Developing an Instrument to Measure the Strategically Innovative Environment of Life Insurance Organisations in Southern Africa

A thesis submitted by:

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Abstract

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Degree : Philosophiae Doctor in Information Technology
Title : Developing an Instrument to Measure the Strategically Innovative Environment of Life Assurance Organisations in Southern Africa

This thesis reports on an exploratory study to see to what extent an instrument could be developed to measure the strategically innovative environment of life assurance organisations in Southern Africa. This instrument was applied to a number of life assurance organisations in Southern Africa and the results plotted on a four quadrant matrix, developed for this study, to illustrate to what extent certain variables could contribute in establishing a strategically innovative environment.

The main contribution of this study is to explain the interaction between the knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategic innovation. This study argues that the interaction between these components is key in developing human capital which in turn is an important component of strategic innovation. Furthermore, the instrument developed for this study can be used to evaluate other organisations, thus ultimately assisting them in becoming strategically innovative as well.

It was found that life assurance organisations in Southern Africa could be regarded as moderately strategically innovative. The degree of strategic innovation varies according to the presence and integration of certain variables set out for the organisation.

Keywords: knowledge; knowledge economy; organisational learning; intellectual capital; learning theory; strategic innovation

Opsomming

Kandidaat : Dirk Burger
Promotor : Prof. Dr. J.A. Boon
Departement: Inligtingkunde
Graad : Philosophiae Doktor in Inligtingstegnologie
Titel : Die Ontwikkeling van ‘n Instrument om Strategiese Innoverende Omgewing van Lewensversekeringsmaatskappye in Suider-Afrika te meet

Hierdie proefskrif doen verslag oor ‘n verkennende studie om te bepaal tot watter mate ‘n instrument ontwikkel kan word om die strategiese innoverende omgewing in lewensversekeringsmaatskappye in Suider-Afrika te meet. Die instrument was gebruik om ‘n aantal lewensversekeringmaatskappye in Suider Afrika se operasionele omgewing te meet en die uitslag is op ‘n vier kwadrant matriks geplot wat vir die studie ontwikkel is.

Die belangrikste bydrae wat die studie lewer, is om die interaksie tussen die kennis-ekonomie, intellektuele kapitaal, die korporatiewe kurukullum, leerteorie en strategiese innovasie te verduidelik. Die studie argumenteer dat hierdie interaksie van kardinale belang is as mens menselike kapitaal wil ontwikkel wat ‘n sleutel rol speel tot die ontwikkeling van strategiese innovasie. Sekere veranderlikes word ook uitgelig wat die strategiese innoverende omgewing van ‘n maatskappy kan bevorder of inhibeer. Verder kan die instrument wat vir die studie ontwikkel is, gebruik word om ander organisasies te evalueer om hulle te help om ook strategies innoverend te word.

Die studie het bevind dat lewensversekeringsmaatskappye in Suider-Afrika beskou kan word as gedeeltelik strategies innoverend. Die mate waarin hierdie maatskappye strategies innoverend is, hang af van die aanwesigheid en integrasie van sekere veranderlikes wat vir die organisasie bepaal is.

Sleutelwoorde: kennis; kennis-ekonomie; organisatoriese leer; intellektuele kapitaal; leerteorie; strategiese innovasie

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"When times are tough, persevere – you might just be surprised by the outcome…."

Dirk Burger

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CHAPTER 1: INTRODUCTION

1.1 Chapter overview

The diagram below gives a brief overview of this chapter:

