn that incomplete responses were gathered in cases when respondents had to exit the quiz before completion and a second record was created when they completed the questionnaire at a later stage. The duplicate responses were removed, leaving sixty seven (67) completed questionnaires, consisting out of thirty four (34) university responses and thirty three (33) non-university responses. No follow up study on the non-responses was possible due to the total anonymity of responses.

The data description and hypothesis test are presented in the next chapter, as are the findings and conclusions.

## **CHAPTER 6**

### **FINDINGS AND CONCLUSIONS FROM SURVEY**

#### **6.1 INTRODUCTION**

This chapter presents the findings of a risk-embedded strategy formulation process, following on two literature reviews, the first on risk management and the second on strategy formulation. This chapter summarises the findings and conclusions of the research after administering and analysing the information obtained from two independent samples of respondents. Recommendations are presented in the final chapter.

#### **6.2 SCOPE**

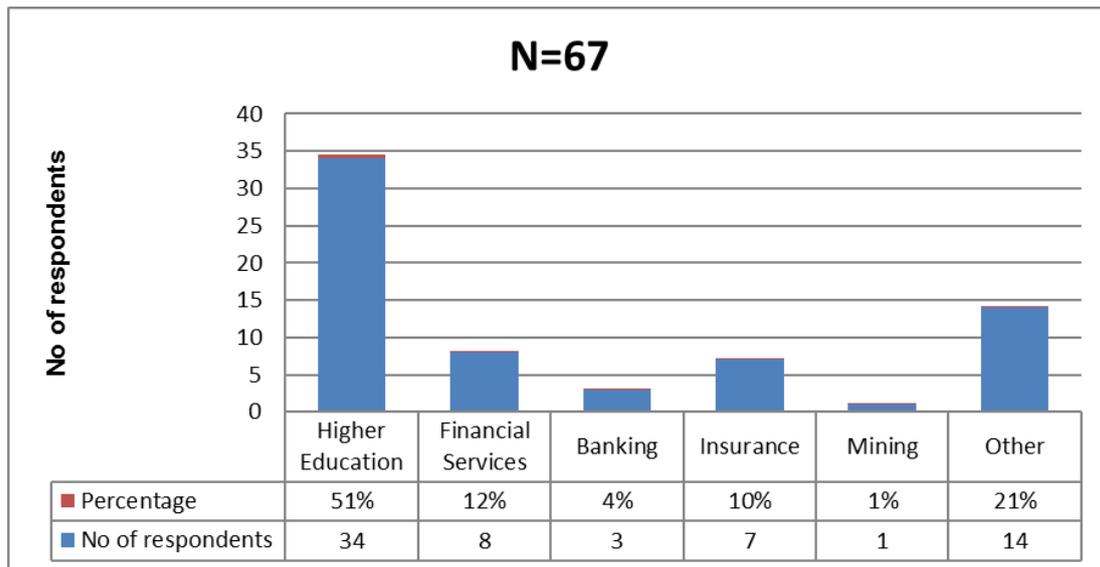
As set up in chapter five, a questionnaire (Appendix A) was developed to inter-alia test the acceptability of the proposed risk management embedded strategy formulation process. The findings and conclusions are presented in five parts, namely: (1) a demographic overview; (2) a summary of responses pertaining to risk management maturity levels; (3) a summary of responses relating to the support for embedding risk management into strategy formulation; (4) responses pertaining to support for key elements of the proposed process; and finally, (5) responses regarding the current practical application of these key elements by respondent organisations.

#### **6.3 CHARACTERISTICS OF RESPONDENTS**

The biographical information obtained from respondents included: (1) the sector in which they are employed, (2) their position in the organisation, (3) their years of service and (4) their number of years' experience specifically in strategy formulation, as well as (5) in risk management. The responses are presented in summary format in the next section.

##### **6.3.1 Economic sector of respondents**

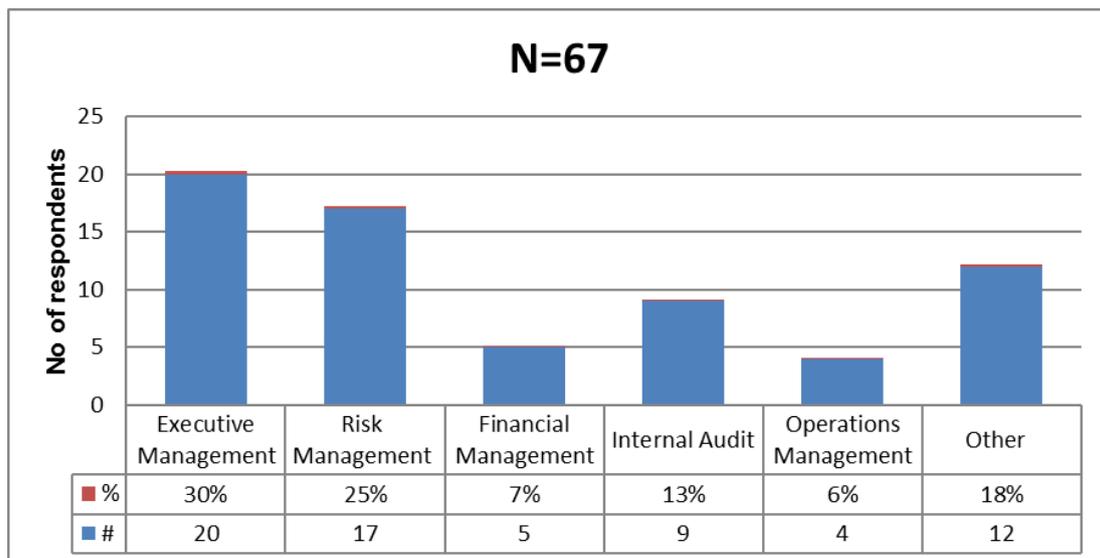
Responses were received from 34 (51%) university respondents, 8 (12%) financial services respondents, 10 (14%) banking and insurance sector respondents and 15 (22%) respondents from other organisations. Figure 6.1 below presents the sectorial distribution of the respondents.



**Figure 6.1: Economic sector of respondents**

### 6.3.2 Managerial functions of respondents in the organisation

The managerial functions of the respondents serves as an indication of their functional involvement in the management of the organisation.



**Figure 6.2: Positions of respondents**

The questionnaire was sent to members of the executive management teams as well as senior managers from the finance, risk, operations and auditing divisions. A total of 20 (30%) executive managers from the functions described above contributed to this study. Furthermore, it was found that 17 (25%) of the respondents are the risk managers in their organisation, while 14 (20%) respondents are either from the finance department or involved in the internal audit. The relevance of the latter is that finance and internal audit staff are usually competent in risk management and generally also involved in risk management within their organisation. The roles and responsibilities of these incumbents were reviewed in Section 2.8 of the literature study. A further 16 (24%)

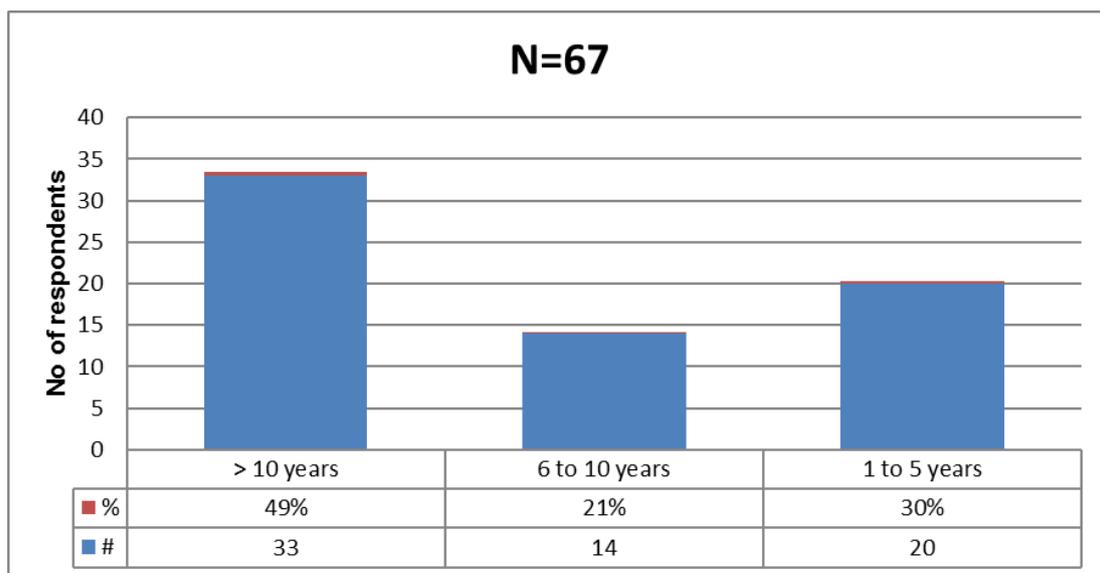
respondents were involved with operations management or other functions within the organisation as illustrated in Figure 6.2 above.

The current positions of the respondents reflects a degree of seniority and functional expertise that made them suitable and sufficiently experienced to express the opinions surveyed in this study.

### 6.3.3 Years of service of respondents

A further factor that was assessed to establish the competency of respondents to express an opinion on the variables surveyed was their number of years of service within their organisations. The years of service serve as an indication of their experience and exposure to the activities of risk management and / or strategy formulation within their specific organisations.

Thirty-three (49%) respondents had been in service of their current organisation for more than ten years; while a further 14 (21%) had been employed between six and ten years in their current organisations. The remaining (20) 30% were in service of their organisations for more than one year, while none of the respondents had been in service of their organisation for less than one year. The results with regard to years of service are illustrated in Figure 6.3 below.



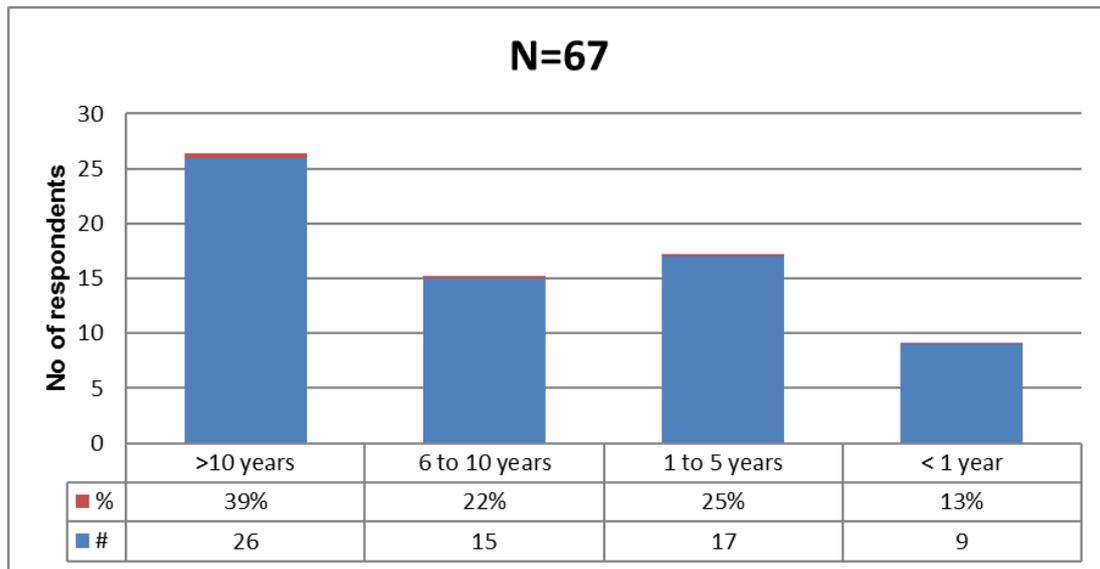
**Figure 6.3: Years of service in their current organisation**

It can thus be deduced that the respondents had sufficient years of service to enable them to sensibly respond to the questionnaire. In the next section, the relevant experience of respondents in specific strategy formulation and risk management is reviewed.

### 6.3.4 Years of managerial experience in strategy formulation

To gauge the experience of respondents in strategy formulation and risk management respectively, the respondents were required to indicate their years of exposure to both the dimensions of business. It was found that 26 (39%) respondents had more than ten years' experience, while 15 (22%) respondents had six years or more exposure to strategy formulation processes within their organisations. Seventeen (25%) respondents indicated that they had between one and five years

strategy formulation experience, while 9 (13%) respondents had less than one year strategy formulation experience. The responses are graphically presented in Figure 6.4 below.

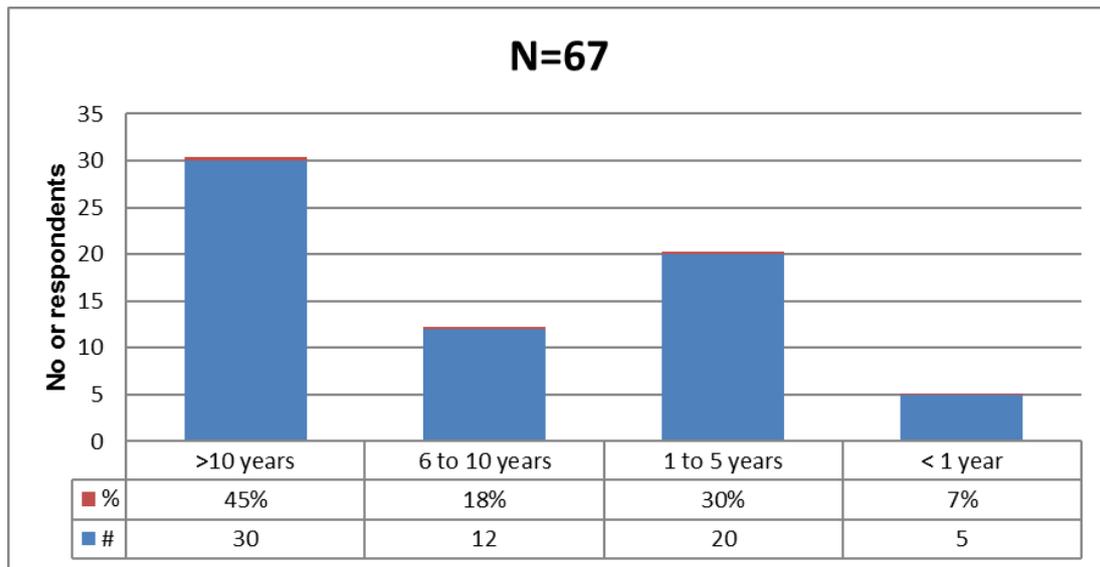


**Figure 6.4: Number of years' experience in strategy formulation**

The overall picture arising indicates that a majority of respondents had substantial experience in strategy formulation while it is clear that everybody had participated in at least one strategy review cycle.

### 6.3.5 Years of experience in risk management

As stated, the respondents were also asked to indicate their years of exposure to the risk management function. It was found that 30 (45%) respondents had more than ten years exposure to the risk management activities within their organisation. Only 5 (7%) respondents had less than one year's exposure to the risk management function. Twelve (18%) respondents indicated that they have between six years and ten years exposure to the risk management activities within their organisations. The remaining 20 (30%) respondents had between one and five years of risk management experience. The results of the question about the number of years' exposure to risk management activities are presented and tabled in Figure 6.5 below. Again, the indication is that the majority of respondents had substantial experience of risk management while only a small fraction were novices in this function.



**Figure 6.5: Number of years' experience in risk management**

The overall conclusion is that the majority of respondents had sufficient exposure to both strategy formulation and risk management functions at a level within their organisation which allowed them to make meaningful contributions to the survey.

In the next section, the group of 67 respondents' opinions are reported. It presents different sides of a picture showing the outcomes of the questionnaire towards establishing the acceptability of the proposed risk management embedded strategy formulation process.

#### **6.4 OPINIONS EXPRESSED BY RESPONDENTS**

The findings are presented and discussed in four parts, namely: (1) responses regarding the risk management maturity level of participant organisations; (2) responses regarding the principle support for embedding risk management into strategy formulation; (3) responses regarding support for the key elements of the proposed process; and finally, (4) responses regarding the application of these elements by their organisations.

