

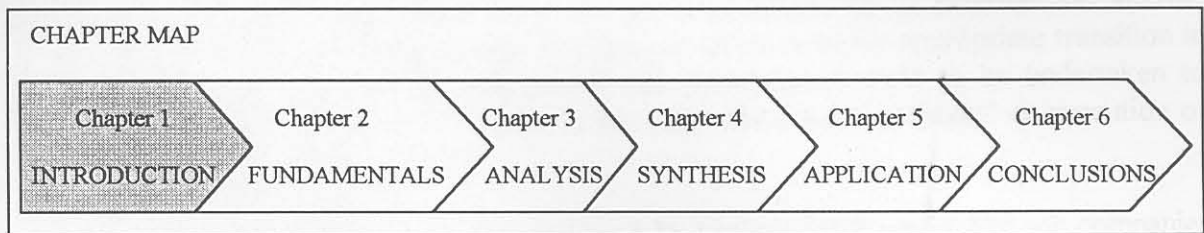
## 1. Introduction

*“New times demand new measures and new men; the world advances, and in time outgrows the laws that in our fathers’ day were best; and doubtless, after us, some purer scheme will be shaped out by wiser men than we, made wiser by the steady growth of truth.”*

James Russell Lowell

## 1.1 Chapter context

The purpose of this chapter is to introduce the need for the research and outline the approach taken to conclude the study.



## 1.2 Background

Commercial orientated entities have been evolving through the ages from the pre-Mesopotamian times through to the present. They have taken many forms, either adapting to the stringent environmental factors, or passing away, due to their inability to adapt. These forms have varied from individual survival to massive collective systems aimed at survival in the least. During this time the world has seen inter alia, the following forms of human interaction, either aimed solely at wealth creation or survival resulting indirectly from daily activity:

- Subsistence economies.
- Craft system.
- Feudalism.
- Manorial system.
- Mercantilism.
- Capitalism.
- Socialism.

Toffler has described the generic effect on the world, by means of three waves<sup>1</sup> [1]. Significant acceleration has taken place during the three waves, indicating that the business environment is changing at an increasingly rapid rate of change. Even during the embryonic stages of capitalism, this pattern became apparent as illustrated by Viljoen [2]:

*Adam Smith, the father of capitalism, published his classic manifesto on the capital order in 1776 under the title *The Wealth of Nations*. In doing so he lent form to what is now accepted as capitalism, and to economics as an independent science. That same period marks the beginning of the industrial revolution of the last century. The number of patents registered in Britain alone during that period, and the rate at which they increased, show the expansion of technological innovation.*

<sup>1</sup> Agricultural, industrial and technological.



<i>PERIOD</i>	<i>NO. OF PATENTS</i>
1700-1730	149
1730-1760	230
1760-1790	976

With all this change, the business enterprise has had to change accordingly, supporting either sound business reasons, or environmental prerequisites, such as legal impositions. These changes have had, and still have the intrinsic component of risk. This concept of risk, means different things to different people or different groups of people. An acceptable definition of risk is explored later in the text, but for present illustration purposes, risk is equated with the situation of looking into the future, where key parameters governing the future of specified system are influenced by one or more random variables.

To relate this back to the foregoing discussion, consider a feudal system. The feudal system was introduced into England after the battle of Hastings in 1066. This new system, implicated a decentralised form of government, law and economics. The new system was based on the loyalties and obligations between individuals of different social classes, and in particular between the appointed lord and his vassals [3]. Although, politics and economics were entwined, the net desired result of action was aimed at survival by the vassals on the one hand, and commutation of wealth by the lords on the other. In this instance, risk was present in the strategy employed with the vassals regarding obligations in return for property rights. Risk management strategies were devised in accordance with the needs of the commercial entity in line with the tolerances of the day. Clearly these designs would be far from politically correct in present terms, which indicates that risk management also needs to evolve in conjunction with the prevailing environmental dynamics.