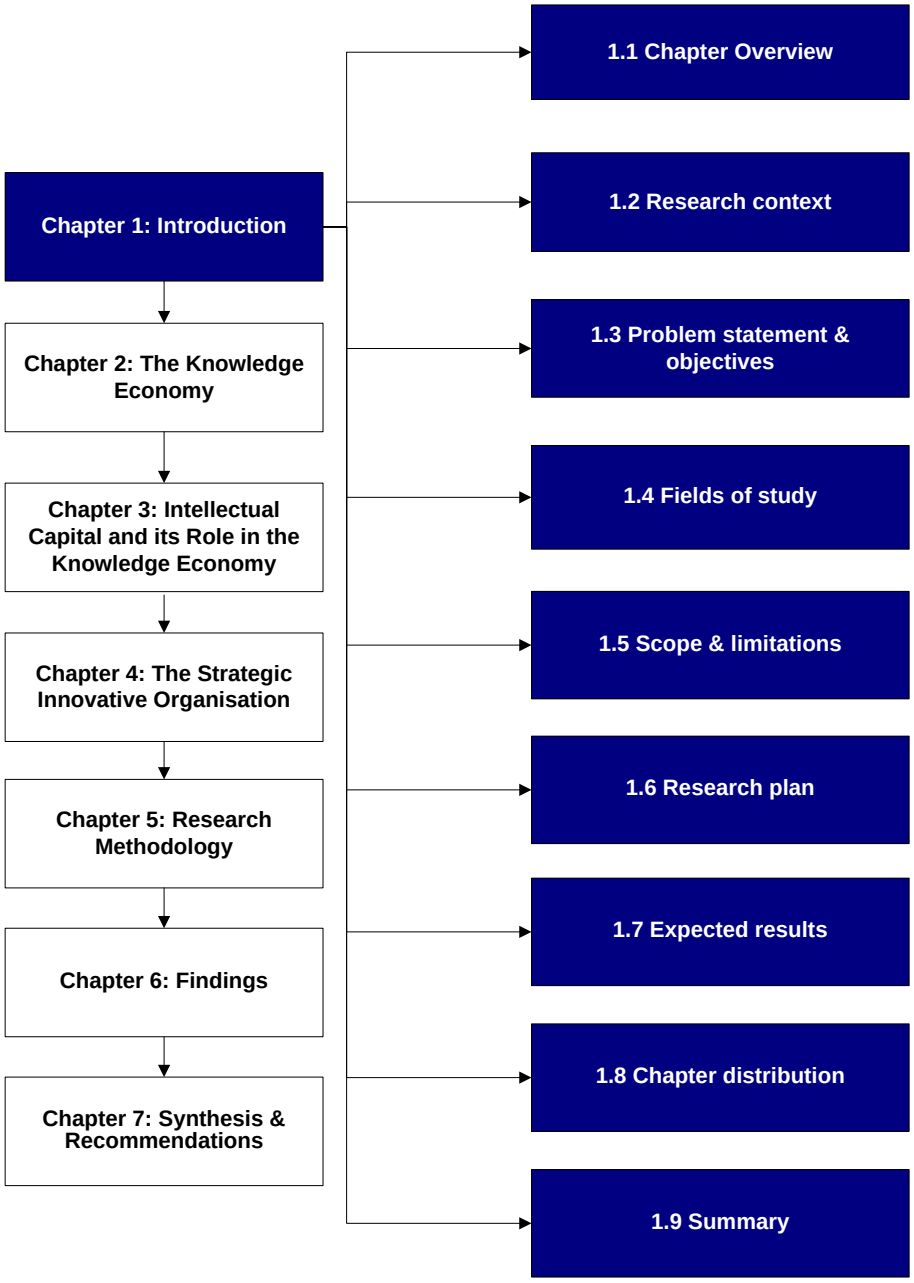


Figure 1.1: Chapter overview

1.2 Research context

The knowledge economy has become the talking point of many organisations in the new millennium. The traditional bases for economic power have shifted from land and labour to information and knowledge. The boom in the information age has led organisations to rethink their strategy in order to stay competitive.

In the insurance industry the changing market place, globalisation, new governing rules, the rapid developments in new technology and customers who know exactly what they want, have driven these organisations to become more innovative than ever. New products need to be developed at a rapid pace and the go to market strategies for these life insurance organisations need to allow for rapid product releases. The saying in the knowledge economy that the fast eat the slow is therefore even more true for life assurance organisations.

In the life assurance industry today there are many opportunities and perhaps even more risks in positioning themselves in this market that the knowledge economy has created. These opportunities and risks are also a challenge for vendors who supply life assurance organisations with software systems. Software vendors need to constantly adapt their product offerings in order to meet their customers' needs. One of the biggest challenges for vendors and life assurance organisations alike is how to build an innovative environment that will leverage knowledge as a corporate asset, maintain customers and allow for rapid development and release of customised product offerings.

1.3 Problem statement and objectives

1.3.1 Problem statement

This research hypothesises that organisations need to be strategic innovative if they wish to survive in the knowledge economy.

It is therefore critical for organisations to understand which variables could contribute to creating a strategically innovative operational environment. Although tools exist to measure innovation, most organisations innovative success is measured based on certain innovation inputs (e.g. research and development spending) versus outputs (e.g. number of patents filed) and do not take into consideration the operational environment that is needed for strategic innovation.

In lieu of the above this research sets out to answer the following question:

To what extent can an instrument be developed to measure an organisation's strategically innovative environment?

In exploring this issue, the following subquestions arise:

- What is the knowledge economy and what impact does it have on a strategically innovative environment?
- What role does intellectual capital play in the strategically innovative environment?
- What is a strategically innovative organisation?
    - Which variables contribute to the creation of a strategically innovative environment?
- How can learning theory contribute to the creation of a strategically innovative environment?
- To what extent can organisations in the life assurance industry in Southern Africa be regarded as strategically innovative?

To readers, this research may hold the following value:

- Awareness and analysis of factors surrounding the integration of the concepts of knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategic innovation.
- Sensitivity to the need to support strategically innovative organisations as suppliers/vendors.
- Exposition of elements crucial to the evaluation and development of a strategically innovative environment.