The information obtained facilitated the comparison of respondents from universities to respondents from non-universities. This enabled the setting and testing of a hypotheses about the mean responses of the two groups. At the end of each section, the inter-group comparisons of the means were executed through the application of ANOVA and Mann-Whitney tests to test for the equality of the central tendencies (means and medians) of the two groups. The Mann-Whitney test is the non-parametric equivalent of the ANOVA test, usually resorted to when the classical assumptions of the ANOVA tests do not hold. In this sense, it presents a more conservative test than the ANOVA. The findings and recommendations are presented in the sections to follow. All statistical tests were two-tail tests executed at the five percent level of significance, hence p-values smaller than 0.025 lead to the rejection of null hypotheses of the equality of the values of central tendencies.

As stated earlier, the statements in the questionnaire were presented according to the Likert scale, thus respondents needed to indicate to what extent they agree or disagree with the statements. The Likert scale offered respondents five options, being strongly disagree, disagree, unsure, agree and strongly agree. In the presentation of the data in graphical format, the results of the Likert scale were summarized into three groups, being (1) agree, (2) unsure and (3) disagree. The reason for this, is to enhance the visual differences between the two samples.

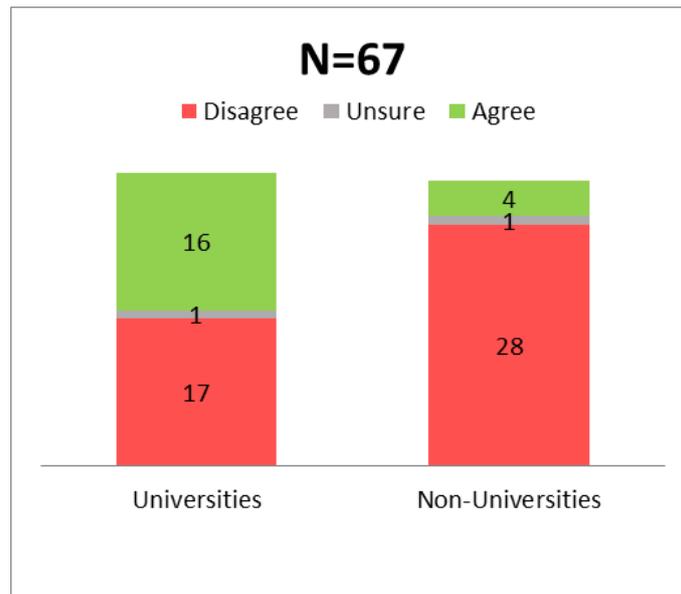
#### **6.4.1 Part 1: Findings regarding the risk maturity characteristics**

In this first part, respondents were required to express their opinions about their organisations' current risk maturity characteristics. These statements were included to set the context of risk maturity within the two sample groups. Four basic risk maturity characteristics were selected namely: (1) pre-start maturity level whereby organisations had not yet started to apply risk management principles and activities; (2) organisations applying basic risk management principles to day-to-day operational activities; (3) organisations applying some themes of risk management, but not yet in a fully-integrated manner; and (4) organisations applying risk management to complement strategy. The responses to these statements are detailed below.

##### **6.4.2.1 Organisation yet to apply risk management to organisational activities**

This first statement required respondents to indicate to what extent they agree or disagree with the statement that their organisation has yet to apply risk management to organisational activities. The statement is meant to establish to what extent the respondent's organisation applies risk management to organisational activities. Applying risk management to organisational activities is one of the first steps towards reaching risk management maturity. This statement thus aids in providing insight into the pre-start risk management maturity levels of the respondents' organisations.

As stated in Chapter 4, Willson *et al.* (2010:1) argued that risk management needs to be applied to operational activities in order to timeously identify, assess and mitigate operational risks. The respondents thus had to indicate whether their organisations do indeed comply with Willson's recommendation. The results of this statement are graphically illustrated in Figure 6.6.



**Figure 6.6: Organisations yet to apply risk management to organisational activities**

It was found that 28 (85%) of the other [non-university] respondents disagreed with this statement, while 4 (12%) of non-university respondents agreed. It can thus be concluded that a large majority of non-university respondents were confident that their organisations do apply risk management to their organisations. In comparison to the non-university sample, 17 (50%) of university respondents disagreed while 16 (47%) of respondents agreed that their organisations have yet to apply risk management to the organisations' activities. In both groups, only one (3%) of the respondents was unsure. These findings thus indicate that a large proportion of respondents from university are of the opinion that risk management yet has to be applied to their day-to-day organisational activities.

The Global Strategic Management Institute (GMSI: 2009) conducted research on behalf of the Association of Governing Bodies of the United Kingdom and found that higher education institutions were lagging behind the private sector with the application of risk management on a strategic level. This finding is thus similar to the GMSI (2009) finding that higher education organisations lag behind other sectors with the implementation of risk management. It is thus concluded that universities, irrespective whether situated in South Africa or elsewhere, seem to be lagging behind other sectors with the application of risk management principles.

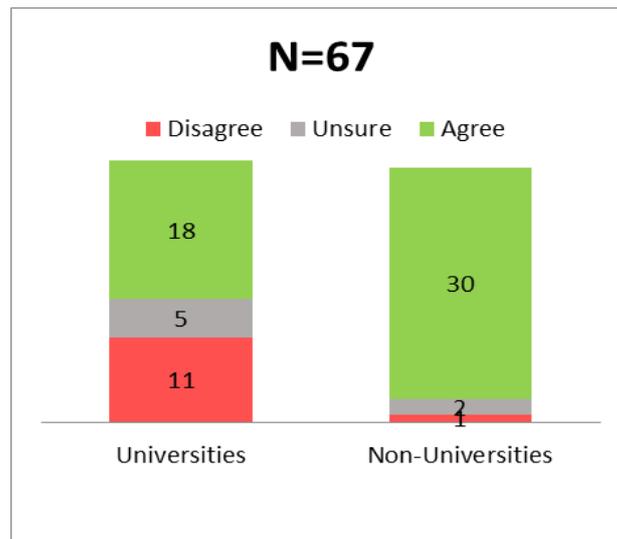
Thus, this statement and responses confirm the need for solutions in the form of a process to aid organisations, especially university, towards embedding risk management into organisational activities such as strategy formulation and day-to-day operations.

#### **6.4.2.2 Organisations applying risk management to day-to-day operations**

In this second statement towards establishing risk management maturity levels, respondents were required to indicate if their organisations applied risk management to day-to-day operational processes. While the previous question tested the application of risk management to the majority of organisational activities, this question focused specifically on operational activities. The difference

thus between the two questions is that the first refers to all activities, such as planning, finance, auditing and all the functions executed by key role functionaries as reviewed in Section 2.8.

In Chapter 3 it was stated by Hilson (2010:1) that harmful events can influence operations and thus impair the organisation's ability to realise its strategy. It is thus important for organisations to apply risk management to all operational activities. In this regard, it must be noted that The King III Code (IODSA, 2009:74) confirms the ISO 31000 requirement that an organisation's management team needs to design and implement a risk management process that is integrated into the day-to-day activities of the company. The findings from the questionnaire are illustrated in Figure 6.7.



**Figure 6.7: Organisations applying risk management to day-to-day operations**

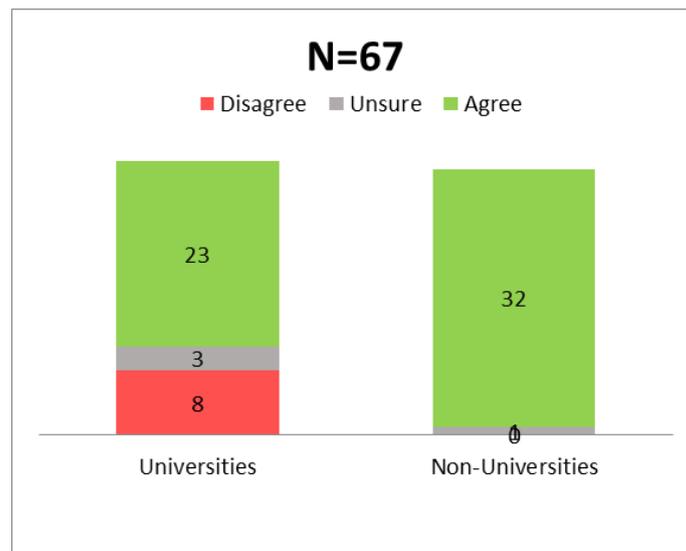
It was found that 30 (91%) of respondents from the other sample group agreed that their organisations applied risk management to day-to-day operations. Two (6%) respondents were unsure and only one (3%) disagreed. In comparison, it was found that only 18 (53%) of the university respondents agreed with this statement. Eleven (32%) university respondents disagreed, while five (15%) university respondents were unsure. It can thus be concluded from these findings that the non-university sample group were more confident that their organisations were applying risk management to operations, while a large group of university respondents indicated that they disagree or that they are unsure. The relevance of this is that universities could potentially follow the example of non-university participating organisations.

#### **6.4.2.3 The application of the themes approach to risk management in organisations**

The third statement required respondents to state whether their organisation applied the “themes approach” to risk management, thus identifying, assessing, mitigating and monitoring risks. The aim of this question was to establish whether organisations have at least matured to the level of risk management maturity where some themes of risk management are applied. The themes approach refers to a moderate risk management maturity level, whereby organisations apply risk management

functions, such as risk event identification and assessment, but still in the absence of an integrated approach, as proposed by, among other, ENISA (2013) in Chapter 3.

It was found that 32 (97%) of the other sample group indicated that their organisation had matured to this level, while only one respondent (3%) was unsure. A total of 23 (68%) of the university respondents indicated that their organisations were applying some themes of risk management. Furthermore it was found that 8 (24%) of the university respondents indicated that their organisations were not applying these themes of risk management. The results are presented in Figure 6.8.



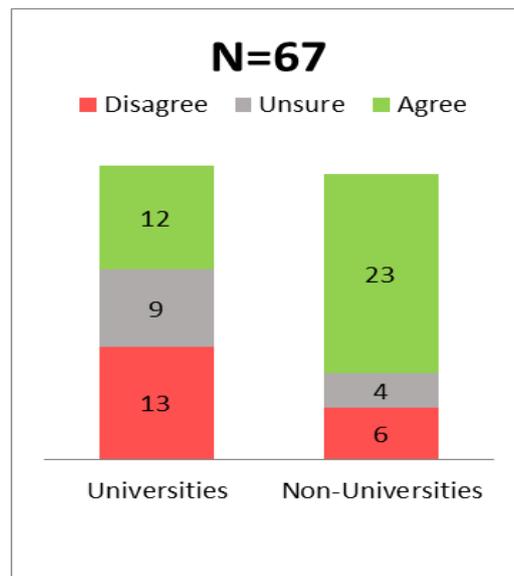
**Figure 6.8: Organisations at themes level of risk management maturity**

The findings above correspond with those of the KPMG poll that was done at a KPMG workshop in Johannesburg in 2012. KPMG established via a participants' poll that most of the delegates' organisations at the workshop were at the themes level of maturity, thus applying the steps of risk management in a non-integrated manner. The answers to this question thus correspond with the findings of a KPMG poll, i.e. that many organisations do apply components, such as risk event identification and assessment, but not in a fully integrated form. It can thus be recommended that organisations that do not utilise the benefits of a fully-integrated risk management system, should develop and implement a risk management embedded strategy formulation process such as presented in Chapter 4. The process proposed in Chapter 4 will aid organisations towards embedding risk management into strategy formulation.

This finding contributes to the study by distinguishing between ad hoc application of risk management and comprehensive risk management embedded within an organisation. The latter is where risk-embedded management is obtained by following a process such as proposed in Chapter 4, while ad hoc application of risk management themes only aids some functions in isolation of the overall strategy of the organisation.

#### 6.4.2.4 Complementary application of strategy formulation and risk management

For the sake of accepting the principle that risk management needs to be embedded in strategy formulation, respondents were required to indicate whether their organisation ensured that strategy formulation and risk management were treated as complementary managerial activities. This statement was meant to establish whether organisations do apply risk management steps in support of their strategy. The complementary nature of risk management embedded strategy formulation is described in Chapter 4 through the process proposed in Figure 4.3. This proposed process combined the general strategy formulation steps with the risk management steps into a single process that embeds risk management into strategy formulation.



**Figure 6.9: Organisations using risk management to complement strategy**

The findings to this question are presented in Figure 6.9.

It was found that 23 (70%) of other respondents agreed with the statement, while 4 (12%) respondents were unsure and six (18%) disagreed. In comparison, only 12 (35%) of the university respondents agreed, while 9 (26%) were unsure and 13 (38%) disagreed. The portion of university respondents who indicated that their organisation did not complement strategy with risk management was found to be much higher than their non-university counterparts. It can thus be concluded that while the majority of respondents agreed with the principle, thereby confirming its acceptability, other organisations are reaping more benefits from applying risk management complementary to strategy formulation than at universities.

In conclusion, the findings regarding risk management maturity levels are summarised in Table 6.3 below. Each of the statements presented above are tabled, followed by columns indicating the majority responses of the two sample groups. Where responses vary between two responses, it is illustrated via an arrow, meaning responses vary between the two opinion groups. Following the summary of responses, the calculated p-values from the F-test and Mann-Whitney tests are

provided, followed by a summary indication of the rejection or non-rejection of the null hypothesis on grounds of the p-values.

**Table 6.3: Inter-group comparisons about responses to statements on risk maturity**

No	Statements	Responses varying between:		F-test	Mann-Whitney	Conclusion
		Other	Universities	p-values		
1	"My organisation has yet to apply risk management to the majority or all of the organisational activities."	Disagree	Agree→Disagree	P=<0.01	p<0.01	Reject H <sub>0</sub>
2	"My organisation is applying risk management as part of the day-to-day operational processes."	Agree→Strongly	Unsure→Agree	P=<0.01	p<0.01	Reject H <sub>0</sub>
3	"My organisation applies the themes to risk management approach, thus identifying, assessing and managing risks."	Agree→Strongly	Unsure→Agree	P=<0.01	p=0.01	Reject H <sub>0</sub>
4	"At my organisation, strategy formulation and risk management are treated as complementary managerial activities."	Unsure→Agree	Disagree→Unsure	P=<0.02	p<0.01	Reject H <sub>0</sub>

Source: Researcher compiled from questionnaire data.

As stated above, the right-hand column indicates whether sufficient evidence was found to reject or fail to reject the null hypothesis that the group results are equal. As all cases, it was possible to find sufficient evidence to reject the null hypothesis in favour of the alternative hypothesis.

One of the objectives of this study, as stated in Section 1.5, was to obtain insight into the risk management maturity levels of the exploratory sample of participant organisations. The relevance of this is that risk-embedded strategy formulation is to be associated with higher levels of risk management maturity. It is thus expected that respondent organisations would confirm to have reached high levels of risk management maturity, typically associated with reaching full integration of risk management into business activities.

The four statements in Table 6.3 were presented to respondents towards obtaining insight into their risk management maturity levels. With regards to the first risk maturity statement, "My organisation has yet to apply risk management to the majority of organisational activities", it was found that respondents from the non-university organisations generally disagreed, while university responses were between agreement and disagreement. Both statistical tests provided p-values of less than 0.025. The null hypotheses were thus rejected in favour of the alternative hypotheses. This means that the group response from higher education participants differs significantly from the group response from the other respondents with regards to opinions about the first statement.

The second statement, "My organisation is applying risk management to day-to-day operational activities", aimed to establish whether respondent organisations have matured towards one of the basic levels of risk management maturity, thus applying risk management to day-to-day organisational activities. The findings show that the university respondent group's responses varied between unsure and agree, while the other group's responses varied between agree and strongly agree. The p-values as calculated were yet again less than 0.025, thus leading to the rejection of

the null hypothesis in favour of the alternative hypothesis. Therefore, it can be concluded that fewer university respondents are of the opinion that their organisation has matured towards this level of risk management maturity.