Today, risks regarding macro business decisions are ever present, even in the restructuring of the business entities. As business in general has evolved in the fashion described above, so the specific business itself must evolve based on the requirements of its external and internal environmental drivers and commitments. Recognition of the need for appropriate transition in itself is inadequate. Risk analysis and indeed risk management needs to be undertaken to ensure the survival and indeed prosperity of the entity once the “transition” or execution of the business decision is completed.

Scott-Morgan writes of a survey conducted by A.D. Little in 1994 where 350 top companies in the USA were questioned about their business improvement initiatives [51, p6]. He observed that:

*“almost every company turned out to be in the throws of a major change initiative - often to reduce overhead costs, streamline their organisation or increase sales, typically driven by a change in leadership, change in business direction, financial or competitive pressures. And over 80% of companies anticipated another major change within the next few years. ... Only 17% were really satisfied. Almost 40% were positively unsatisfied - often they had only gained partial success or else the whole initiative was taking too long. Nearly 70% of all the companies said they had experienced unanticipated problems and unintended side-effects.”*

Various topics of interest or “buzzwords” have taken shape as knowledge regarding business has matured. During the early part of this century, the principles of scientific management



carried much favour as a technique appropriate to the improvement of the business operations [4]. The focus then moved on towards the management of production, which provided an answer to the seemingly insatiable demand from the relevant markets. During the 1930's, saturation within the market gave birth to the concept of sales management, as a means to escalating the saturation level. With competition increasing and the consumers maturing, the 1950's brought about the concept of the management of marketing. The 1970's saw business take the concept of strategy from the militarists, as a means to providing a path through turbulent times. The 1980's saw the introduction of systems theory, looking at the business needs from a holistic perspective, as well as the emergence of the concept of logistics. The 90's have seen the emergence of the concepts of "business process re-engineering" (BPR) and globalisation.

A common pattern can be found throughout the employment of these techniques, namely the resulting change in the way the entity does business, and hence the corresponding requirement for the paradigm shift for all parties concerned.

This study is concerned with the success of these changes, where a change in the business is translated into the term, transformation. BPR for example, has been hailed as "the contemporary business improvement technique" due to the following reasons [39,5]:

- Quantum leap improvement vs. continuous improvement.
- Focuses on core competencies [6].
- Uses information technology to integrate and or replace menial tasks.

With the application of BPR during the past few years, various failures have also emerged however [7,8,9]. The author purports that BPR as with other approaches, needs to be adequately analysed in order to assess the risks, so that these can be managed accordingly. This study therefore, does not focus on an individual approach, rather on the risks that face a business entity while contemplating the transformation from one form to another. This transformation may involve the entity as a whole, or only an appropriate sub-system thereof.

## 1.3 Problem definition

From the preceding text, the business world has little problem in identifying the need for change, but making the changes successful is clearly challenging. Literature cites anything from 30% to 80% of change efforts as being unsuccessful [7, 8, 9, 82, 84, 90]. This does indeed set a strong case for further research to be done.

### 1.3.1 Problem statement

Many different approaches are being employed in the context of the greater capitalist system to provide suitable levels of improvement within the specific business system under consideration. These approaches may be aimed at dramatic improvement or incremental improvement, focusing on the work unit or organisation at large. Regardless of the approach or the solution(s) that the approach negates, elements of risk will be found inherent to the proposed and elected solution(s). The basis for selection is governed by the parties tasked

with the decision making, and hence the decision should be aligned with the criteria pertinent to those parties' frame of reference. Although the criteria may be subject to fluctuating conditions, internal or external to the particular business entity, the solution selection criteria must be directed by the *raison d'être* of that business entity. Based on that, the perceived risk of the proposal to the decision makers will carry varying levels of impact and hence desirability. As example, a low risk solution may provide low returns, yet on the other hand, a high risk proposal may yield a solution with higher returns to decision makers [10], be they investors or the management of the business entity under consideration.

The decision maker is faced with the following concerns:

- What risks are inherent in the alternative solutions under consideration?
- What is the nature of these risks?
- What could their impact be on the business entity?
- How can these risks, once identified, be objectively weighed up against the other criteria describing the attractiveness of the individual alternatives?
- What means exist to satisfactorily address the occurrence of these risks (either internally or externally)?
- How can the implementation of the elected solution be managed so as to satisfactorily address the associated risks?
- How to manage these risks, post implementation, as well as the incidental risks that may occur due to secondary and tertiary events in either ripple effect or unforeseen fashion?