- Appreciation for the factors affecting organisations wishing to improve their strategically innovative environment.

1.3.2 Objectives

The first objective of this study is to describe the role intellectual capital, the knowledge economy, the corporate curriculum and learning theory plays in creating a strategically innovative operational environment. In order to meet this objective this study will attempt to:

- Describe the constructs mentioned above in order to establish their conceptual boundaries.
- Discuss the characteristics of these constructs in order to establish the relationship between them.
- Explain the value that each construct adds to business in order to provide a high level of understanding of the nature of each construct and its interrelationship with other constructs.

A second objective of this study is to develop an instrument to measure an organisation's strategic innovative environment based on the analysis and investigation of the above constructs. In order to meet this objective this study will attempt to:

- Integrate the aforementioned constructs to identify certain variables that could promote or inhibit a strategically innovative environment.
- Use Cronje and Burger's (2006) learning matrix as a base to develop a matrix for strategic innovation.
- Draw up a list of statements based on the characteristics of each variable. These statements will represent elements of the x- and y-axis of the refined matrix mentioned above. These statements will also be used as the basis for a Likert-based instrument which will be used to evaluate the participating organisations.

A third objective of this study is to apply this newly developed instrument to eight life assurance organisations in Southern Africa. By applying the instrument to these organisations this study will attempt to:

- Plot the results from the instrument on the refined matrix to illustrate the relationship between the variables in creating a strategically innovative environment.
- Help vendors to these organisations (in the case of this study, SDT Financial Software Solutions (Pty) Ltd) understand its customer environment in order to customise its product offering;
- Illustrate to the participating organisations which variables have an impact on their overall strategically innovative environment.

A fourth objective of this study is to provide the participating organisations with insight on how they could build an operational environment conducive to strategic innovation. In order to meet this objective this study will attempt to:

- Provide these organisations with recommendations on how they could improve their operational environment to become strategically innovative.

1.4 Fields of study

Main subject fields include knowledge management, the knowledge economy, intellectual capital, learning theory and strategic innovation. Fields of study include, but are not limited to: information science, general management, operational management, strategic management, organisational development and economics.

1.5 Scope and limitations

This study is limited in both theoretical scope and empirical scope as described below.

1.5.1 Theoretical scope

This study is limited in terms of the following aspects: the knowledge economy, role of intellectual capital in the knowledge economy, the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and strategic innovation (Palmer & Kaplan 2007). Cronje and Burger's (2006) model on learning theory will be used as a base to develop the new instrument.

1.5.1.1 The knowledge economy

In chapter 2 the knowledge economy is explored. A brief description of the knowledge economy is followed by a comparison between the knowledge economy and the industrial economy to highlight the major differences between the two. The impact of the knowledge economy on the workplace is explained with reference to organisational learning, after which certain challenges for Africa are highlighted.

It is important to understand the different nuances in a knowledge economy because it represents the climate in which organisations need to be strategically innovative.

1.5.1.2 Intellectual capital and its role in the knowledge economy

In chapter 3 intellectual capital and its role in the knowledge economy is explored. Chapter 3 describes intellectual capital by referring to its components (see section 3.3.1) and their relationship to one another, as well as exploring ways in which intellectual capital could be managed.

Chapter 3 is concluded by highlighting the importance of human capital as a catalyst to creating a strategically innovative environment.

1.5.1.3 The corporate curriculum

Chapter 4 describes the corporate curriculum as a framework towards organisational learning. The eight pillars of this curriculum and the impact each pillar has on an organisation is explained in table 4.2.

This curriculum was developed by Harrison and Kessels (2004) to provide organisations with a tool to assist them in creating an environment conducive to learning.

1.5.1.4 Learning theory

According to Ormorod (1995) and Illeris (2002) in psychology and education, learning is commonly defined as a process that brings together cognitive, emotional, and environmental influences and experiences for acquiring, enhancing, or making changes in one's knowledge, skills, values, and world views. Learning as a process focuses on what happens when the learning takes place.

Explanations of what happens constitute learning theories. A learning theory is an attempt to describe how people and animals learn, thereby helping us understand the inherently complex process of learning. Learning theories have two chief values according to Hill (2002). One is in providing us with vocabulary and a conceptual framework for interpreting the examples of learning that we observe. The other is in suggesting where to look for solutions to practical problems. The theories do not give us solutions, but they do direct our attention to those variables that are crucial in finding solutions.

Two main categories or philosophical frameworks under which learning theories fall: instructivism and constructivism are described in chapter 4 of this study by referring to Cronje and Burger's (2006) learning theory model. Instructivism focuses on learning through instruction while constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts (see addendum 3).

1.5.1.5 Strategic innovation

Chapter 4 also describes the concept of strategic innovation with reference to Palmer and Kaplan's (2007) model. In this chapter strategic innovation is defined as: *"Creating and applying knowledge to the benefit of the organisation through creating an environment conducive to learning"*.