The third statement, “My organisation applies themes of risk management...” aimed to establish whether respondent organisations have matured to the level of applying risk management themes. This represents a higher maturity level than the previous and is in line with maturing towards fully integrating risk management in all strategic and operational activities. Responses from the higher education group varied between unsure and agree, while responses from other organisations varied between agreeing and strongly agreeing. The p-values as calculated were yet again less than 0.025, denoting that the zero hypothesis was to be rejected in favour of the alternative hypothesis. There was thus a significant difference between the group responses of the two groups.

The fourth statement regarding risk maturity level, “At my organisation strategy formulation and risk management are treated as complementary managerial functions”, was aimed at establishing to what extent participant organisations had matured to the highest maturity level, being risk management fully integrated on strategic and operational level. The university group’s responses varied between disagree and unsure, while the other group’s responses varied between unsure and agree. As in the previous statement, the p-values were calculated to be less than 0.025, meaning that the null hypothesis was to be rejected in favour of the alternative hypothesis. It can thus be concluded that there are significant differences between the responses of the two groups.

In summary thus, it can thus be concluded that responses of universities respondents to risk maturity statements differ significantly from responses from the other participating sectors. In Section 1.8.1, it was stated that the US-based Association of Governing Boards of Universities and Colleges, (AGB, 2009:2), found universities lagging behind the private industry regarding risk management. This study came to the finding that universities in South Africa are lagging behind non-university counterparts regarding risk management maturity levels.

#### **6.4.3 Part 2: Findings in support of the principle of embedding risk in strategy**

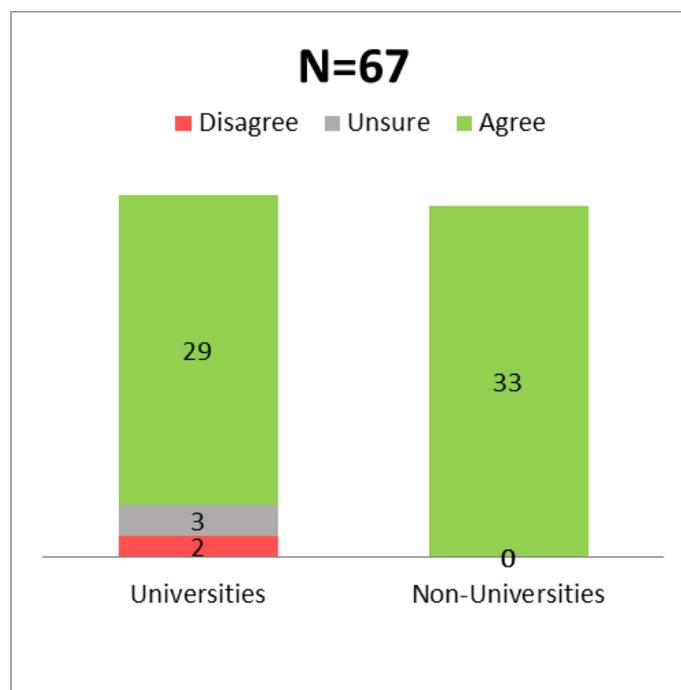
Respondents were presented with three statements regarding the principle of embedding risk management into strategy formulation. In the sections to follow, the findings are presented graphically, followed by a table summarising the findings, along with the outcomes of the hypotheses’ test results.

##### ***6.4.3.1 Strategy without risk management puts strategy realisation at risk***

Respondents were required to state their level of agreement with the statement that strategy formulation in the absence of risk management could put strategy realisation at risk. The question was aimed at testing the acceptance of the principle that risk management needs to be embedded into strategy to prevent unforeseen risk events during strategy execution. The findings are illustrated in Figure 6.10.

According to the responses, all 33 (100%) of the other respondents agreed that strategy formulation in the absence of risk management puts strategy at risk. This was also confirmed by the literature review in Section 4.4 that risk management needs to be applied in strategy setting. Most university respondents (29 respondents or 85%) also agreed, while two (6%) university respondents disagreed and three (9%) were unsure.

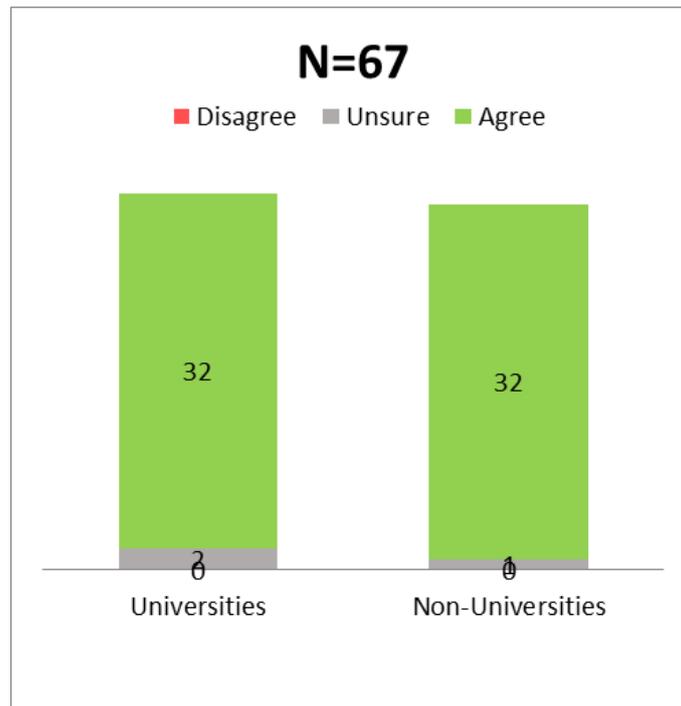
It can thus be concluded that risk management does not only complement strategy, but the absence of risk management could expose strategy to unforeseen risk events that could jeopardise strategy realisation. Consequently, by following a strategy formulation process without risk management steps embedded, an organisation would not be capable of identifying and managing the risks potentially associated with the strategy and objectives.



**Figure 6.10: Strategy without risk management puts strategy at risk**

#### **6.4.3.2 The value of embedding risk management in strategy**

Respondents were required to indicate to what extent they agreed with the statement that risk management embedded in strategy would add value to strategy. The findings of this statement are presented in Figure 6.11.



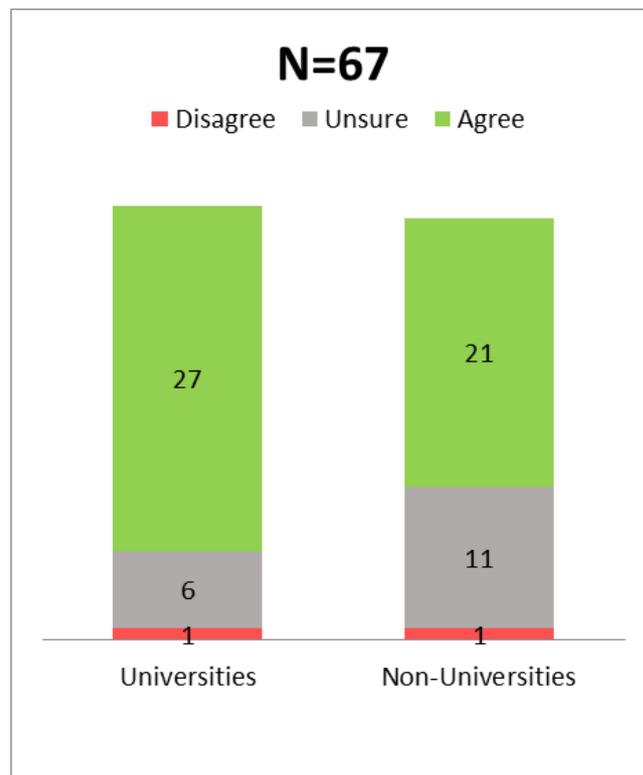
**Figure 6.11: Embedded risk adds quality and sustainability to strategy**

Figure 6.14 indicates that 32 (97%) of other respondents and 32 (94%) of university respondents agreed with the statement, confirming that all the respondents agreed that risk management needs to be embedded in strategy formulation. Consequently, it can be concluded that it is imperative for risk management to be integrated into strategy formulation processes, as stated in the COSO (2004:14) risk management definition, namely that "...risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise...".

The large support for the principle that risk management needs to be embedded in strategy, serves to demonstrate the acceptance and the relevance of a risk-embedded strategy formulation approach.

#### **6.4.3.3 Risk-embedded strategy formulation is in the best interest of organisations**

The aim of this third statement regarding principle support for risk management embedded into strategy formulation was to offer a further and final opportunity to respondents to express their opinion on the value-adding characteristics of the proposals made towards a risk-embedded strategy formulation process. In conclusion thus far, respondents supported the notion in principle that risk management needs to be embedded in the strategy process. The findings of this statement are presented in Figure 6.12.



**Figure 6.12: Risk-embedded strategy is in the best interest of the organisation**

It was found that 21 (64%) other respondents agreed, while 11 (33%) were unsure and one (3%) disagreed. In spite of the prior findings leading to the conclusion that universities are lagging behind other organisations with regards to reaching higher risk management maturity levels, a large majority of 27 (79%) of the university respondents indicated that the embedding of risk management is in the best interest of their organisations. Only six (18%) university respondents were unsure, while one (3%) disagreed.

These results could thus be interpreted to conclude that all the respondents support the risk-embedded strategy formulation process as proposed, and this support its value-adding characteristics. The advantages of using the process as proposed in Section 4.4 is that it was developed from generic strategy formulation and risk management processes and is thus applicable to a wide variety of organisations from South African universities to other businesses.

More advantages of applying this process is that it is a simple cyclical process following a logical order and combining complementary steps of two processes into single steps. There is thus no duplication of activities. It also incorporates the utilisation of risk appetite setting and risk tolerance levels into strategy formulation processes.

One of the objectives of this study (Section 1.5) was to compare the responses of the two sample groups. The findings in support of the overarching principle to embed the risk management into the strategy formulation, are summarized in Table 6.4 below.

**Table 6.4: Inter-group comparisons about the principle of embedding risk management into strategy formulation**

No	Statements	Responses varying between:		F-test	Mann-Whitney	Conclusion
		Other	Universities	p-values		
5	"Strategy formulation in the absence of risk management is putting strategy realisation at risk."	Agree→Strongly	Agree→Strongly	p=0.56	p=0.81	Accept H <sub>0</sub>
6	"Risk management will add value to the quality and sustainability of your organisational strategy, if risk management steps are embedded within the strategy formulation process."	Agree→Strongly	Agree→Strongly	p=0.81	p=0.95	Accept H <sub>0</sub>
7	"A risk-based strategy formulation process is in the best interest of the organisation, and it should be pursued by all organisations."	Agree→Strongly	Agree→Strongly	p=0.22	p=0.18	Accept H <sub>0</sub>

Source: Researcher compiled from questionnaire data.

Respondents were presented with three statements aimed at establishing support for the principles of embedding the risk management process into the strategy formulation process. The general responses of both groups of respondents to all three statements varied between agree and strongly agree. The p-values as calculated were higher than 0.025, thus guiding the way towards not rejecting the null hypotheses. It can thus be concluded that both the university respondent group and the other respondent group agreed with the principle that the risk management process needs to be embedded into the strategy formulation process.

The order of activities and combination of similar complementary steps of the risk management and strategy formulation processes were tested. These steps where activities were combined or the sequence thereof proposed, represents the key elements of the proposed process that was subjected to opinion testing. These results are discussed in the next sections.

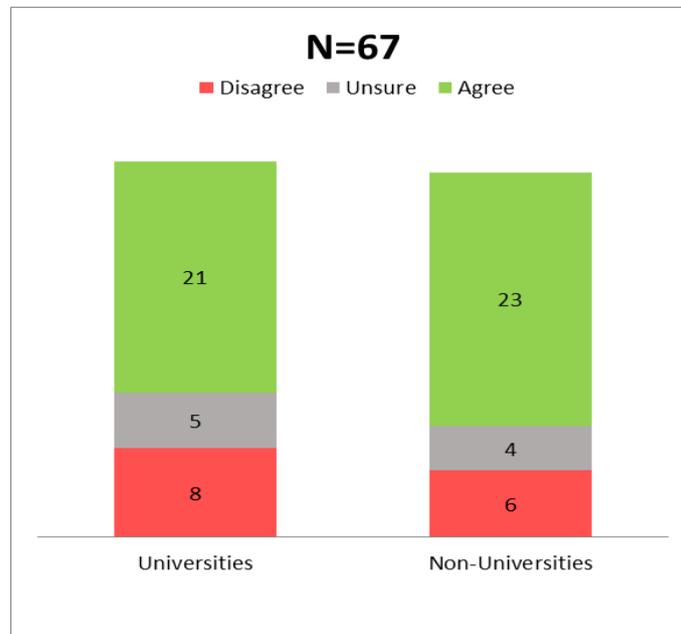
#### **6.4.4 Part 3: Findings in support of key elements underlying the proposed risk-embedded strategy process**

The previous parts of the findings served to set the context for the part to follow. In this part of the findings, the support for elements of the proposed risk-embedded strategy process are presented. Complementary to the establishment of support for the key elements, respondents were also requested to indicate to what extent their organisations applied these elements. The inter-group comparisons of findings and results from the hypothesis testing are presented at the end of the section.

##### **6.4.4.1 Integrating strategy environmental assessment and risk context establishment**

The respondents' opinions were asked to establish whether the environmental assessment step of the strategy process and the risk context establishment step of the risk management process could be combined. The aim of this statement was to test the acceptance of the combination of two similar activities into one, as proposed in Section 4.4. According to the literature review, it was found that the first step of the risk management process, referred to by ISO 31000 as "establishing the context",

is very similar in nature to the fourth step of strategy formulation, being “environmental assessment”. It was thus recommended in Section 4.4 that these steps are combined on grounds of their similarities and complementary nature. If not combined, the two separate steps could lead to the duplication of activities or even confusion. If combined, it would provide a single step focusing on identification of external and internal influences to the strategy and the risk context affecting it. The responses are presented in Figure 6.13.



**Figure 6.13: Environment assessment and risk context could be combined**

It was found that 23 (70%) of other respondents agreed that these steps could be applied in combination, while six (18%) respondents disagreed and four (12%) were unsure. In comparison, 21 (62%) university respondents agreed, while eight (24%) disagreed and five (15%) were unsure.

The fact that most of the respondents from both samples agreed with this statement confirms that the process of assessing the external and internal environment should incorporate the risk context. As stated in the literature review, this is an important step to identify the inherent risk exposures which the external and internal environments pose for the business and a successful strategy formulation. The findings thus suggest that this step should form part of a single combined step of the risk management embedded strategy formulation process.

It is thus concluded that risk context establishment and environmental assessment could be combined into a single step of the combined process.

#### 6.4.4.2 Organisations already integrating environmental assessment and risk context establishment

This question aimed to establish whether there were organisations that had identified the similarities and complementary nature, and had already simplified the strategy formulation and risk management by combining these steps.

Respondents were required to indicate whether they agreed with the statement that their organisation had integrated external and internal environmental assessment with the establishment of risk context.

Figure 6.14 shows the results of this question. It was found that 21 (64%) of other respondents agreed that their organisation already combined these steps, compared to 12 (35%) of the university respondents agreeing. Both groups had ten (approximately 30%) respondents unsure, while a very small portion of two (6%) other respondents disagreed. The primary difference between the group results is the fact that 12 (35%) university respondents indicated that their organisations did not combine these activities. It is thus concluded that the non-university respondents lead the way towards combining these steps and thus streamlining their risk-embedded strategy formulation process.