The research problem lies therefore in understanding the nature of risks in business change and how to manage these in an integrated fashion with the business change intervention. This must be achieved in a sustainable, yet cost-effective manner.

### 1.3.2 Purpose

The purpose of this study is to analyse the primary factors that influence the riskiness of business change interventions and to put forward an integrated framework for managing these risks.

The analysis of the primary factors involves an understanding of the business context, the various forms of business change and the resulting complications of risk. The variation of risk management approaches and the focus of their impacts with their respective advantages and disadvantages are evaluated in order to construct a general framework for risk management.

The theory provided is tested using various means from practitioner insights through to theory application.



### 1.3.3 Significance of the study

The significance of the study lies in the following areas:

- It tests assumptions and perceptions made in literature and practice regarding risks and risk management techniques in business change.
- It provides a common framework for managing risks in business change regardless of the type of business change, the type of business or the type of industry.
- The theory put forward in the study is already being used in practice. This illustrates its immediate contribution.
- Based on the failure rates of business changes described earlier, if this framework could reduce the rate by only 10%, it would make a significant contribution to the productivity of all industry involved in business change.

## 1.4 Research questions

Qualitative research focuses more on question setting as opposed to research questions, propositions and hypothesis [11] which are more appropriate for quantitative based research.

### 1.4.1 Grand tour question

The grand tour research question of the research is:

“How can the risks of business change interventions be successfully managed?”

### 1.4.2 Sub-questions

The sub-questions to the grand tour question are listed as follows:

- Can the high purported failure rate be substantiated and therefore confirm the need for this study?
- What risks occur when a business moves through a change?
- What types of business changes occur?
- Is there a common thread in risk across industry sector and type of change?
- What management techniques are currently being used to manage the risks of business change?
- What techniques and tools in diverse fields hold potential for managing the risks in business change?
- How can all the risk management factors be integrated into a framework, if this can indeed be achieved?
- Is the risk management framework practicable?

## 1.5 Objectives

The primary objective of this study is to provide a feasible solution to the questions posed in the preceding section. This offers a means of a conceptual framework for the identification and management of these risks, in addition to allowing for the integration with other concerns when dealing with business change as a whole. The identification of the points of interface are included in this primary objective.

There are secondary objectives related to this research. These are described as follows:

- The identification of generic criteria that relate to the risks inherent in business change.
- The establishment of appropriate models that provide a means for the identification of risk and the management thereof during business transformation related activities.
- The integration of the above into one coherent framework, providing a holistic basis for decision making (including models and method).
- The extrapolation through to practical examples.

The attainment of these objectives is tested via plausible theoretical foundation, and collaborated by an appropriate practical example during the course of the text.

## 1.6 Delimitations and limitations

### 1.6.1 Delimitations

The exploration of the appropriate means to the management of risk will encompass the business change environment. To this end, the work is parametrised by the following research qualifiers:

- Only businesses within the predominantly capitalistic environment are relevant to this study.
- The study of business change is not limited to business process re-engineering (BPR), but to activities aimed at business improvement, via the commissioning of the change of the particular character of the business entity under consideration.
- This study does not aim to invent or redesign techniques in well described areas of business and science, but rather to gather related concepts in an attempt to achieve synergy, by making use of appropriate practical examples, in order that clarity may be ensured. It is, however, in the integration, and the appropriate exploitation of the existing techniques that the objectives of the study are attained.
- The study is based on the South African business environment. Inferences in the broader world are however, discussed.