Chapter 4 furthermore provides a brief overview of the more traditional approaches to measuring innovation in organisations.

A new matrix is proposed in the latter part of chapter 4 based on Cronje and Burger's (2006) matrix that integrates key constructs towards strategic innovation. This new matrix on strategic innovation will be used to plot the results from the newly developed instrument on. It is hoped that by plotting the results on the matrix it will give the reader an understanding of the role key variables play in promoting or inhibiting a strategic innovative environment. It is also believed that this matrix will be a valuable tool for organisations to prioritise which areas need improvement.

1.5.2 Empirical scope

The empirical scope of this study is limited in terms of industry, geographical area and the number of participating organisations.

- ***Industry****:* Life Assurance. This limitation is due to the fact that the researcher and his reporting staff were all employed in this industry by SDT Financial Software Solutions (Pty).Ltd. (hereafter referred to as SDT), the sponsor of this study.
- ***Geographical area****:* Southern Africa (South Africa, Swaziland, Namibia, Lesotho and Mauritius). This limitation is due to the fact that the participating organisations' head offices resided in the various geographical areas.
- ***Number of participating organisations****:* Eight organisations participated in this case study. This limitation was due to the fact that this research was conducted on a selection of customers of SDT. These customers were selected in consultation with executive management of SDT.

1.6 Research plan

1.6.1 Type of research

This research consists of a qualitative case study, which is supplemented by literature studies pertaining to the topic at hand.

The research is furthermore guided by surveys to identify field leaders, such as Harrison and Kessels (2004); Bontis (1998), Edvinsson & Malone (1997) and Senge (1990) to name but a few. It is also informed through case studies and discussion forums.

This research was divided into three phases. In the first phase literature on the topic at hand was analysed to identify the main categories. Material within these categories was then reanalysed to identify subcategories on the basis of specific content within the data.

In the second phase various concepts are integrated to formulate statements. These statements formed the basis of the Likert-based instrument to measure the strategic innovative environment of organisations.

As a third phase, this newly developed instrument was used to evaluate a select case of organisations in the life assurance industry of Southern Africa. The results from the instrument were then plotted on an innovation matrix that is based on Cronje and Burger's (2006) initial matrix on learning theory.

1.6.2 Participants in this study

Eight life assurance organisations in Southern Africa were selected for this study. Selecting only eight cases ensured that this project concluded in a reasonable timeframe, therefore not prolonging the process. These organisations were customers of SDT, a software development company in Pretoria, South Africa. The organisations varied in size and turnover. Some were listed on the JSE Limited. More detail on these organisations is provided in addendum 4.

In each organisation three staff members were interviewed. To avoid potential bias of the participants, the interviews were conducted individually and staff at different levels in the organisation was interviewed. A total of twenty four interviews were therefore conducted across eight organisations.

These interviews were recorded to enable the researcher to analyse and reanalyse the data. As mentioned in section 1.6.1 above, the statements developed for the instrument were used as the basis for the interviews.

1.6.3 Data collection methods

A combination of methods was used to collect relevant data. The instruments used to collect the data are discussed below and the cross-references between the specific data gathering instruments and the related questions within the research are explained in table 1.1.

The instruments used were as follows:

- ***Literature review:*** This covered relevant journal articles, books and electronic documents available.
- ***Web pages:*** Pages were consulted to obtain details on the topic at hand.
- ***Participant interviews:*** Telephonic interviews were conducted with participants. These interviews were recorded to enable the researcher to analyse and reanalyse the data.

Table 1.1: Matrix to indicate data collection methods

Question	Literature review	Participant interviews	Web pages
1. What is the knowledge economy and what impact does it have on a strategically innovative environment?	✓		✓
2. What role does intellectual capital play in the strategically innovative environment?	✓		✓
3. What is a strategically innovative organisation? • Which variables contribute to the creation of a strategically innovative environment?	✓		✓
4. How can learning theory contribute to the creation of a strategically innovative environment?	✓		✓
5. To what extent can an instrument be developed to measure an organisation's strategically innovative environment?	✓	✓	✓
6. To what extent can organisations in the life assurance industry in Southern Africa be regarded as strategically innovative?	✓	✓	✓

It needs to be noted that this study attempted to answer the two highlighted questions in table 1.1 and that the non-highlighted questions (questions 1, 2, 3 and 4) were posed in order to create the context in which the author attempted to answer questions 5 and 6.