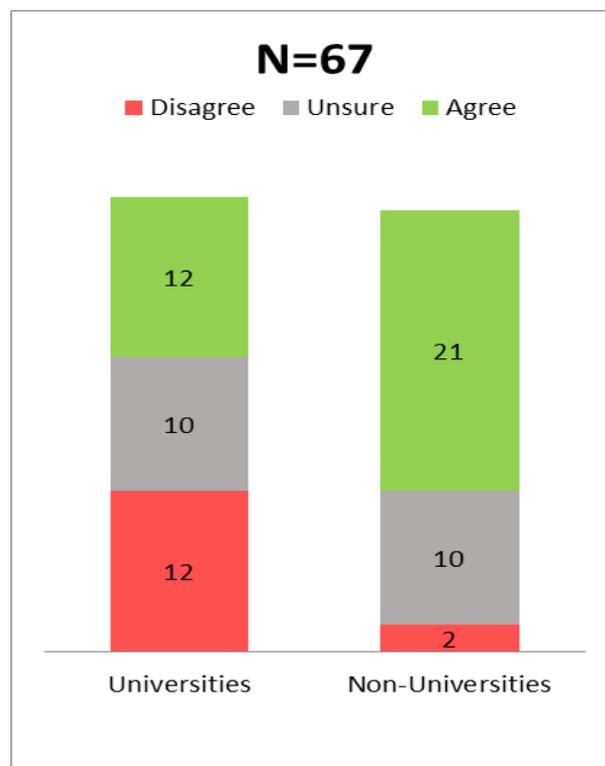


Figure 6.14: Organisations combining environmental assessment and risk context

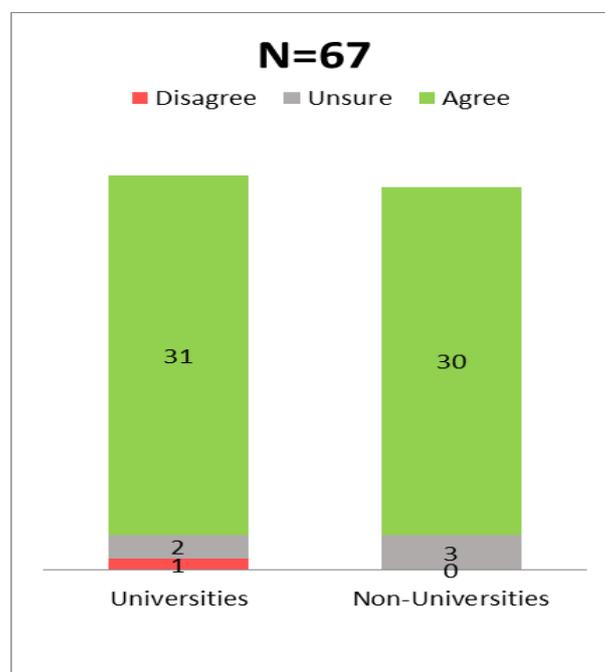
#### 6.4.4.3 Risk event identification prior to selecting strategic issues

This question tested respondents' level of agreement with the principle that risks related to strategic issues need to be identified and assessed prior to finalising the strategy, so that the identified risks could serve as decision-making input for the strategy to be set.

The aim was to establish the acceptance of the principle that the integration of risk event identification and assessment into the strategy formulation will add value to strategic decision-making. It also tested the acceptability of the sequence of events in the proposed process, whereby risks need to be identified and assessed prior to key issues being compiled into an organisational strategy.

In Section 4.4 of the literature study, it was concluded that the identification, analysis and evaluation of risks, which collectively form part of risk assessment, logically follow after the key issues had been identified, as each key issue entails a different combination of risks which need to be considered during decision-making. Only after the risks associated with each key issue have been considered, the optimal combination of key issues could be selected and combined into an organisational strategy.

The responses to this question thus confirm the positioning of risk assessment following after strategic issues, prior to strategy formulation. The findings of this statement are graphically presented in Figure 6.15.



**Figure 6.15: Risk assessment will improve strategic decision-making**

Both university respondents and other respondents had more or less the same results, namely that 31/30 (91%) of the respondents agreed with the statement that the integration of the risk assessment activities in the strategy formulation process, will improve the quality of the strategy.

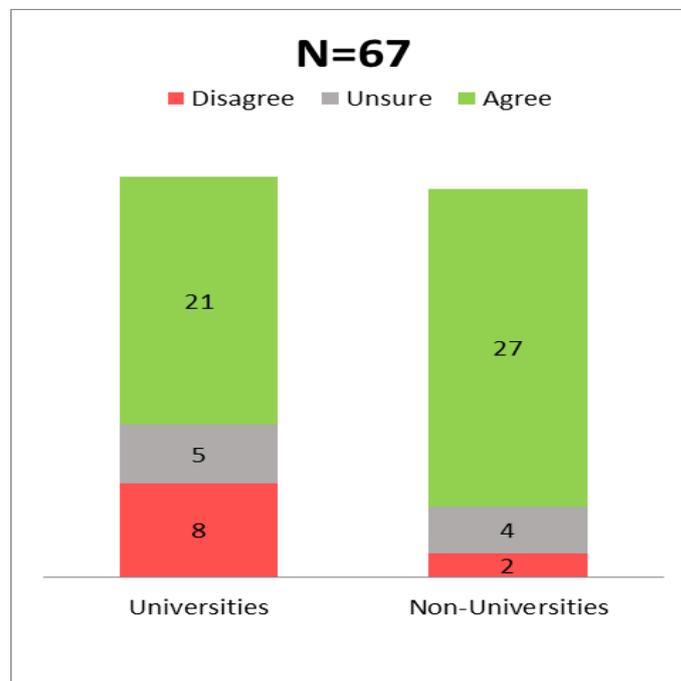
Two university respondents (6%) and three other respondents (9%) were unsure. Only one respondent from the university sample (3%) disagreed. These findings the recommended sequence of activities as set out in Section 4.4.

The essence of these findings is the confirmation that risks need to be identified and assessed prior to selecting the strategic issues, as the risks need to be used as decision-making tool when selecting strategic issues. Furthermore, these findings confirm that risks need to be identified and assessed following the establishment of the strategic issues, but prior to setting or finalising strategy, as proposed in Section 4.4. The proposed risk management embedded strategy process presented does thus not only propose the components of a combined process, but also recommends a logical sequence of activities for organisations to follow. The order of steps is thus recommended to universities in South Africa as well as other organisations striving towards a risk management embedded strategy formulation process.

#### **6.4.4.4 Organisations identifying risk events prior to selecting strategic issues**

This question required respondents to indicate to what extent they agreed with the statement that their organisations assessed the risks associated with different strategic issues prior to selecting the mix of strategic issues. The aim of this question was to establish whether respondents agreed with the principle of utilising risk assessment to inform the choice of strategic issues.

The findings of this question are presented graphically in Figure 6.16.



**Figure 6.16: Organisations identifying and assessing risks related to strategic issues**

Bryson (2004:44) stated that the fourth step of the strategy formulation process should be the consideration of all potential strategic issues and choice of a few focus issues. The chosen issues are then set as strategic goals and strategic objectives are set to reach these goals. It was proposed

in Section 4.4 that the risks associated with each potential strategic issue need to be assessed so that associated risks could be considered when selecting issues to be addressed via strategic objectives

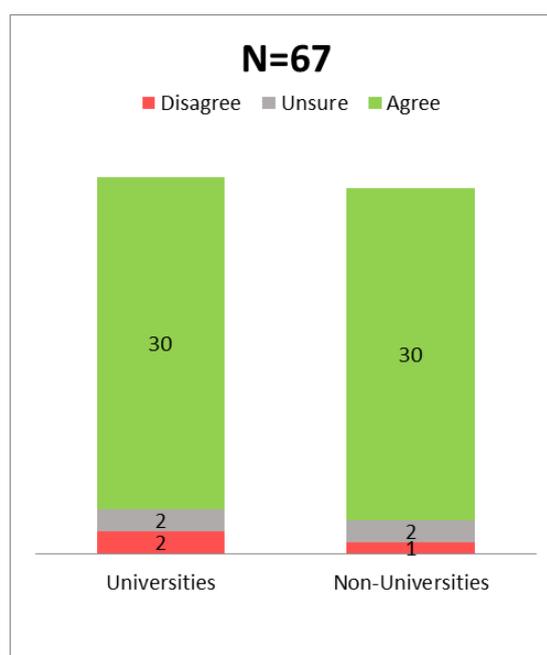
A majority of 27 (82%) of the other respondents and 21 (62%) of the university respondents agreed with this statement. Four (12%) other respondents and five (15%) university respondents were unsure. Only two (6%) other respondents disagreed, while eight (24%) university respondents disagreed. The large number of positive responses serves to confirm that the order of activities as proposed in Section 4.4 is essential to timeously identify and consider associated risks prior to selecting the strategic objectives of the strategy.

It can thus be concluded and recommended to universities in South Africa, as well as other companies in general, that they should consider the associated risks when choosing issues to be addressed via strategic objectives.

#### **6.4.4.5 Risk appetite setting is an important part of strategy setting**

Respondents were required to state whether they agreed with the statement that risk appetite setting is an important part of the strategy process, as it defines how much risk the organisation is willing to take when implementing their strategy.

This question aimed to test the acceptance of the inclusion of risk appetite setting into the strategy formulation process as proposed by Young (2010:186). Risk appetite setting was defined in Section 2.11 as a process of defining and approving the extent of risk an organisation is willing to take in the pursuit of value or in the pursuit of realising its strategy. Risk appetite setting adds qualitative value to the combined risk and strategy formulation process when integrated in the strategy process. The findings from this question are presented in Figure 6.17.



**Figure 6.17: Risk appetite setting is important for strategy formulation**

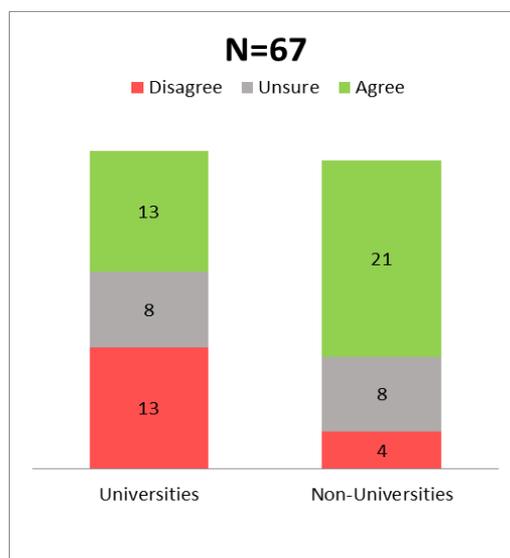
A majority of 30 (91% and 88%) respondents from each group agreed that risk appetite setting needs to be embedded into the strategy formulation process. Only two (6%) respondents from each group were unsure, while two (6%) university respondents and one (3%) other respondent disagreed.

It can thus be concluded that this question tested the acceptance of opinions that risk appetite needs to be part of strategy setting, while the literature review and especially Figure 2.9 make a valuable contribution to organisations in the form of a proposed process to integrate risk appetite setting into strategy formulation. This question tested the acceptance of the principle and the sequence of events for organisations to follow to obtain the benefits from risk appetite setting as part of strategy formulation. Therefore, it can be reasoned that risk appetite setting should be included as a step into an integrated framework of a strategy and risk management process. It is also recommended that organisations follow the principle and process to incorporate risk appetite setting as part of strategy formulation, as proposed in Section 4.4.

#### **6.4.4.6 Organisations' setting risk appetite as part of strategy formulation**

The previous section confirmed the principle that risk appetite setting is an important part of strategy formulation. Following from principle acceptance, this question aimed to establish the extent that participating organisations were applying risk appetite as part of strategy formulation. The sequence of activities as graphically presented via Figure 4.3, is a proposal of how organisations can apply risk appetite setting to strategy formulation.

In Section 2.11 the roles and responsibilities of senior officials regarding risk appetite setting were presented. This section stated that the board of directors, CEO, CRO and members of executive management all have specific roles toward appetite setting. The fact that a majority of participating organisations do apply risk appetite to strategy, supports the principle in Section 2.11 that risk appetite setting enhances the value of organisational strategy. The responses to this question are presented in Figure 6.18

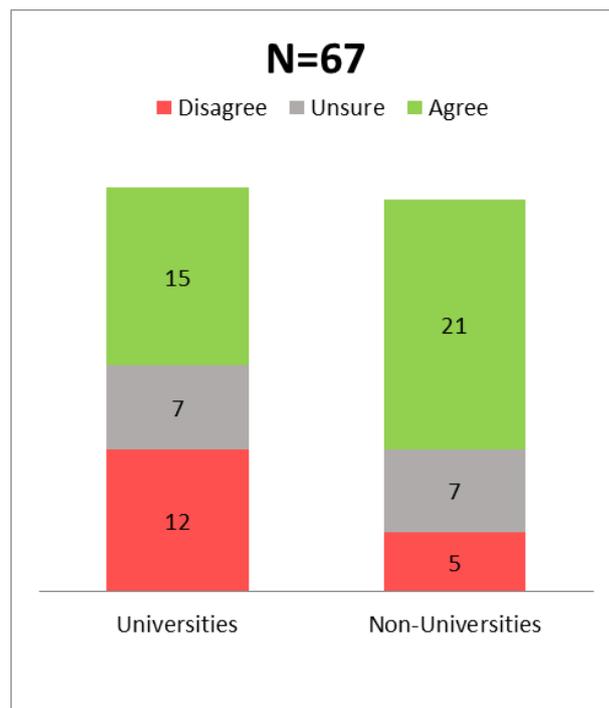


**Figure 6.18: Organisations formulating risk appetite as part of strategy**

It was found that 21 (64%) of other respondents agreed with the statements, while eight (24%) were unsure and four (12%) disagreed. In comparison, the number of university respondents who agreed (13 or 38%) was the same as those not agreeing. Eight (24%) university respondents were unsure. The value added by this study is that the process proposed in Section 2.11 and Section 4.4 provides guidance towards embedding risk appetite setting into strategy formulation.

#### **6.4.4.7 Organisations applying risk tolerance complementary to risk and strategy**

The study required the respondents to state whether they agreed or disagreed with the statement that their organisation utilises risk tolerance levels to ensure that risk exposure remains within acceptable pre-set maximum and minimum levels. The aim was to establish whether organisations do use risk tolerance levels in support of risk appetite, as was proposed in Section 2.11.2 of the literature study. Here it was concluded that while risk appetite supports objectives, risk tolerance levels provide the quantified levels for operating within the set risk appetite. Furthermore, in Section 2.11.2 it was stated by Young (2010:186) that risk appetite serves as a link between operational risk management and strategy formulation. The findings to this question are presented in Figure 6.19.



**Figure 6.19: Organisations utilising risk tolerance levels in support of strategy**

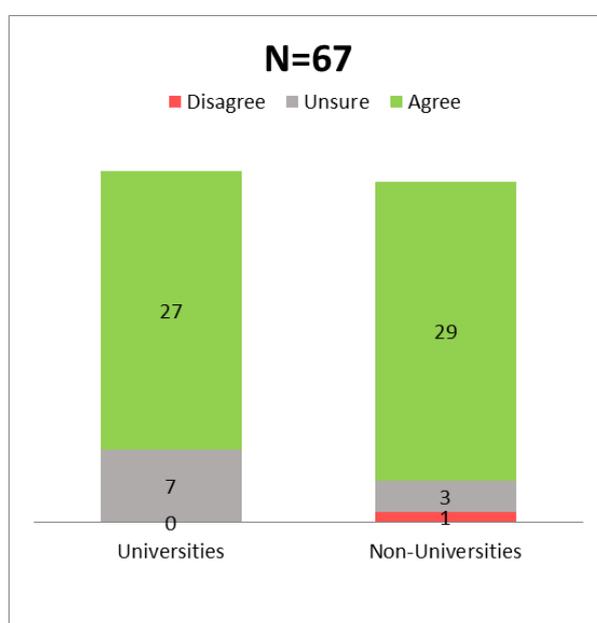
Twenty-one (64%) of the other respondents agreed, while five (15%) disagreed and seven (21%) were unsure. The difference between university responses and other responses was that more university respondents (12 or 35%) disagreed with the statement that their organisation reaps the control benefit of using risk tolerance as a management tool.

It can thus be concluded that less than half of the respondents' organisations do use risk tolerance to ensure that risk exposure is within acceptable levels. It can thus be recommended to those

organisations not reaping benefit from risk tolerance as management and control function to follow the lead of those organisations that are utilising this tool.