## 1.6.2 Limitations

The following limitations of the study exist:

- The integrated theory developed is tested via one application only which may raise concerns regarding generalisability. A number of interventions have been designed to assist in the substantiation of the theory. These include:
  - A hypothetical case is established covering an industry that the researcher has a reasonable amount of experience in. This case is designed to cover the full extent and scope of the study.
  - The researcher has interviewed top management in a wide range of organisations and countries regarding specific topics in the formulation of the theory. Countries included South Africa, Israel, Germany, Italy, Portugal, UK, Ireland, The Netherlands and Brazil. The sizes of companies ranged from 20 person companies to staff complements in excess of 60,000. Many of the companies were multi-national. The type of industries the companies operate in are manufacturing<sup>1</sup>, financial services, mining, research and development, computer and allied services, shipping, engineering and construction, market research and consulting organisations. It can be noted that the profile of the organisations interviewed in the theory formulation resembles the distribution of the organisations involved in the market research (see Figure 27).
  - The application selected for substantiation covers a broad range of business change types which allows for a greater exposure to theory testing.
- A significant portion of the study involves qualitative data. A single researcher has biases in terms of mental model and background which may distort results. Efforts have however, been instituted to address these, namely the examination of validity and reliability [12]. The results of these analyses are given in chapter 5 and the conclusion. The use of triangulation in the research method [11] as described later in this chapter plays an important role in neutralising these biases.

## 1.7 Research method

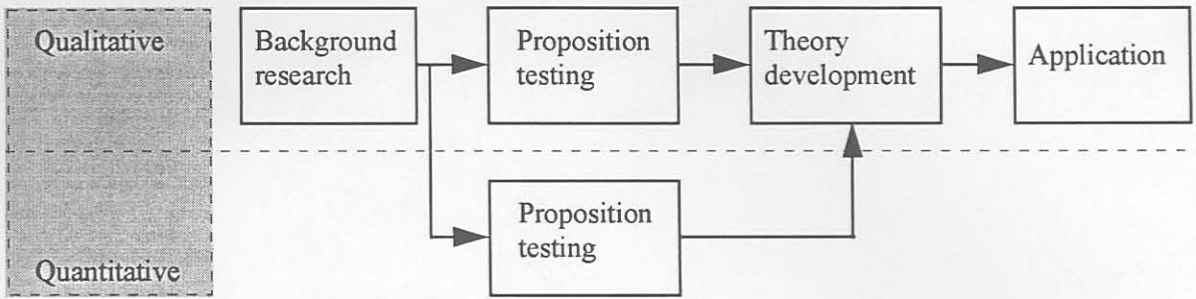
### 1.7.1 Overview of the method

The approach to the research is diagrammatically shown in Figure 1. This has been constructed to ensure that theory is validated against generally acceptable scientific method. This task is difficult in the softer sciences like business orientated studies, but nevertheless suitable rigour is required to ensure that the research meets acceptable validity and reliability conditions [13].

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<sup>1</sup> Manufacturing includes chemical, steel and textile production.