1.7 Expected results

Expected results from this study include:

- An instrument can be developed that integrates characteristics of the knowledge economy, intellectual capital, the corporate curriculum and learning theory in order to measure the strategically innovative environment of organisations.
- Individual learning is a critical component for creating a strategically innovative environment.
- Areas will be identified that need development if organisations wish to become strategically innovative.
- Participating organisations will be regarded as being strategically innovative due to the competitive environment they operate in.
- Organisations need to become strategically innovative to survive in the knowledge economy.
- The instrument will assist the participating organisations in identifying which variables affect their strategic innovativeness.
- The instrument will allow the participating organisations to prioritise which areas they wish to improve to enhance their strategic innovativeness.
- The instrument will assist SDT in understanding its customers' environment to enable SDT to customise its product offering.

1.8 Chapter distribution

Description of the product

The explicit outcome of this thesis specifies contributing factors as well as the possibilities and constraints of alternative methodologies. It also suggests implicit knowledge beyond the proven facts. Some of these issues and surrounding complexities are captured in chapter 7 as suggestions for further research.

Another outcome of this research is improved insight and further questions in the mind of the researcher. Table 1.2 gives an overview of the thesis.

Table 1.2: Chapter distribution

Chapter 1	Introduction	The framework within which the problem is situated outlines the main points and provides a general overview of the study.
Chapters 2, 3 & 4	Theoretical framework	The literature covered is explained and key concepts within the literature are described.
Chapter 5	Research methodology	The reliability of the outcome of the study depends on the reliability of the methods used to reach those conclusions. This chapter describes and motivates the methodology.
Chapter 6	Findings	The main results are discussed and summarised. Trends and patterns relating to the research questions are discussed.
Chapter 7	Synthesis and recommendations	An overview of the research and conclusions drawn is given. Recommendations for and limitations of the study as well as areas for possible further research are listed.

1.9 Summary

Research undertaken in this thesis shows that it is possible to develop an instrument to measure an organisation's strategically innovative environment.

This research further shows that life assurance organisations in Southern Africa have a moderately strategically innovative operational environment. The degree of strategic innovation depends on the type of organisation and is influenced by certain variables. This research also acknowledges that organisations are different and that

their “path” to create a more strategically innovative operational environment is affected by various changes in the economic climate.

It is believed that the instrument and matrix developed for this study could assist organisations in negotiating this path to a better strategically innovative operational environment.

CHAPTER 2: THE KNOWLEDGE ECONOMY

2.1 Chapter overview

The diagram below gives a brief overview of this chapter:

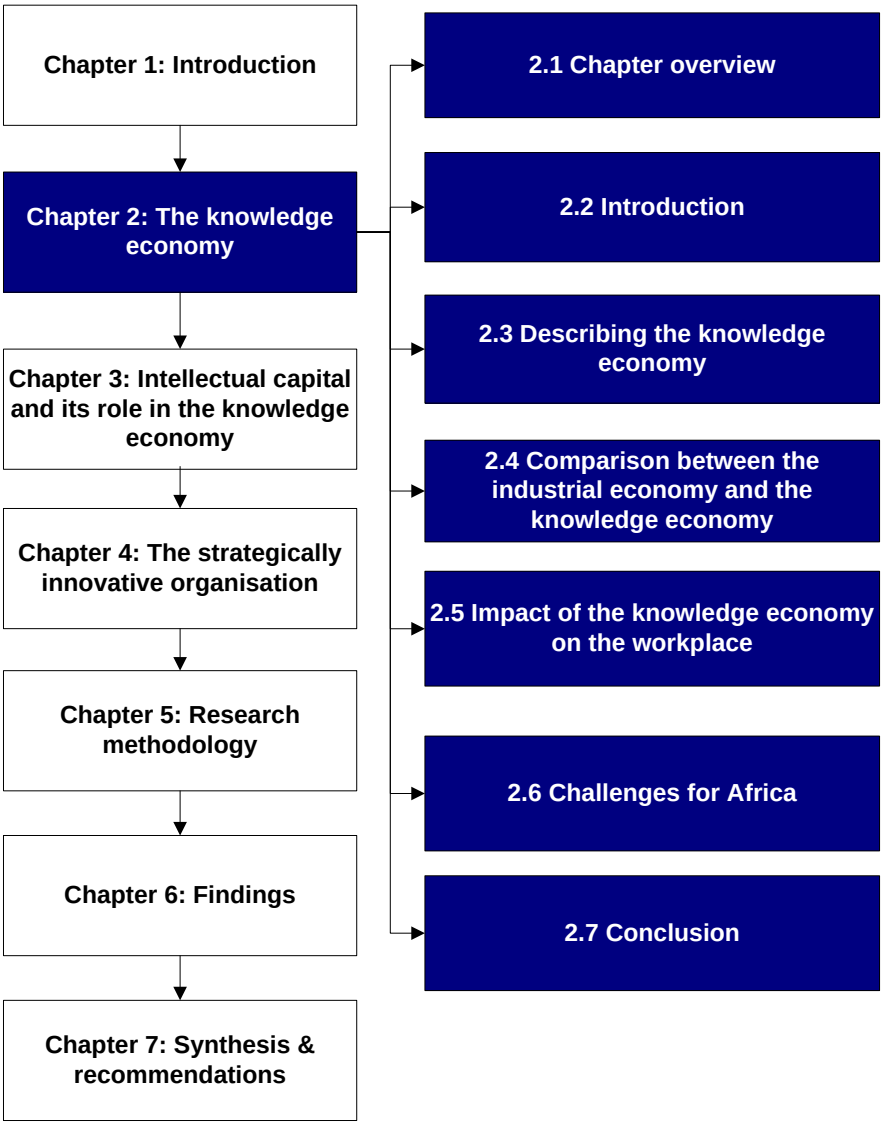


Figure 2.1: Chapter overview

Today, a high premium is put on an organisation's human capital and it is argued that in a knowledge economy, a company's intellectual capital could be the only differentiating factor distinguishing a company from its competitors (Bontis, 1998:63-75).

For organisations to be competitive today they constantly need to adapt to the new demands of a knowledge economy. These demands result in organisations needing to become strategically innovative to adapt to constant changes created by the knowledge economy.

Understanding which competences/variables promote the creation of a strategically innovative environment is becoming more important to survive in a knowledge economy.

This chapter will therefore focus on different aspects of the knowledge economy in order to highlight some of these demands or variables. This will be done by means of a short introduction, after which the knowledge economy will be described. In order to further understand what is meant by the knowledge economy, a comparison will follow between the industrial economy and the knowledge economy. This will explain in brief the major differences between these two economies.

After describing the knowledge economy, there will be a look at how this “new” economy impacts (creates new demands) on the workplace of today. Certain challenges for Africa will then be highlighted.

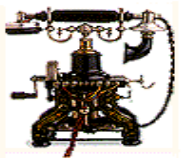
It is important to understand what is meant by the knowledge economy and how it impacts on the workplace of today because organisations need to become more strategically innovative if they want to thrive and survive in this knowledge economy, as stated earlier.

2.2 Introduction

If one looks back at the Industrial Revolution, it is evident that it was fuelled by physical capital (Komlos, 1998:779-802). The machines and the backs of the workers that made the goods, and the factories, ships and trucks that delivered the goods are all examples of this (Lucas, 1996). This all changed in the middle of the 20th century when a goods-based economy gave way to an economy based on services – people were doing things for other people (Jensen, 1993:831-880;

Jones, 2001:1-45; Galor & Moav, 2004:1001–1026). It was suddenly not good enough to teach a worker a task and to put him/her to work for the rest of his/her life on the assembly line. This change came about because of the change in the value chain between the industrial economy and the knowledge economy, as depicted in figure 2.2 below (Trilling & Hood, 1999:5-18). Figure 2.2 highlights the shift from manufacturing to produce products (with services as a by product) in the industrial economy to data and information becoming key to providing a service in the knowledge economy.

Meisinger (2006:10) emphasises this phenomenon as well, stating that the business environment and the nature of work has changed a lot during the past decade. According to Meisinger (2006:10), this trend will also continue for years to come because of the constantly changing marketplace in which organisations need to function.



Extraction => Manufacturing => Assembly =>
Marketing => Distribution => Products (& Services)

Data => Information => Knowledge => Expertise =>
Marketing => Services (& Products)

Figure 2.2: The industrial economy vs. the knowledge economy value chain (Trilling & Hood, 1999:5)

Meisinger's views (2006:10) on the "shifting" economy are also evident in today's workers who have to learn to adapt constantly to these shifting demands, both from their employers and their customers. According to Ruttenbur *et al.* (2000), the key outcome of the transformation from the industrial economy to the knowledge economy was a dramatic shift from investment in physical capital to investment in human capital (see figure 2.2).

This shift to human capital is also highlighted by other authors, such as Galor and Moav (2004:1001–1026) and Becker in Ruttenbur *et al.* (2000:12). One could thus argue that the knowledge economy is built upon the industrial economy. It is further

argued that more developed countries are quicker to adapt to the knowledge economy. It is also noted in *"The least developed countries report"* (United Nations, 2007) that lesser developed countries, especially in Africa, are still very dependent on an industrial economy and that these countries are only gradually moving towards a knowledge economy.

Becker in Ruttenbur *et al.* (2000:12) estimates that about 70% of a country's wealth is in human capital, as opposed to physical capital. He says the following: *"The beginning of this century, in my judgement, should be called 'The Age of Human Capital'."* This, according to Becker, is because individuals and economies have succeeded in investing and commanding the growing stock of knowledge. Huggins (n.d.) also supports this view, stating that knowledge would be the competitive advantage of the future as opposed to an organisation's tangible assets.