#### 6.4.4.8 *Benefits of simultaneous implementation of strategy and risk mitigation plans*

Respondents were required to indicate to what extent they agreed or disagreed that the simultaneous application of risk mitigation plans and strategy execution plans, would ensure effective achievement of strategic objectives. This was done to test respondents' support of the principle proposed in Section 4.4 that strategy implementation action plans and risk treatment action plans or risk mitigation plans should be executed simultaneously. This principle was proposed as the ninth step of the proposed risk-embedded strategy formulation process. The answers from respondents are presented in Figure 6.20.



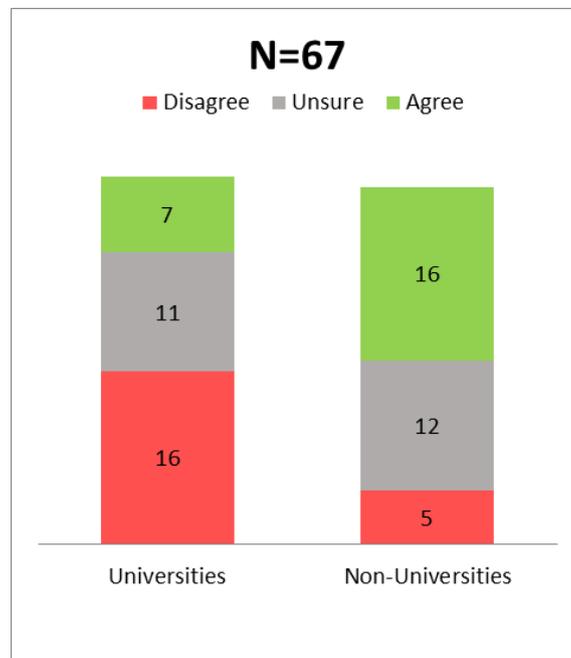
**Figure 6.20: Simultaneous application of strategy and risk mitigation plans**

A majority of 29 (88%) other respondents and 27 (79%) university respondents supported this principle. Only three (9%) other respondents and seven (21%) university respondents were unsure. Only one (3%) of the other sample disagreed. According to the responses, it can be concluded that risk mitigation plans and strategy action plans should be executed simultaneously. The proposed ninth step of the risk management embedded strategy formulation process as presented in Figure 4.3, is thus found to be a crucial step in an integrated process.

#### 6.4.4.9 *Organisations simultaneously implementing strategy and risk mitigation plans*

The previous section confirmed the acceptance of the principle that strategy plans and risk mitigation plans need to be complementary plans applied simultaneously. In this section respondents were required to indicate to what extent they agreed or disagreed that their organisations were applying these plans simultaneously. The aim of this question was to test the acceptance of the recommendation in Section 4.4 that core role-players such as the board of directors, the members

of executive management, as well as line managers have to ensure that risk mitigation plans and strategy actions plans are executed simultaneously to enhance the complementary nature of these plans. It was already confirmed in the previous section that the principle of a combined approach should be followed. The findings of this section, as presented in Figure 6.21, indicate to what extent this is done in practice.



**Figure 6.21: Organisations simultaneously applying strategy and risk plans**

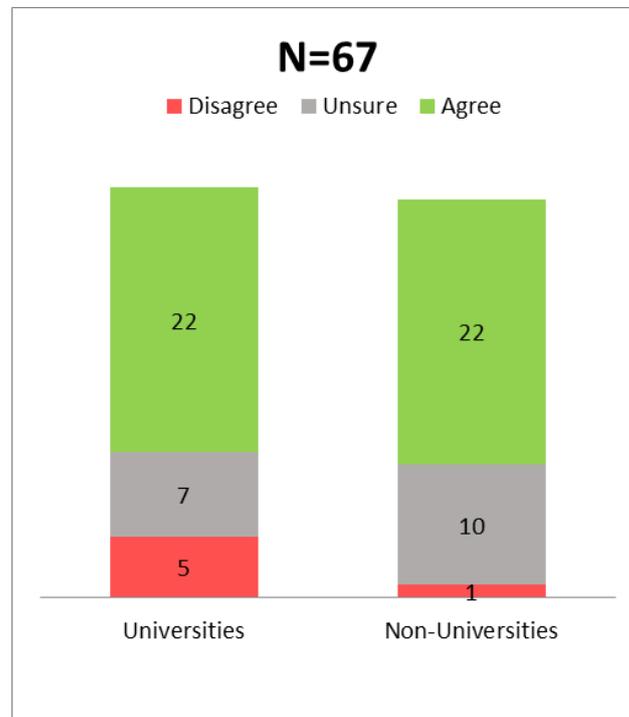
Sixteen (48%) other respondents agreed with this statement, while 12 (36%) were unsure and five (15%) disagreed. In comparison, only 7 (21%) university respondents agreed with the statement, while 11 (32%) university respondents were unsure and just 16 (47%) disagreed.

The complementary application of strategy action plans with risk mitigation plans should thus be a strong recommendation to organisations that do not yet combine these activities in order to embed risk management into strategy formulation and thereby reap the advantages of a risk-embedded strategy. These advantages include the consideration of the risk context during the environmental assessment, choosing the strategic issues to be addressed with knowledge of the potential risk exposure of the different issues, identification and assessment of these risks affecting the strategy and simultaneously applying risk and strategy mitigation plans and reviewing activities.

#### **6.4.4.10 Combining strategy and risk review and adaptation**

This study sought respondents to express their opinion on the combination of two more risk management and strategy formulation steps. Respondents were required to indicate to what extent they agreed or disagreed with the statement that reviewing and adaptation of strategy should be combined with monitoring and review of risk management plans.

It was concluded in Section 4.4 that the steps of strategy review, re-assessment and adaptation and reviewing of risk exposure and risk plans should be done at the same time. This question thus sought to test the level of acceptance for the principle that these two steps should be combined into one. The findings are presented in Figure 6.22.

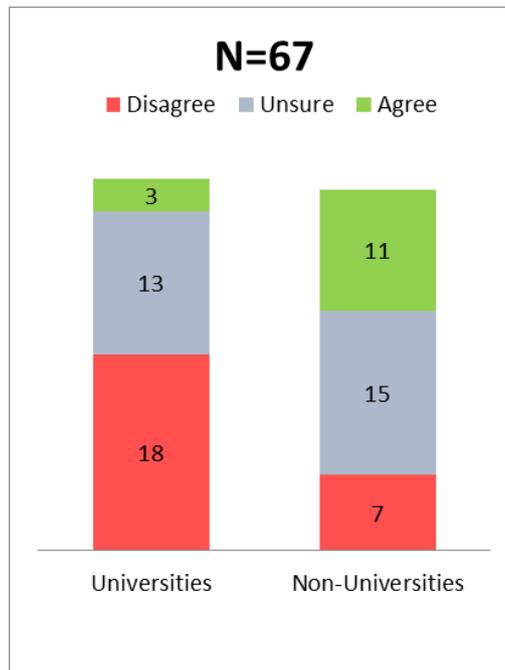


**Figure 6.22: Simultaneous review and adaptation of risk and strategy**

In both samples, 22 (65% and 67% respectively) respondents agreed with the statement. Ten (30%) other respondents were unsure, while seven (21%) university respondents were unsure. Five (15%) university respondents and one (3%) other respondent disagreed. The combined tenth step of the risk-embedded strategy formulation process, as proposed in Section 4.4 was thus supported by the respondents. Therefore, it can be concluded that the combined application of (1) review and adaptation of strategy action plans, (2) monitoring and review of risk mitigation plans and (3) re-assessment and review of the whole process was supported by a majority of respondents.

#### **6.4.4.11 Organisations combining strategy and risk review and adaptation**

As in previous questions, the study did not only test support for principles, such as combining steps in the previous section, but also to establish whether respondents' organisations were combining the activities as proposed in Section 4.4 where the risk-embedded strategy formulation process was presented. If there is feedback from a majority of respondents that their organisations do combine the strategy review activities with risk management monitoring and review activities, those organisations not yet combining these steps, should do so, as proposed in Section 4.4. The findings are presented in Figure 6.23.



**Figure 6.23: Organisations reviewing risk and strategy plans simultaneously**

The outstanding finding from this statement is the large portion of respondents indicating that they were unsure if their organisation combined these activities. Thirteen (38%) university respondents and 15 (45%) other respondents were unsure. Only three (9%) university respondents agreed, while 11 (33%) other respondents agreed. A majority of 18 (53%) university respondents disagreed, while seven (21%) other respondents disagreed.

It could thus be concluded that the review and adaptation of both the processes need to be embedded. This is even more relevant with the risk-embedded strategy process as proposed in Section 4.4. It should thus be recommended to SA universities to review and adapt all the outcomes of the risk-embedded strategy process simultaneously, as it needs to be a comprehensive single process. The value it entails for organisations and especially SA universities is that the information obtained via review, will be available to adapt both strategy and risk appetite setting.

In this section, respondents were presented with statements establishing support for the principles underlying the proposed risk-embedded strategy formulation process. These statements and findings are presented in Table 6.5 below.

In Section 6.5, the support for these statements by all respondents was presented. This section focuses on differences or similarities between the responses of the two groups, namely university respondents and non-university respondents. As described in previous sections, the p-values were calculated to guide the rejection or non-rejection of the null hypothesis.

Responses from university respondents varied between unsure and agree to the statement regarding the combination of strategy environment assessment with risk context establishment. With a p-value calculated and found to be higher than 0.025, the null hypotheses could not be rejected, meaning that there is sufficient evidence to be found that the groups' responses correspond.

**Table 6.5: Inter-group comparisons of support for risk-embedded strategy formulation principles**

No	Statements	Responses varying between:		F-test	Mann-Whitney	Conclusion
		Other	Universities	p-values		
8	"The strategy formulation step of assessing the internal and external environment and the risk management step of establishing the risk context could be combined into one step, as these activities are similar in nature."	Unsure→Agree	Unsure→Agree	p=0.56	p=0.67	Accept H <sub>0</sub>
9	"Once strategic issues have been identified, identifying and assessing risk exposures will guide the strategic decision making process."	Unsure→Agree	Unsure	P=<0.01	p<0.01	Reject H <sub>0</sub>
10	"Risk appetite setting is an important part of the strategy process as it defines how much risk to be taken to execute the strategy."	Agree→Strongly	Agree→Strongly	p=0.2	p=0.17	Accept H <sub>0</sub>
11	"Strategy action plans and risk mitigation plans could be executed simultaneously, as they are complementary activities."	Agree→Strongly	Agree	p=0.1	p=0.09	Accept H <sub>0</sub>
12	"Strategy re-assessment and review could be executed simultaneously with the step of the risk review and adaptation as they are similar activities."	Agree	Agree	p=0.83	p=0.56	Accept H <sub>0</sub>

Source: Researcher compiled from questionnaire data.

The inter-group responses to the three remaining statements were found to be very similar. Respondents from both groups agreed or agreed with the principle that risk appetite setting makes an important contribution to risk management as well as strategy formulation. With a p-value larger than 0.025, the null hypothesis could not be rejected, meaning that the groups' responses were equal.

Respondents from the university sector agreed with the principle of executing strategic and risk plans simultaneously, while responses from other respondents varied between agree and strongly agree. With a p-value of 0.1, there is sufficient evidence to be found not to reject the null hypothesis. The inter-group responses are thus similar. University respondents as group agreed with the principle of reviewing, re-assessing and adaptation of strategy and risk plans simultaneously. The group responses of the other group also generally agreed with the principle. With a p-value of 0.83, the null hypothesis was not rejected, denoting that the responses of the two groups are equal.

In conclusion thus, group responses to the principles underlying the risk-embedded strategy formulation process as proposed, varied between unsure and strongly agree. It is noticeable that there are no group responses that disagree with any of these statements. The relevance of this part is that, not only did respondents as a single group agree with the underlying principles, but when respondents were separated into two groups, the groups' responses were equal, accept for the response to the principle regarding risk event identification following strategy issue selection. It must be noted that respondents did not disagree with the principle, but that other respondents as a group were more in agreement with this principle than university respondents, resulting in inter-group responses not being equal.

In the next section, findings from inter-group opinions about the adherence to the principles above, are presented.

In the previous section the support for the principles underlying the proposed risk-embedded strategy formulation process was presented and inter-group responses were compared. This final section deals with adherence to the same principles, rather than their supporting principles.

**Table 6.6: Opinions about adhering to the principles**

No	Statements	Responses varying between:		F-test	Mann-Whitney	Conclusion
		Other	Universities	p-values		
13	"My organisation has integrated risk management into strategy formulation by identifying and assessing the risk context when assessing the internal and external strategic factors."	Unsure→Agree	Unsure	P=<0.01	p<0.02	Reject H <sub>0</sub>
14	"My organisation identifies and assesses potential risks and opportunities associated with different strategic issues, as part of strategic decision making."	Agree	Unsure-Agree	p=0.01	p=0.03	Reject H <sub>0</sub>
15	"My organisation utilises risk appetite as part of strategy formulation."	Unsure→Agree	Unsure	P=<0.01	p<0.01	Reject H <sub>0</sub>
16	"My organisation implements strategy plans and risk mitigation plans simultaneously."	Unsure→Agree	Disagree→Unsure	P=<0.01	p<0.02	Reject H <sub>0</sub>
17	"My organisation conducts re-assessment and review of strategic plans at the same time as reviewing and adaptation of risk management plans."	Unsure→Agree	Disagree→Unsure	P=<0.01	p<0.01	Reject H <sub>0</sub>

Source: Researcher compiled from questionnaire data.

The support by two samples of respondents for the key elements underlying the proposed risk-embedded strategy formulation process, served as basis for recommending the proposed process to universities and other organisations. In this section, the inter-group application of the elements are presented.

Respondents from universities were generally unsure about the statement regarding collectively doing environmental assessment and risk context establishment. In the previous section, it was stated that general support for this statement varied between unsure and agree.

When responses as presented in Table 6.6 are reviewed holistically, it can be concluded that there was more support for the principles than adherence thereto. The inter-group responses point to the finding that university respondents were less sure about their institutions adhering to the principles than other respondents.

The overall finding from this last section as summarised in Table 6.6 is that both groups' responses to the statement about application of the elements were less certain than the general support for the principles. Respondents thus supported the underlying elements in principle, but were not so confident that their organisations were applying it. The p-values for the inter-group responses were calculated and in all cases, were found to be less than 0.025. In all cases the null hypotheses were thus rejected in favour of the alternative hypotheses, meaning that sufficient evidence could not be found that group responses were equal.

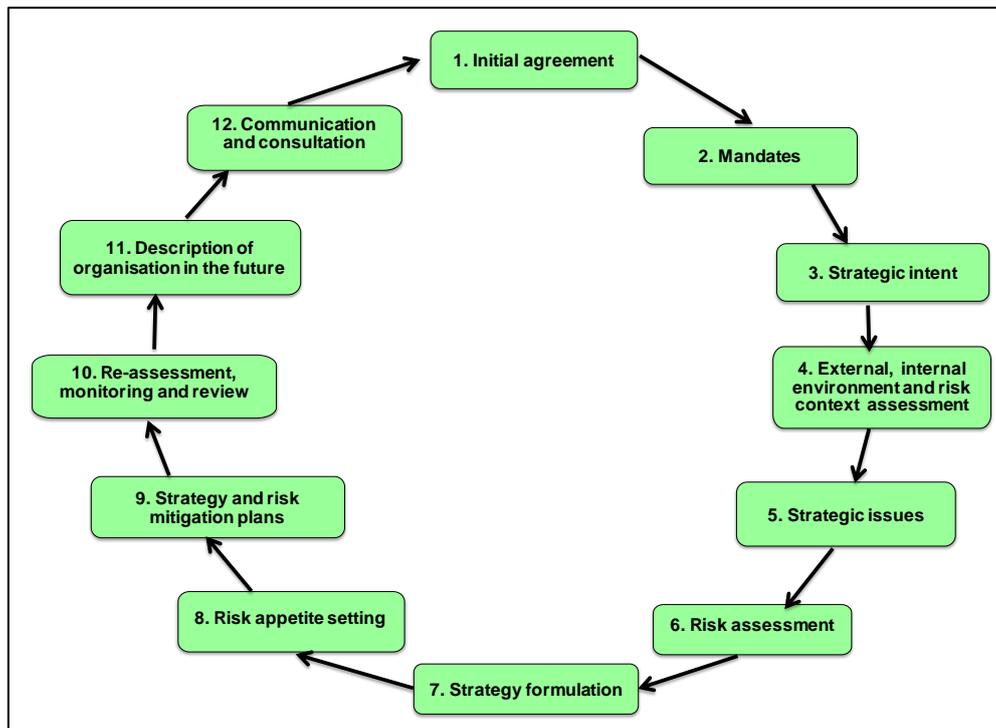
This outcome yet again points towards the difference between university respondents and other respondents. This inter-group comparison confirms the findings in previous sections and in the literature that universities are lagging behind other sectors regarding the application of risk management.