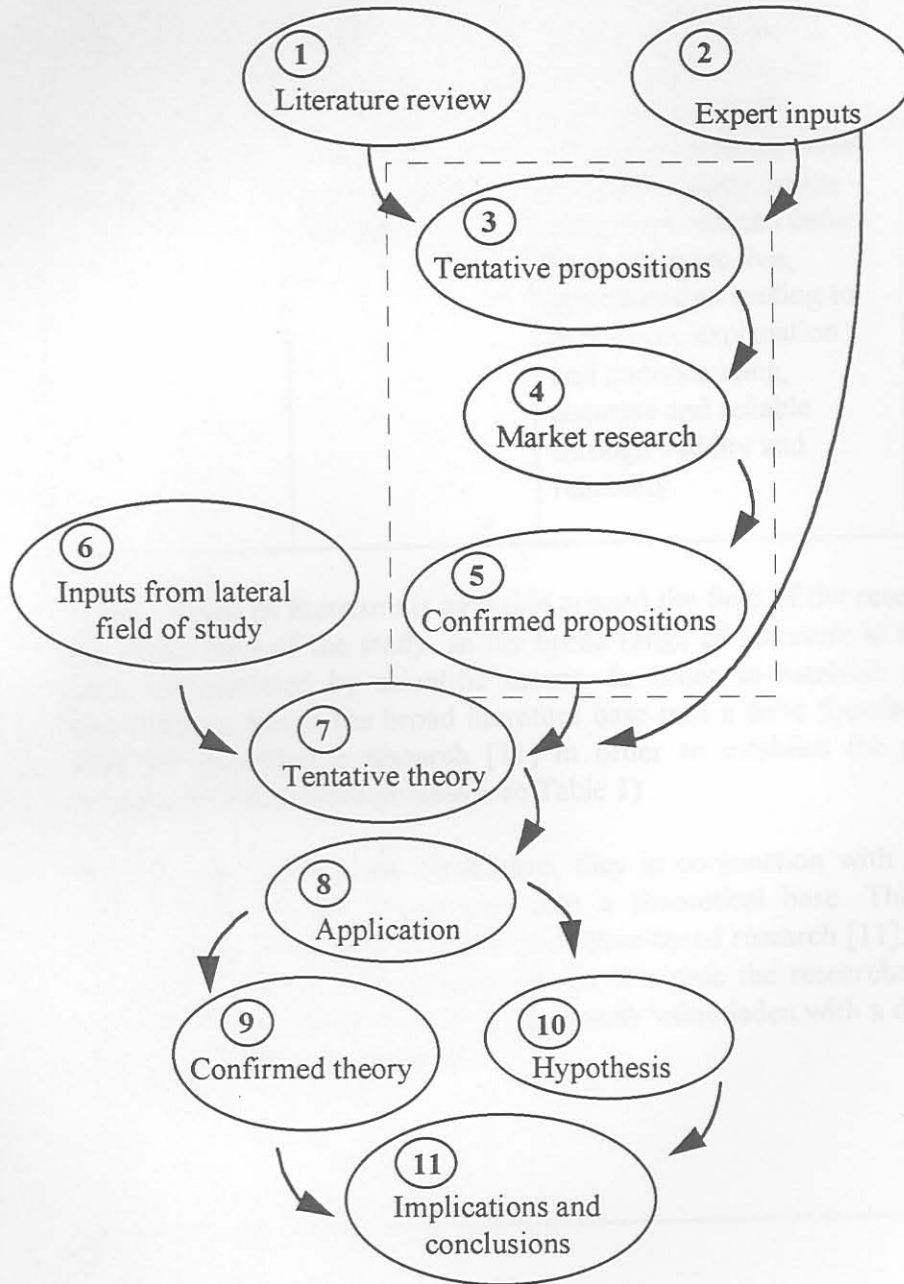


*Figure 1 - Relationship between Qualitative and Quantitative Components of the Research*

Figure 1 illustrates the interaction between qualitative and quantitative methods in the study. The reasons for selecting a mixed method (i.e. combination of qualitative and quantitative research methods) is based on triangulation, where the bias inherent in the researcher, data and model is neutralised [14] when used in conjunction with other research work involving other methods, data and researchers. Two further reasons for using the combined method are [11]:

- The first method is used to sequentially assist the second.
- Contradictions and fresh perspective emerge.

The research method is shown in Figure 2 in more detail. This is briefly described as follows. A literature review (1) of material directly related to the business field under investigation is done. This in conjunction with expert practitioner inputs (2) is crystallised into a range of stated research objectives and formulated propositions (3). The purpose of this is to establish a set of fundamentals (5) in order to build theory (7) from. The instrument used for testing these propositions is a market research (4) of the South African business environment.



*Figure 2 - Research Method*

In order to put a theoretical construct (7) together, not only are the confirmed propositions (5) used, but diverse fields of study (6) are investigated in order to obtain innovative insights. This theory is then validated against practice by means of application (8). This validation results in a component of confirmed theory (9) as well as a set of hypotheses (10). The entire research is then tied together in terms of implications and conclusions (11).