Technology[1] also has a major impact on the world today. This high impact is because technology has the ability to connect humans and machines to one another in order to organise information into meaningful knowledge that is easily accessible, as explained by Fresen (2004). Many authors, such as Alic and Wial (1998), Cohen and Zysman (1989), Gershuny (2000), Hertzenberg *et al.* (1998), as well as Masuda (1981), refer to this changeover to the *new* economy as *"post industrial economy"*. This knowledge economy is also marked by the need for investment in human capital, as stated earlier, with the internet improving the efficiency and productivity of this human capital.

There is thus constant change today, with new information created at a rapid rate. This *new* information has a huge impact on business and economy and needs to be organised into knowledge quickly, as explained by Fresen (2004). According to Webber in Ruttenbur *et al.* (2000), to keep up to speed with the constant change in the work environment as a result of the knowledge economy, workers must be taught, with the help of technology, the skills to harness the vast and often raw array of information that technology itself has helped to generate in this knowledge economy. Chari and Hopenhayn (1991:1142-1165) refer to these specific skills as *"vintage human capital"* due to their scarcity. The challenge for organisations is

[1] Advancements in technology could largely be explained by the boom in the internet, according to Webber in Ruttenbur *et al*. (2000).

therefore to develop human capital as a critical success factor for creating a strategically innovative environment.

The initial foundation for the knowledge economy was also first introduced by Drucker (1966) in his book called *"The effective executive"*. In this book Drucker (1966) distinguishes between the manual worker and the knowledge worker. He states that a manual worker works with his/her hands and produces "stuff". A knowledge worker, on the other hand, works with his/her head and produces ideas, knowledge and information. This view of Drucker is also supported by authors such as Schlosser *et al.* (2006:291-303), Meisinger (2006:10), Huggins (n.d.), Leonard (2003), Rylatt (2003:37) and Leadbeater (1998:375).

In the next section a closer look will be taken at what this knowledge economy actually means.

2.3 Describing the knowledge economy

According to the Work Foundation (n.d.:19-23), many politicians and business gurus loosely use the term "knowledge economy" "*as a speech-padding buzzword without having any clear idea who or what they are talking about"*. The article goes further in stating that the *"debate about the knowledge economy is full of slovenly thinking and careless assumptions"*.

In the same article, Ian Brinkley, who was the research director for the Work Foundation researching the knowledge economy, also states that "…*despite half a century's talk about the emerging knowledge economy no robust definition of what it is has so far emerged"*.

In this section the aim is to shed some more light on the concept of a knowledge economy by referring to various authors on the topic.

As can be seen from the introduction (section 2.2) above, the main driving force behind the knowledge economy is the use of ideas, i.e. knowledge, rather than physical ability. This is also highlighted by Brinkley (Work Foundation, n.d:19-23), who states that the knowledge economy is the result of what you get when

organisations bring together technology and "*well-educated minds"* in order to be profitable. Technology needs to be applied to organise information into meaningful chunks of knowledge and the emphasis has moved away from transforming raw materials or the exploitation of cheap labour. Brinkley (Work Foundation, n.d:19:23) goes further in highlighting that this combination of technology and well-educated minds is a new phenomenon, implicating that organisations now compete *"…on their ability to exploit scientific technical and creative knowledge bases and networks"*.

Many other authors (i.e. Huggins (n.d.), Leadbeater (1998:375), Leonard (2003), Meisinger (2006:10), Rylatt (2003:37), Schlosser *et al.* (2006:291-303) and World Bank (n.d.)) agree that the knowledge economy consists of the knowledge, skills and experience of an organisation's workforce and the creative application of these concepts in order to make the organisation more competitive and economically sustainable than its rivals. This view was also popularised, if not invented, by Peter Drucker (1969) in his book "*The age of discontinuity".*

According to the World Bank (n.d.:2), the knowledge economy is characterised by the following four features:

I. ***"Knowledge is being developed and applied in new ways.*** *The information revolution has expanded networks and provided new opportunities for access to information. It has also created new opportunities for generating and transferring information. Knowledge networks and sharing of information have expedited innovation and adaptation capacity. Changes in ICT have revolutionized the transmission of information. Semiconductors are getting faster, computer memories are expanding, and ICT prices are falling. Data transmission costs have fallen dramatically and continue to fall, bandwidth is growing, and Internet hosts are expanding and multiplying. Cellular phone usage is growing worldwide, adding to the pace of and capacity for change and innovation"*
II. ***"Product cycles are shorter and the need for innovation greater.*** *In 1990 it took six years to go from concept to production in the automobile industry; today that process takes just two years. The number of patent applications is growing and more and more international and multiple*

applications are being filed. Industrial countries filed 82,846 patent applications at the European Patent Office in 1997, a 37 percent increase over 1990"

III. ***"Trade is increasing worldwide, increasing competitive demands on producers.*** *Countries that are able to integrate into the world economy may be able to achieve higher economic growth and improve health and education outcomes"*