## **6.5 SUMMARY**

This chapter contains the answers of a sample of 67 respondents to statements aimed at testing the acceptability of the risk-embedded strategy formulation process proposed in Chapter 4. This twelve-step process was compiled from a generalist strategy formulation process as well as the steps of the ISO 31000 risk management framework, as reviewed in Chapter 2. This process is graphically depicted in Figure 4.4 and, for ease of reference, in Figure 6.24 below.

The process developed from the literature reviewed in Chapter 2 and Chapter 3 was presented in the form of a cyclical twelve-step process in Chapter 4. The acceptability of this process was tested and confirmed via responses to a questionnaire obtained from 67 respondents. Respondents had the opportunity to state their level of agreement with statements that had been construed from findings in earlier chapters and based on the literature review. If they agreed to these statements, it meant that they supported the findings and thus supported the recommendations to be made in the final chapter towards a risk-embedded strategy formulation process.

The majority of respondents found all the principles to be acceptable. However, in spite of the acceptability of the principles, it was found that the respondents' organisations applied the principles to a lesser extent; this can be interpreted that organisations are still in a process of development when it comes to an integrated strategy and risk management process.



**Figure 6.24: Summary of the risk-embedded strategy formulation process**

Source: Researcher compiled from sources reviewed.

## 6.6 CONCLUSIONS

In this section, the conclusions are summarised to serve as a platform for the next chapter, being the overall concluding recommendations following from this research. The summary of conclusive findings from this study is the following:

- An exploratory study of strategy formulation processes did not produce examples of risk [management process] embedded strategy formulation processes in the literature reviewed for use by organisations. Although it is acknowledged that there might be such processes, this study contributed to the existing body of knowledge by the development and presentation of such a process.
- The generic strategy formulation process as proposed by Bryson (2004:44) as well as the ISO 31000 risk management process (2009) as adapted were chosen to be the two processes to be integrated into a risk management embedded strategy formulation process. These two processes were chosen from several options on grounds that they were comprehensive, not overcomplicated, yet also generic in nature. It is acknowledged that these processes are not the only processes that could have been used and that these processes are not free from criticism.
- It was concluded that the demographic characteristics with reference to (1) the number of respondents, (2) their current positions in their organisations, (3) their years of service, their exposure (4) to risk management and (5) to strategy formulation contributed toward their

inputs being accepted as meaningful for making conclusions from their collective and inter-group responses.

- As stated in the literature, the Global Strategic Management Institute (GMSI) conducted research for the Association of Governing Bodies of Universities and Colleges in the UK and found that university were lagging behind the private sector with the application of risk management on a strategic level (GMSI, 2009). A similar finding was made from the responses to the statement: “My organisation has yet to apply risk management to organisational activities”. Section 6.5 illustrated that less than four percent of respondents from other sectors agreed with this statement, while half of the respondents from the higher education sector agreed or strongly agreed with this statement. It can thus be concluded from this study that university in South Africa are generally lagging behind other organisations regarding the application of risk management to operational and potentially strategic activities.
- It was found that a large proportion of all the respondents agreed that their organisations applied some themes of risk management, but the group findings of university respondents were found to be different from other respondents. It is thus concluded that in spite of the general finding that most respondent organisations applied some themes of risk management, university respondents were more unsure or agreed to a lesser extent than other respondents, as summarised in Table 6.3.
- It was found from the inter-group comparison of responses to the four statements regarding risk maturity level that organisations had reached varying levels of risk management maturity, but that there is a difference between the maturity levels of universities when compared to other group. It was furthermore found and concluded that universities lag behind other sectors regarding risk management maturity.
- From the findings regarding respondents’ opinions about the principle of embedding risk management into the strategy formulation process, it was concluded that all respondents agreed or strongly agreed with the principles. It was furthermore found from the inter-group comparison that the group responses of university respondents were similar to the group responses of other sectors. There was thus strong support for the principle of embedding risk management into strategy formulation by all respondents collectively as well as separately. It is thus concluded that strategy formulation in the absence of risk management is putting strategy realisation at risk, that risk management embedded into strategy formulation adds value to the organisation and that a risk-embedded strategy is in the best interest of the organisation.
- It was found that the majority of respondents agreed with the principle of combining risk context establishment with environmental assessment. It was furthermore found that the two groups’ responses to this principle were similar. Although there was some uncertainty, the majority of respondents agreed with this principle. In spite of the majority in agreement, it was found that a lesser portion of respondents indicated that their organisations reap the benefits from

complementary application of these activities. There were no difference found when inter-group differences in responses were calculated.

- A majority of respondents supported the principle that risk assessment should slot in after strategic issues had been selected. In spite of the support for this principle, a smaller portion of respondents indicated that their organisation apply this principle. It was furthermore found during an inter-group comparison of responses that the group responses from universities differed from the other group's responses in the sense that university respondents were more unsure about this principle than the other respondents.
- Respondents were in favour of applying risk appetite to strategy formulation. In spite of the principle support, a lesser proportion of respondents (53%) indicated that their organisations applied risk appetite setting and risk tolerance levels towards strategy formulation. The inter-group comparison was found to be equal; thus no major differences in opinions existed between university and other respondents.
- The majority of respondents agreed with the principle of simultaneously applying risk mitigation plans and strategy plans. A far lesser portion indicated that their organisation applied these plans simultaneously. The inter-group comparison of responses to the principle was found to be similar; thus no difference in opinions about the principle. However, the inter-group comparison of adherence to this principle pointed towards a difference between university respondents and other respondents. In summary thus, while most agree with the principle, lesser proportions applied the principle and universities applied the principle to a lesser extent than other sector respondents.
- The findings regarding the combination of review, re-assessment and adaptation of risk and strategy plans were similar to the other opinions on combining activities. Strong support was found for the principle, but only a few respondents indicated that their organisations simultaneously applied these activities. Furthermore, the inter-group comparison of responses proved that university responses were equal to other responses. Both universities and other organisations will thus benefit from simultaneously applying these activities.
- Regarding the combination of similar and complementary activities, the majority of respondents supported the combined application of the following three steps, namely: (1) review and adaptation of strategy action plans; (2) monitoring and review of risk mitigation plans; and (3) re-assessment and review of the whole process. However, in spite of the principle support for combining these activities, they were not combined in practice.

In general, the above conclusions could collectively be interpreted that the respondents supported the risk-embedded strategy formulation process as proposed graphically in Figure 6.24 above. In spite of the principle support, it was found that fewer organisations reap the benefit of applying these principles.

The next chapter provides the recommendations and confirms the value of this study regarding an integrated approach to strategy and risk management.

## CHAPTER 7

### OVERALL SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 7.1 INTRODUCTION

During the past two years, since September 2015, most universities in SA have been in turmoil of demonstrations, unrest, violence and financial challenges. These events serve as confirmation of the nature and extent of the risks faced by SA universities and the necessity of risk management required by them. Furthermore, it was stated in Section 1.3 that higher education institutions are lagging behind the private sector with the application of risk management on a strategic level (GMSI, 2009). This final chapter presents the recommendations following the conclusions offered in the previous chapters. In the first part of this chapter, the problem statement, aim of this study, the objectives, research question and significance of the study are revisited, followed by a summary of the key findings and final recommendations. The chapter then concludes with a review of the contribution of this study, the limitations and possible topics for further research based on the research of this study.

#### 7.2 REVISITING THE RESEARCH PROBLEM AND OBJECTIVES

##### 7.2.1 Problem statement

In the first chapter, it was pointed out that the risk management definitions by COSO (2004:4) and the King III Code (IODSA, 2010) stated that risk management needs to be “applied in strategy”. The theory of risk management was reviewed and documented in Chapter 2. The risk management process as well as the key role-players and their responsibilities were reviewed.

In Chapter 3, an exploratory sample of strategy formulation processes was reviewed, but none of the processes reviewed provided insight or guidance towards embedding the risk management process into the strategy formulation process.

The potential absence of embedding risk management into strategy processes was also identified by Noy and Ellis (2003:691), who found that risk management is a “neglected component of strategy formulation”. They argued that, although risk managers acknowledge risk as an important component of strategy, strategy managers are not inclined to use risk management as a tool to enhance strategy models. This finding was confirmed again in the findings of this study and is presented in Chapter 6.

The research problem indicated that a complementary or embedded relationship between risk management and strategy formulation was not prevalent in the sample of strategy formulation processes reviewed.

In order to promote, guide and support the embedding of the risk management process into the strategic formulation process, the generic steps of both the risk management processes and strategy formulation process were reviewed and documented in Chapter 2 and Chapter 3 respectively. A solution to the research problem was presented in the form of a risk management [process] embedded strategy formulation process. This proposed solution was presented in Chapter 4 as contribution and complementary extension to the existing body of knowledge.

The core of the research problem is thus the perceived absence of risk management steps in strategy formulation processes and the process presented in Chapter 4 is proposed as contribution to address the perceived shortcoming.

### **7.2.2 Objectives**

One of the objectives of this study was to compare responses of the higher education sector respondents and those of a separate similar size sample of other sectors. This was done via hypothesis testing for the sake of making conclusions and recommendations specifically about and for universities in South Africa.

The detailed objectives of this study were:

- i) To review risk management process theory to identify the steps that should form part of a generic strategy formulation process;
- ii) To conduct an exploratory literature review on strategy formulation theory to identify existing risk management embedded processes and simultaneously identify the generic steps where risk management steps could be embedded;
- iii) To develop and propose a structured approach towards a risk [management process] embedded strategy formulation process;
- iv) To determine the risk maturity levels at two samples (universities and non-university organisations) in South Africa as preamble to validating the process developed from the literature and presented in Chapter 4;
- v) To test the acceptability of the proposed risk management embedded strategy formulation process at the two samples of organisations towards proposing the process as contribution to existing knowledge; and
- vi) To test hypotheses that the group responses of university respondents are equal to group responses of non-university respondents. The objective beyond this comparison was to compare group maturity levels towards making conclusions and recommendations aimed at supporting universities to improve their risk management maturity levels.

In Chapter 2, a literature review of risk management processes was conducted and presented to document the components of a generic risk management process. In Chapter 3, the strategy formulation process was reviewed to identify the core steps of a generic strategy formulation process. This was done to establish if there are any risk elements embedded in the processes that

were reviewed. Among those reviewed, were the Design School processes, the Planning School processes as well as the Positioning School processes. The resource-based theory was also reviewed as well as modernistic models such as the Hypercompetition theory and Delta Project theory. During this review, no reference to embedded risk management steps were found. A generic strategy formulation process developed by Bryson (2004:32-51) was selected from the sample of processes reviewed as base for developing an embedded process. Bryson's theory was selected because it was found to be the most comprehensive and generic among those reviewed.

The third objective as listed above, namely the development and proposal of a structured approach towards embedding risk management into the strategy formulation process, was addressed by the proposal of the risk-embedded strategy formulation process presented in Chapter 4.

The fourth objective, namely determining of risk maturity levels of respondent organisations, and the fifth objective, namely the testing of the acceptability of principles underlying risk-embedded strategy, were dealt with by designing and conducting an empirical research study aimed at testing the acceptability of the proposed twelve-step risk-embedded strategy formulation process.

The final objective, namely the testing of hypotheses that responses from university respondents were equal to other respondents, was reached by subjecting the raw data obtained via the questionnaire to statistical testing.

The next section summarises the key findings of the empirical research in support of the proposed risk-embedded strategy formulation process.

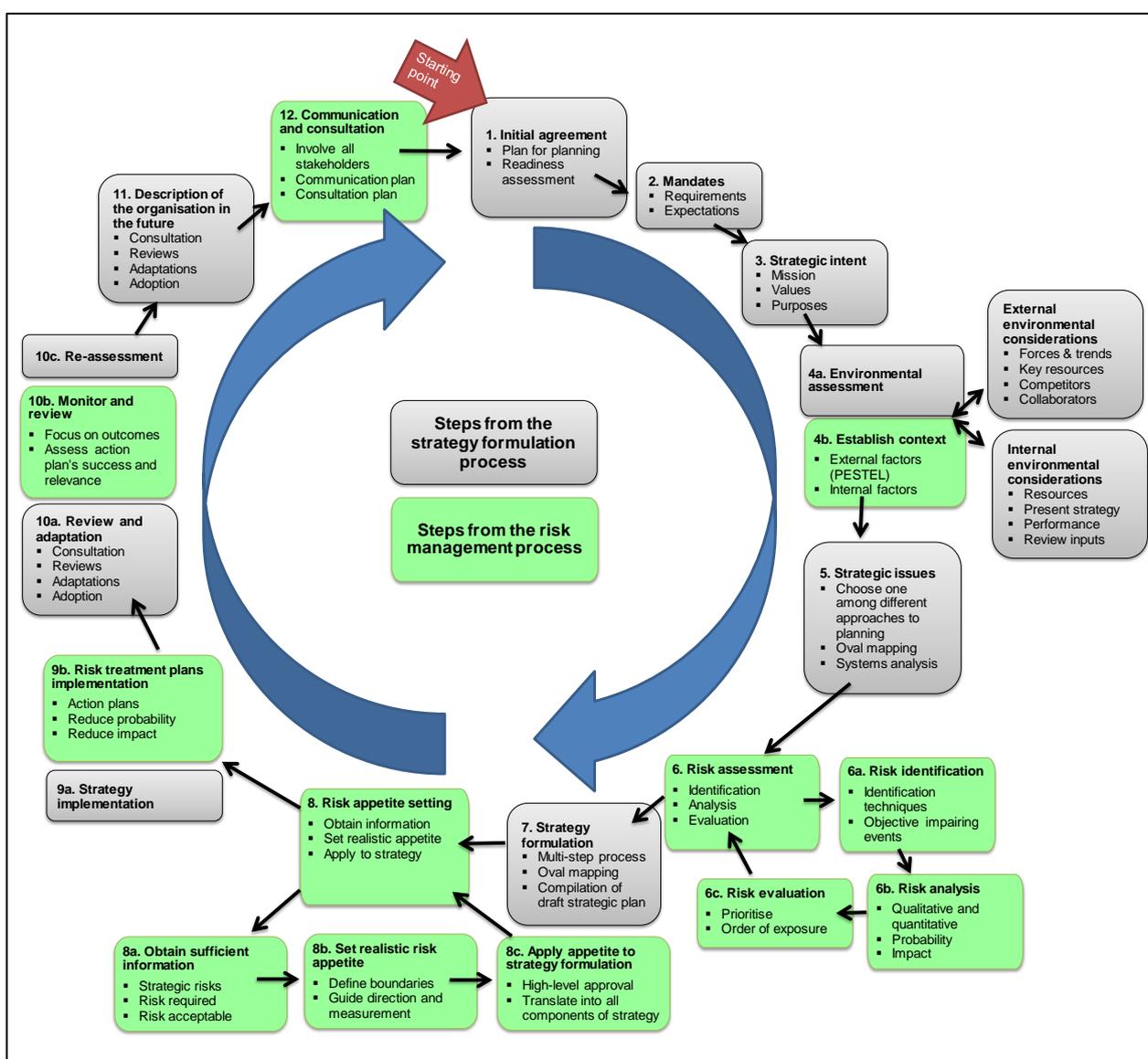
### **7.3 KEY CONTRIBUTION OF THIS DISSERTATION**

The key contribution of this research is the risk management embedded strategy formulation process as proposed in Section 4.4. This process consists of twelve steps, namely:

- i) Reach a [prior-planning] initial agreement with all stakeholders;
- ii) Confirm planning mandates;
- iii) Set or review the strategic intent;
- iv) Conduct an environmental assessment including establishment of the risk context;
- v) List all potential strategic issues;
- vi) Identify and assess the risks associated with each of the potential key issues listed in the previous step;
- vii) Select the key issues to be addressed by the strategy and formulate a strategy while considering the risk assessment outcomes;
- viii) Set the risk appetite;
- ix) Implement the strategy in combination with risk treatment plans;
- x) Review, re-assesses and adapt the strategy and risk treatment plans;
- xi) Ensure the strategy is still aimed at the organisation of the future; and
- xii) Communicate and consult the process and outcomes.