## 1.7.2 Assumptions and rationale

The assumptions and rationale for the method is discussed with the assistance of Table 1[11]:

*Table 1 – Assumptions of the Quantitative and Qualitative Methods*

<b>Assumption</b>	<b>Question</b>	<b>Quantitative</b>	<b>Qualitative</b>
Ontological assumption	What is the nature of reality?	Reality is objective and singular, apart from the researcher.	Reality is subjective and multiple as seen by participants of the study.
Epistemological assumption	What is the relationship of the researcher to that researched?	Researcher is independent from that being researched.	Researcher interacts with that being researched.
Axiological assumption	What is the role of values?	Value-free and unbiased.	Value-lade and biased.
Rhetorical assumption	What is the language of the research?	Formal, based on a set of definitions, impersonal voice, use of accepted quantitative words.	Informal, evolving decisions, personal voice, accepted qualitative words.
Methodological assumption	What is the process of the research?	Deductive process, cause and effect, static design - categories isolated before study, context-free, generalisation leading to prediction, explanation and understanding, accurate and reliable through validity and reliability.	Inductive process, mutual simultaneous shaping of factors, emerging design - categories identified during the research process, context-bound, patterns and theories developed for understanding, accurate and reliable through verification.

A wide range of literature is available around the field of the research, but very little exists in the direct field of the study. In the broad range of literature in the periphery, very little has been substantiated by scientific means. In order to establish a point for departure it is important to merge the broad literature base into a solid foundation. This provides a strong case for quantitative research [11] in order to establish the point of departure. This is necessarily a deductive process (see Table 1).

Once the key drivers are established, they in conjunction with a sparse amount of directly related literature are constructed into a theoretical base. This process is predominantly inductive and lends itself towards qualitative based research [11]. In order to substantiate this theory, it is tested in an application. In this case the researcher interacts directly with the application area. Its evaluation is necessarily value-laden with a degree of bias. This again has a strong qualitative orientation.

### 1.7.3 Type of design used

The type of design used is a quantitative study which then leads into theory generation and a qualitative assessment. This is characteristic of a dominant qualitative design with a less dominant quantitative component. The advantage of this method is that it establishes a consistent paradigm while it probes certain areas in depth in order to [11]:

- Gain in-depth insights in specific areas.
- Achieve triangulation of results and constructs as described earlier.

Through-out the research however, correlations are made between qualitative and quantitative results in order to ensure consistency of thought or indeed explore contradictions. This is more a quality control mechanism rather than the main theme behind the constitution of the method design.

While the application serves to substantiate the developed theory, in some areas it may not be considered to serve as case based research if less than 4 cases are used [15]. Another school of thought however, indicates that better theory results from more in-depth analysis of a single case than from surface correlation between multiple case studies [16]. The application is therefore selected on these grounds. It is possible to further draw a distinction between an application and a case study.

A case study refers to the dissemination of a case where the constructed theory has not acted on. The synthesis of theory is based on examining the cases and effects of events and objects in the case or cases under study. It does remain possible that some underlying principle is not unearthed which in turn may compromise the theory in practice. Application on the other hand, “runs the theory through the gauntlet” as it were and should result in a more valid and practicable construct.

### 1.7.4 Role of the researcher

The epistemological assumption, namely the role of the researcher, is influenced by the two methods employed, namely the quantitative and qualitative methods. In the quantitative phase the role of the researcher is to be independent of that being researched as highlighted in Table 1. In this case the multitude of data is summarised into a quantitative form and put out to the population. This information is then interpreted using statistical methods. The researcher in this phase assumes an objective position.

A different role is assumed during the qualitative component of the study which comprises the larger contribution of the work. This role is subjective, value-orientated and biased. Another key characteristic is the intimate relationship of the researcher with the subject under consideration [11].

The researcher has worked in a wide range of companies across many countries as described earlier. The focus of the researcher’s career over more than the past 7 years has been in business improvement. The level of these improvements has ranged from continuous improvement to strategic visioning if one refers to Martin’s hierarchy of change types (see



Table 3). The researcher has consulted on two projects related directly to the line of this study.

It is one of these projects that is used for the application described later in the document. The researcher played the role of external auditor to the business intervention as well as the lead consultant in terms of the risk management component of the project.

In theory construction the researcher used one to one interaction with all organisational levels across the organisation. The purpose of this is to understand how perceptions vary across the organisation. Interaction at director level allows for unusual insights into holistic concepts. The primary vehicle used to gain access to the qualitative sources is by means of the researcher's business network<sup>1</sup>.