The process summarised above is graphically presented below in Figure 7.1 and described in detail in Section 4.4.

This approach was developed from the literature review, tested for acceptability and was found suitable to be proposed as a possible solution to embed risk management into strategy formulation. This approach will thus provide a general process to be followed to apply risk management in strategy formulation, as stated in the COSO (2004:4) and other risk management definitions. Although this process is not proposed as the only process, it is proposed as an option to those organisations that aim to embed the risk management process into the strategy formulation process. The process is proposed on grounds that the underlying principles have been generally accepted by a competent sample of respondents who participated in validating the principles and thus the process.



**Figure 7.1: Proposed risk-embedded strategy formulation process**

Source: Researcher compiled from sources reviewed

The findings and recommendations following from this research originated from (1) outcomes of the literature review prior to the empirical research; and (2) findings and conclusions from the empirical research process. The empirical research consisted of a questionnaire with statements that were used to test the acceptability of the principles of risk-embedded strategy formulation and the status quo regarding the proposed integrated process at a sample of organisations.

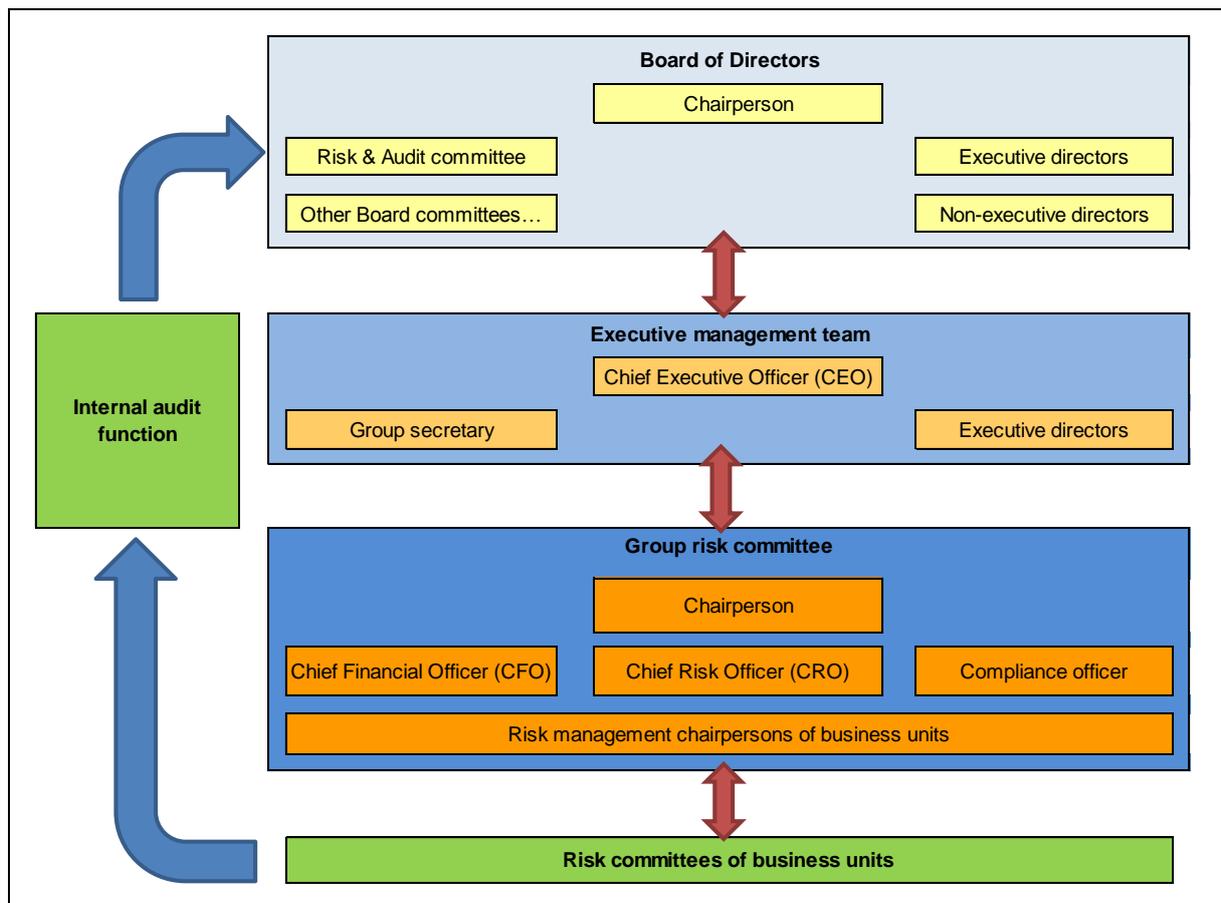
The next two sections summarise the key findings from the literature review and the empirical research. The recommendations follow the summary of key findings.

## 7.4 KEY FINDINGS DERIVED FROM THE LITERATURE REVIEW

The literature review documented several important findings in support of and in preparation for the empirical study. These are briefly summarised in the ensuing sections.

### 7.4.1 A generic risk management structure

Prior to developing and proposing the risk-embedded strategy formulation approach, a typical risk management structure was construed from the literature. The value of this proposed structure is that it provides an organisational structure to organisations to embed risk management into strategy formulation. The proposed risk management structure is graphically presented in Figure 7.2.



**Figure 7.2: A typical risk management structure**

Source: Researcher compiled from sources reviewed.

#### 7.4.2 Components of a risk management framework

According to the literature, the following generic components of a typical risk management framework could be derived:

- i) Risk culture;
- ii) Risk strategy;
- iii) Risk governance;
- iv) Risk structure, roles and responsibilities towards risk management;
- v) Risk management process;
- vi) Risk communication and consultation;
- vii) Process monitoring and review; and
- viii) Compliance.

It can thus be concluded that organisations should consider including these components in a risk management framework as they were found to be the steps that were present in most of the risk management frameworks reviewed during the exploratory literature review. Most of these components are also present in the ISO 31000 (2009) risk management framework. The value of this finding is that it confirms the components of a generic risk management framework. Inclusion of these steps is thus recommended to all organisations when developing a risk management framework.

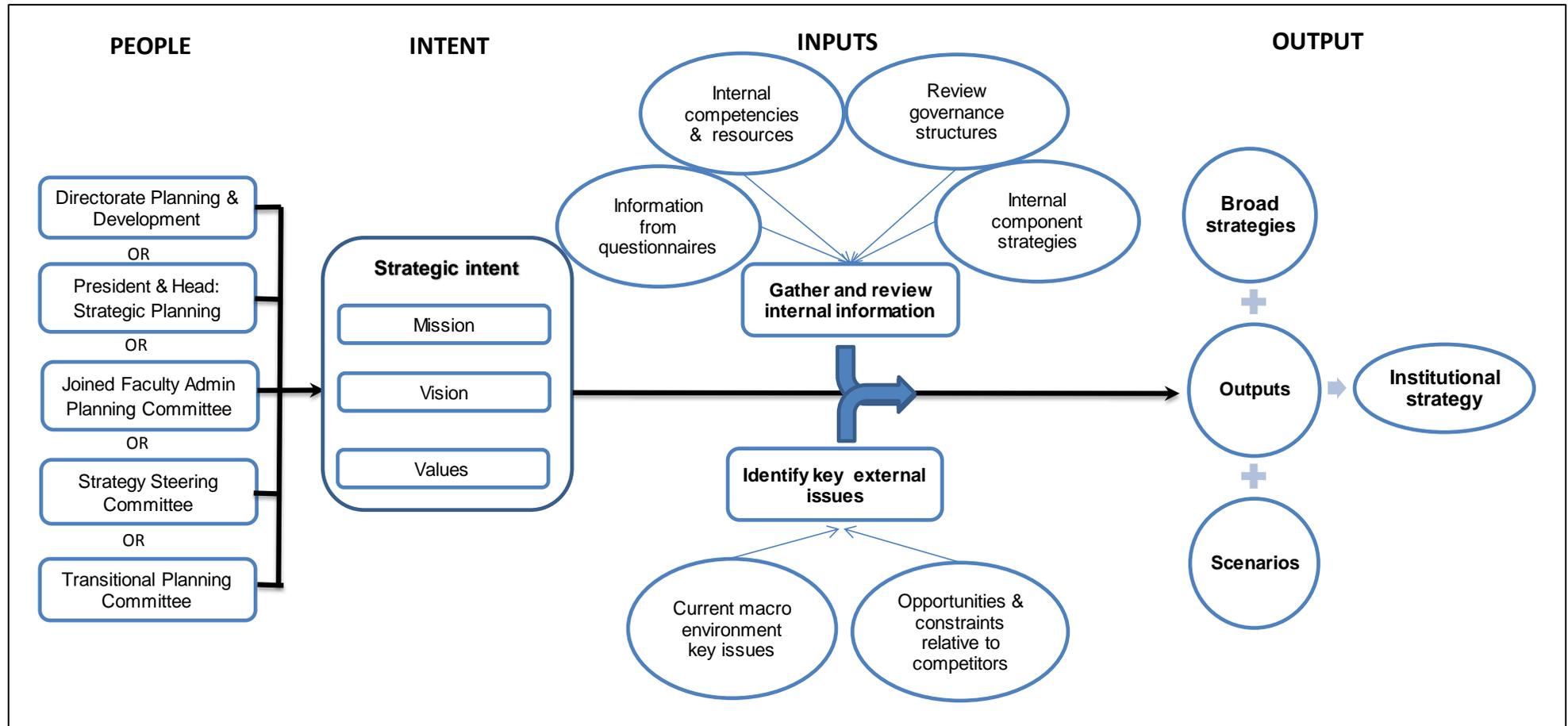
#### 7.4.3 Components of a strategy formulation framework

One of the preliminary processes towards developing the risk-embedded strategy formulation process was to deduce the generic components of strategy formulation processes at universities. Following this revision, the components of a typical strategy formulation process were found to be:

- Identification of substructures or *people* involved in strategy formulation;
- Institutional strategic *intent* consisting out of a mission, vision and values;
- All external as well as internal influences/*input* as contributing considerations;
- *Outputs*, scenarios and broad strategies towards
- Institutional strategy.

These components are graphically depicted in Figure 7.3.

The value of these components is that they provided insight into the components of a typical university strategy formulation framework. These components thus complemented the proposed risk-embedded strategy formulation process.

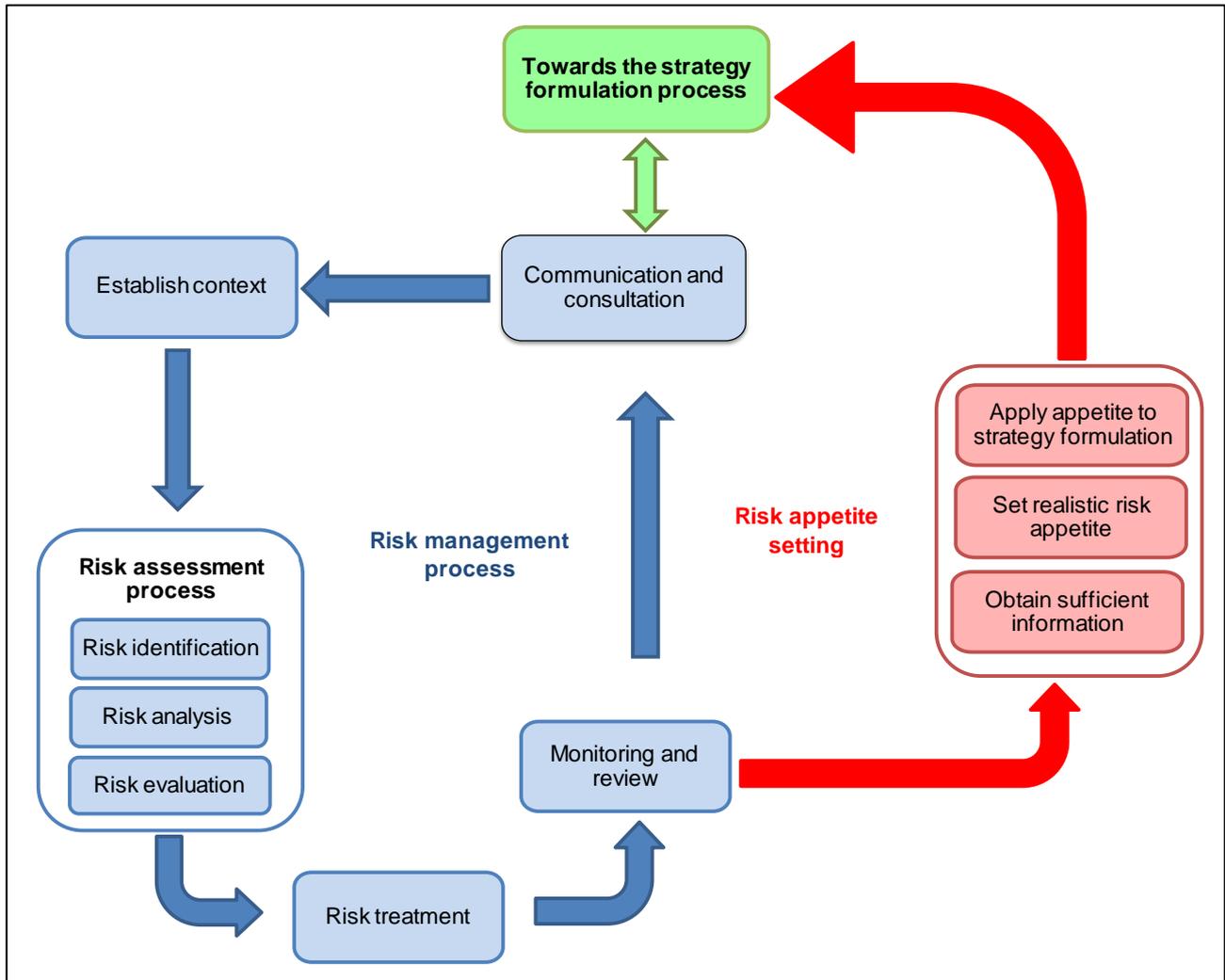


**Figure 7.3: Strategy formulation components for universities**

Source: Researcher compiled from sources reviewed.

#### 7.4.4 Embedding risk appetite into risk management and strategy formulation

The literature study revealed that the setting of risk appetite is an important part of a risk management process. As such, the activity can be included in a typical risk management process indicated as in Figure 7.4.



**Figure 7.4: Risk appetite embedded risk management process**

Source: Researcher compiled from sources reviewed.

The inclusion of this step into the risk management process requires that it is also included into the proposed integrated risk and strategy formulation process. The value of this process is that it not only illustrates the inclusion of risk appetite into the risk management process, but also the inclusion into the [risk-embedded] strategy formulation process.

The timorousness and relevance of this process is reconfirmed by the King IV Principle number eleven which states that “*The governing body should govern risk in a way that supports the organisation in setting and achieving its strategic objectives*” (IODSA, 27). It needs to be noted that the King IV updated code as well as the COSO update (Amato, 1) were published after this research was completed.

## 7.5 KEY FINDINGS FROM THE EMPIRICAL RESEARCH

The key findings of the empirical research that was conducted to test the identified principles and the feasibility of the proposed integrated process are summarised here.

### i) **There is still a need for guidelines towards a structured approach**

It was found that thirty percent of a sample of financial and higher education organisations still need to apply risk management to their day-to-day operational activities. It can therefore be concluded that three out of ten organisations still need to reach the basic risk maturity level of applying risk management to organisational activities. Structured examples of frameworks, approaches and structures, such as these earlier in this chapter, are thus needed as many organisations have not yet matured towards embedding risk management into operational activities. It was also found that the responses from the sample group of university respondents differed significantly from other respondents; the university respondents were generally less sure about their organisations applying risk management to operational activities.

### ii) **Universities are lagging behind other sectors with application of risk management**

The conclusion reached by the Global Strategic Management Institute (GMSI) that universities are lagging behind other sectors with the application of risk management holds truth also here in South Africa. This finding is based on the outcome that 26 percent of respondents from university indicated that their organisations yet have to apply risk management to day-to-day activities. This finding was yet again confirmed by the finding that, although most respondent organisations apply some themes of risk management, other respondents strongly agreed to the statement regarding applying themes, while university respondents were unsure.

A further finding confirming the difference in maturity levels between university and other respondents was the difference in the group responses regarding the complementary application of risk management to strategy formulation. While 51 percent of all respondents agreed that their organisations applied risk management complementary to strategy, the group responses between university respondents and other respondents differed significantly. Most of the university respondents did not agree or were unsure, while non-university respondents were more in agreement with the statement. In spite of the differences in application of risk management between university and other the respondent group, the two groups did not differ on all aspects. While 92 percent of respondents agreed with the statement that strategy in the absence of risk management puts strategy at risk, there was no difference found in the opinions between university respondents and other respondents.

### iii) **Combining environmental assessment and risk context establishment**

Sixty-seven percent of all respondents supported the principle of combining the steps of environmental assessment with risk context establishment. This means that both the external and internal risk factors need to be identified and assessed along with identifying and assessing the external and internal strategy influences. The external strategy factors include: (1) sources;

(2) trends; (3) resources; (4) competitors; and (5) collaborators. The internal strategy influences include: (6) current strategy; (7) review inputs; (8) available resources; and (9) historical performance. All these factors need to be considered collectively as part of environmental and risk assessment, proposed as step four of the risk-embedded strategy process. Although most respondents agreed with this principle, only 50 percent of respondents confirmed that their organisations have already combined these activities. This confirms the importance of the principle that the two steps should be combined in an integrated approach to a strategy formulation process. The group responses of university respondents differed significantly from the group responses from other sectors. The other respondents were more in agreement with the principle while university respondents were unsure. Understandably, it was found that there are large and significant differences in the application of this principle between university respondents and other respondents. The modus of university respondents were not sure if their organisations applied these activities complementary, while other respondents were generally in agreement that their organisations do apply these activities in a complementary fashion.

The value of the finding and recommendation to combine risk context establishment with strategy environment assessment is that it combined complementary activities into a single comprehensive activity, thereby contributing to a more simplistic embedded process.

#### iv) **Utilising risk assessment to select key strategic issues**

A majority of 94 percent of all respondents also supported the principle that risk assessment outcomes could guide the decision-making process prior to selecting key strategic issues. This would ensure that all the risks associated with the chosen key [strategic] issues are known and can thus be managed. Only 74 percent of all respondents agreed that their organisations reap the value from applying risk assessment outcomes towards selecting key strategic issues. It was also found that there is a significant difference between group responses from university respondents when compared to group responses of other respondents. University respondents were generally unsure about the sequence of activities, while other respondents were more in agreement that their organisations follow the sequence of activities.

The value of this finding is that it will ensure that acceptable risk exposure levels are aligned with the accepted risk appetite and set risk tolerance levels.

#### v) **Embedding of risk appetite and risk tolerance**

According to the responses, 53 percent of all respondents supported the principle to embed the risk appetite setting into the strategy formulation process. This would ensure that the risk tolerance levels could be set to serve as control measures. The group responses of university respondents differed significantly from the other responses, with other respondents being more in agreement than university respondents. With regards to the application of risk appetite and tolerance to strategy, an inter-group comparison revealed that there is a large and significant difference between responses from university respondents and other respondents. Other respondents were more in agreement

regarding the application of this complementary function, while university respondents were generally less sure about it.

The value of applying this principle is that it serves to guide organisations to set acceptable levels of risk appetite and risk tolerance in support of strategy realisation.

vi) **Simultaneously applying risk and strategy plans**

The respondents also supported the principle that strategy implementation plans and risk mitigating plans should be executed simultaneously (step 9 of the process). As in previous findings, the tendency continued that most respondents agreed with the principle, responses from university respondents differed significantly from others and university respondents were generally unsure of the application, while other respondents were generally in agreement with the application of the principle.

The value of this finding is that it will ensure that risk exposures are adequately managed during the execution of strategic business plans. Managing the risks associated with strategy and executing the strategy will thus be done simultaneously.

vii) **Simultaneously reviewing and adapting risk and strategy formulation**

The principle of combining the strategy and risk management review and adaptation activities as the tenth step of the process was also supported by the responses. Similar tendencies regarding the differences in opinions and application prevailed. This could benefit the organisations in terms of constantly re-aligning strategy formulation and risk management with the expected strategic outcomes.

These findings obtained from the empirical research thus confirm the overall acceptability of the underlying principles and practice of an integrated approach to risk management and strategy formulation. The value gained by applying each of these principles was stated after each principle. Based on the literature and the results of the empirical review, the next section provides a summary of the key recommendations.

## **7.6 KEY RECOMMENDATIONS**

In order to address the problem statement of this study, namely to apply risk management in strategy formulation as proposed in the COSO (2004:4) risk management definition, the key recommendations are set out in the next sections.

### **7.6.1 Principles**

The following principles were identified and confirmed during the study to ensure an integrated risk and strategy formulation process:

i) **Embed risk into strategy**

Risk management needs to be embedded in all operational activities as well as into strategy formulation, as overwhelming support was found for the principles relating to the embedding of risk management into these activities.

ii) **Combine environmental assessment with risk context establishment**

The steps of strategy internal and external environment assessment in principle need to be combined with risk environment assessment.

iii) **Apply risk assessment to strategic decision-making**

Risk assessment outcomes need to be applied in principle as decision-making aids prior to selecting key strategic issues.

iv) **Apply risk appetite as strategy tool**

Risk appetite setting in principle needs to be accepted as an important part of strategy formulation as it defines how much risk the organisation is willing to take when implementing strategy. According to the responses and analysis, it was found that most organisations are still at a grass roots level concerning the incorporation of risk appetite and tolerance into the strategy planning process. The inclusion of risk appetite and risk tolerance into the strategy formulation process quantifies the risk to be taken in the pursuit of strategy realisation.

v) **Combine risk mitigation and strategy action plans**

Strategy implementation plans and risk mitigation plans should in principle be applied simultaneously as complementary activities.

vi) **Combine risk and strategy review and adaptation**

Strategy and risk management plans should be reviewed, re-assessed and adapted simultaneously.

Based on the support for the above principles, it is recommended that organisations should adopt these principles to integrate risk management into the process of strategy formulation. This could prove beneficial for the quality and sustainability of efforts in striving towards the achievement of strategic business objectives. The new embedded approach is thus strongly recommended as it provides a simple process which follows a logical sequence without duplication of similar or complementary activities.

In conclusion, it is recommended that organisations:

- Adopt the principle for embedding risk management into strategy formulation;
- Apply the new approach as presented above;
- Combine the complementary and similar activities towards a logical and simple sequence of activities as proposed;
- Add value to both risk management and strategy formulation by embedding risk appetite setting and risk tolerance into the embedded process as proposed.

In the light of the above principles, the twelve-step process (reflected in Figure 7.1 above) is recommended as a structured approach to a risk-embedded strategy formulation process. This proposed process could assist most organisations, including South African universities, to follow a structured approach to strategy formulation, which will ensure that risks are timeously identified and addressed when implementing their business plans.

### 7.6.2 Additional benefits

The additional benefits of implementing this approach could be the following:

- A generic-based process that is suitable for most organisations: This process is based on a generic risk management process as well as a generic strategy formulation process and is thus potentially suitable for most universities as well as other corporate organisations.
- Embedding risk appetite and risk tolerance: The embedded approach provides insight into embedding risk appetite setting and risk tolerance levels into strategy formulation.
- A simplified process: The value derived from the combination of complementary and similar activities is that it contributes to a simplified process without confusing or repetitive activities.
- Contributing to informed decision-making: The sequence of activities as proposed and especially the application of risk assessment outcomes toward selecting key strategic issues, contribute to informed decision-making. Organisations will thus not select a strategic issue without having insight into the associated risks of these issues.
- Synergy via combined application of plans. Following this approach would contribute to the combined application of risk management and strategy formulation plans, which potentially will lead to synergy in risk and strategy execution activities.

With regards to the key recommendations proposed in the previous section, the next section summarises the contributions made by this study.

## 7.7 CONTRIBUTIONS OF THE STUDY

Based on the key recommendations of this study, the primary contribution is the proposed integrated risk and strategy formulation process. This process can be used by organisations (including SA universities), to develop and implement a similar approach to enjoy the benefits thereof and mainly to ensure that risks are identified and managed appropriately during strategy formulation and implementation. Although there are organisations that have already implemented a similar approach, this study can be used to evaluate the status of their processes by comparing it with the proposed process of this study. During this comparison, they could identify possible shortcomings in their processes and improve them accordingly.

Although the proposed process is not presented as the only solution, it is a contribution to existing knowledge which was developed from literature as further contribution to knowledge.

## 7.8 LIMITATIONS OF THE STUDY

Due to the current dynamics and ongoing research on an integrated approach to risk management and strategy formulation, there might be additional information that could add value to this study. Many concepts are still being debated; however, it is foreseen that this study could add value to these debates to embed risk management into a strategic management process.

On grounds of the fact that there are numerous strategic management processes, only a few were used to develop the integrated approach. It is possible that further components could be researched for embedding into the integrated approach.

## **7.9 SUGGESTION FOR FURTHER STUDY**

Based on the limitation stated above regarding risk management still being debated and the importance of defining an organisation's risk appetite during the strategy formulation process, it is recommended that this concept be clarified in more detail by further research. Further research could therefore provide a more practical approach to setting an organisation's risk appetite and tolerance levels which were found to be crucial factors during an integrated strategy formulation process.

## **7.10 FINAL REMARKS**

Managers need to apply a risk-embedded strategy formulation process to realise the advantages listed in the previous section. This is in accordance to the recommendation in the COSO (2004:4) risk management definition that risk management needs to be applied in strategy formulation. The literature review indicated that there is a definite need for an integrated approach regarding risk management and strategy formulation. Several structures and processes for both risk management and strategy formulation functions were reviewed and a generic framework for an integrated approach was proposed which included activities that involve risk management and strategy formulation. As such, it is suggested that this proposed approach could serve as a guideline to all organisations to embed the management of risks into their business strategies.

It is therefore reiterated that the significance of this study is that the proposed integrated risk and strategy formulation process could be used by all organisations, including South African universities as a structured approach to ensure that risks are addressed during strategic management processes. As such, this approach could positively contribute to the formulation of a comprehensive business strategy, making organisations sustainable and valuable to all stakeholders.

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## APPENDIX A: QUESTIONNAIRE

### A Risk Process Embedded Strategy Formulation Process

#### PART 1: BIOGRAPHICAL INFORMATION

1. In what economic sector is your current institution?

2. Banking Sector	
3. Insurance Sector	
4. Financial Investment Sector	
5. Higher Education Sector	x
6. Other (Specify: .....)	

2. What is your current position in the organisation?

1. Chief Operating Officer	
2. Chief Financial Officer	
3. Chief Risk Officer	
4. Member of Executive Management	x
5. Other (Specify: .....)	

3. Please indicate your years of service in the organisation?

1. < 1 year	
2. 1 to 5 years	
3. 6 to 10 years	
4. > 10 years	x

4. Please indicate the number of years of managerial experience to the Strategy formulation process?

1. < 1 year	
2. 1 to 5 years	
3. 6 to 10 years	
4. > 10 years	x

5. Please indicate the number of year's managerial exposure to the Risk Management process?

1. < 1 year	
2. 1 to 5 years	x
3. 6 to 10 years	
4. > 10 years	

**PART 2: RISK MATURITY LEVEL**

**FOR EACH OF THE FOLLOWING, PLEASE INDICATE TO WHAT EXTENT DO YOU AGREE WITH EACH OF THE STATEMENTS**

6: *“My organisation has yet to apply risk management to the majority or all of the organisational activities”*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

7: *“My organisation is applying Risk Management as part of the day to day operational processes”.*

1. Strongly disagree	
2. Disagree	x
3. Unsure	
4. Agree	
5. Strongly agree	
6. Other (Specify: .....)	

8: *“My organisation applies the themes to risk management approach, thus identifying, assessing and managing risks.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

9: *“My organisation utilizes risk tolerance levels to ensure that risk exposure levels are adequate according to the needs of the organisation”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

10. *“At my organisation, Strategy formulation and Risk Management are treated as complimentary managerial activities”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	x
4. Agree	
5. Strongly agree	

**PART 3: PRINCIPLE SUPPORT FOR EMBEDDING THE RISK MANAGEMENT PROCESS INTO THE STRATEGY FORMULATION PROCESS**

11: *“Strategy formulation in the absence of Risk Management is putting strategy realisation at risk”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other	
(Specify: .....)	

12: *“Risk Management will add value to the quality and sustainability of your organisational strategy, if risk management steps are embedded within the strategy formulation process.”*

1. Strongly disagree	x
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	
6. Other	
(Specify: .....)	

13: *“A risk-based strategy formulation process is in the best interest of the organisation, and it should be pursued by all organisations”.*

6. Strongly disagree	x
7. Disagree	
8. Unsure	
9. Agree	
10. Strongly agree	
7. Other	
(Specify: .....)	

**PART 4: PRINCIPLE SUPPORT FOR ELEMENTS OF A RISK MANAGEMENT [PROCESS] EMBEDDED STRATEGY FORMULATION PROCESS**

14: *“The strategy formulation step of assessing the internal and external environment and the risk management step of establishing the risk context could be combined into one step, as these activities are similar in nature”.*

1. Strongly disagree	x
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	
6. Other	
(Specify: .....)	

15: *“Once strategic issues have been identified, identifying and assessing risks will guide the strategic decision making process”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	x
6. Other (Specify: .....)	

16: *“Risk appetite setting is an important part of the strategy process as it defines how much risk to be taken to execute the strategy.”*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	x
6. Other (Specify: .....)	

17: *“The implementation of strategy plans and the simultaneous implementation of risk mitigation plans could ensure an effective execution of planned activities”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	x
6. Other (Specify: .....)	

18: *“During the reviewing, re-assessment and adaptation of strategy, monitoring and review of the risk exposures and plans should be done at the same time”.*

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	
5. Strongly agree	x
6. Other (Specify: .....)	

**PART 5: APPLICATION OF ELEMENTS OF A RISK MANAGEMENT [PROCESS] EMBEDDED STRATEGY FORMULATION PROCESS**

19: “My organisation has integrated risk management into strategy formulation by identifying and assessing the risk context when assessing the internal and external strategic factors”.

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

20: “My organisation identifies and assesses potential risks and opportunities associated with different strategic issues, as part of strategic decision making”.

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

21: “My organisation utilises risk appetite as part of strategy formulation”.

1. Strongly disagree	
2. Disagree	x
3. Unsure	
4. Agree	
5. Strongly agree	
6. Other (Specify: .....)	

22: “My organisation simultaneously applies strategic plans and the risk mitigation plans”.

1. Strongly disagree	
2. Disagree	x
3. Unsure	
4. Agree	
5. Strongly agree	
6. Other (Specify: .....)	

23: “My organisation conducts re-assessment and review of strategic plans at the same time as reviewing and adaptation of risk management plans”.

1. Strongly disagree	
2. Disagree	
3. Unsure	
4. Agree	x
5. Strongly agree	
6. Other (Specify: .....)	

## APPENDIX B: ANOVA RESULTS