### 1.7.5 Data collection

Various data collection procedures are employed in order that they are suitable for the various steps in the research. The various procedures are listed below<sup>2</sup>:

- Background information - Literature review.
- Expert/practitioner inputs - Unstructured open-ended interviews.
- Market research - See paragraph 3.3 (Market research: managing the risks of business change).
- Inputs from lateral fields of study - Literature review and unstructured open-ended interviews.
- Application - Observational notes by conducting the observation as a participant.

### 1.7.6 Data analysis

The data analysis is divided into two types. The approach to the analysis of the market research is described in detail in paragraph 3.3 (Market research: managing the risks of business change).

The qualitative data analysis is based on the following principles:

- Reduction of information into patterns and themes [17].
- Interpretation of this information using a schema, e.g. a mental model [17].
- Use of spatial information to represent concepts [18].

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<sup>1</sup> At the time of the study, the researcher is a partner in the South African office of an international management consultancy.

<sup>2</sup> These are described in terms recommended by Creswell [11].

## 1.8 Thesis outline

The systems engineering approach is used during the study as a means to provide a holistic solution to the management of risk during the transformation of a business entity. This approach is founded on generic method, derived from basic principles as discussed in the next chapter. There are various benefits in using this approach, the following reasons being given:

- Problems are not sought merely to apply technique, rather solutions result from appropriate technique application.
- Generic, rather than specialised problem solving techniques are employed.
- The systems engineering approach can be applied to this study, as well as each problem area within the risk management environment.

The structure of this thesis is outlined in the following paragraphs.

Firstly (chapter 2), all material relevant to this study is analysed. As an integral part of this process, the fundamental concepts that are related to the study are described, in order that the reader may be provided with the foundation on which the ensuing reasoning will be established. Fundamental elements that are defined, based on the precepts of this work, include the systems approach, industrial engineering, operations research, business, the transformation thereof, business engineering, uncertainty, risk and the management of risk.

Further to this, various philosophies and concepts are described, which either incorporate these fundamental elements, or are complementary thereto. Research has been concluded in three areas which is presented in the text (chapter 3). The three areas of analysis have been based on:

- Acquiring knowledge from literature covering the direct work of study (i.e. as stated in the problem definition) as well as from experienced practitioners.
- Market research which tests a set of propositions gained from the preceding review.
- Analysis of methods used in indirect fields of endeavours as a means for gleaning innovative new insights.

Having taken the relevant components apart that comprise the making of risk management relevant to the area of business transformation, putting together feasible theory is required. Chapter 4 deals with the synthesis of the risk management model. This describes the building of the model and related components. This chapter is the culmination of the researcher's analysis, and the philosophising thereof which provides material for theory to be applied at a later stage. The synthesis is undertaken at a higher level to ensure a holistic approach.

These models are applied in the form of the theory pertaining to the area of risk analysis. This focuses primarily on the activities involving problem identification right through to alternative evaluation and selection. An important component of being able to solve the problem, is the requirement of criteria, and the metrics that need to be in place in order to measure the performance. This is described in relation to the other risk analysis activities.



The researcher contends that risk analysis is only part of the discipline of risk management. Once the problem has been identified and solved, it must be properly managed. The components of this as well as various strategies aimed at minimising risk are proposed.

The theory is applied in the form of a case study (chapter 5), where use is made of examples to firstly, illustrate the various issues concerned, and secondly to provide a test for the theory.

Managing the risk in the change of the business entity cannot occur in isolation. This needs to be appropriately integrated with analysis under consideration, whether it be issues pertaining to management in general, or business transformation techniques such as BPR, value for money audits, investment appraisals, etc.

The magnitude and complexity of the various models and their mathematics from a manual perspective are beyond practicality. To this end, the researcher has provided an overview software specification in addition to the developed software. This is described in appendix P.

In the text, and more in the application and in the conclusion, appraisals are presented. These are a critical evaluation forged by the researcher's analysis based on the information available during the course of the study.

## **1.9 Chapter conclusion**

This chapter has provided the context for the thesis both in terms of reasoning and layout. It has set the objectives of the study, the approach taken to achieve these objectives and the roadmap to the perusal of the thesis itself.