IV. ***"Small and medium-size enterprises in the service sector have become increasingly important players, in terms of both economic growth and employment.*** *More and more countries, especially developing countries, have a strong governmental focus on developing these enterprises, due to their importance in the economy"*

Further research by the World Bank (n.d.:2) indicates that the knowledge economy rests on the following four pillars:

I. *"A **supportive economic and institutional regime** to provide incentives for the efficient use of existing and new knowledge and the flourishing of entrepreneurship"*

II. *"An **educated and skilled population/workforce** to create, share, and use knowledge"*

III. *"A **dynamic information infrastructure** to facilitate the effective communication, dissemination, and processing of information"*

IV. *"An **efficient innovation system** to tap into the growing stock of global knowledge, assimilate and adapt it to local needs, and create new technology"*

The pillars above reaffirms that if corporations wish to thrive and survive in this new knowledge economy they need to rethink their strategy in order to adapt to the constantly changing environment in which they do business.

Based on what has been said about the knowledge economy already, the following diagram describes the evolutionary path of knowledge in the knowledge economy:

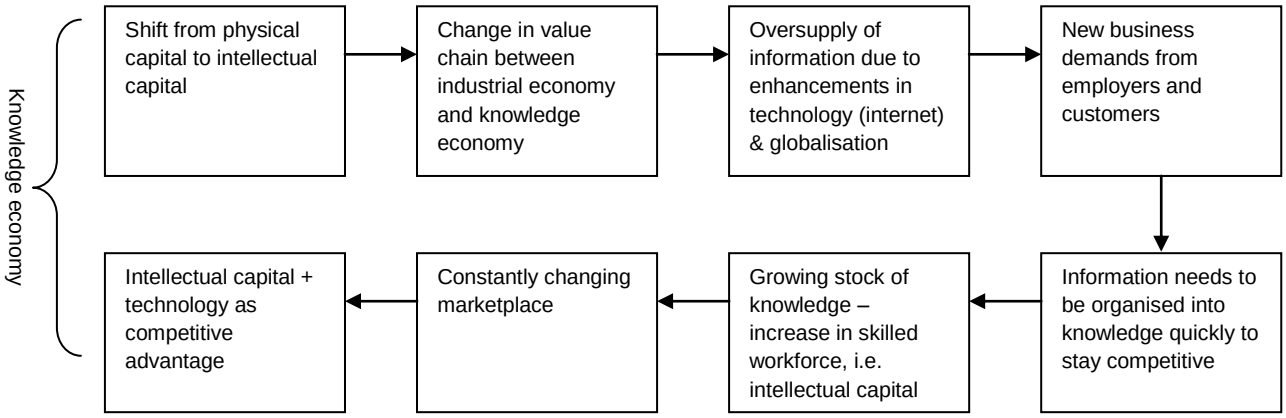


Figure 2.3: The evolutionary path of knowledge in the knowledge economy

Figure 2.3 above illustrates that the general way in which work was valued has changed dramatically over the years. The knowledge economy is characterised by the oversupply of information and refers to the knowledge work-based economy. This oversupply leads to many challenges to managers today due to the fact that they are unable to absorb all the information in order to make effective decisions. For a company to be profitable in the knowledge economy it cannot rely on bottom-line results alone anymore. Intellectual capital has a significant impact on an organisation's success. Another point to note is that a company cannot only rely on a select few to run the organisation. Companies cannot exist in isolation anymore and being successful in the knowledge economy requires synergy between cross-functional teams who are led from different perspectives.

In order to shed more light on the knowledge economy, the next section will differentiate between the "old" industrial economy and the "new" knowledge economy. This will be done by means of comparison, highlighting major differences in sectors such as markets, enterprises and workforce.

2.4 Comparison between the industrial economy and the knowledge economy

If one looks at the description of a knowledge economy, as given in section 2.3 above, it is noticeable that this "new" economy differs from the traditional industrial economy.

A key concept that can be derived from the section above is that knowledge can be treated as a business product and as an educational and innovative product and service, which can be exported by an organisation for a high value in return. In other words, knowledge is a productive asset for an organisation.

This differs from the traditional industrial economy. Table 2.1 below summarises the main differences between an industrial economy and a knowledge economy in terms of the market, enterprise and workforce:

Table 2.1: The industrial economy versus the knowledge economy

ISSUE	INDUSTRIAL ECONOMY	KNOWLEDGE ECONOMY
Markets		
Economic Development	Steady and linear, quite predictable	**Volatile** - extremely fast change, with explosive upsurges and sudden downturns, and **chaotic** - the direction of the economy's changes is not perfectly clear
Market Changes	Slow and linear	Fast and unpredictable
Economy	Supplier-driven	Customer-driven
Lifecycle of Products and Technologies	Long	Short
Key Economy Drivers	Large industrial firms	Innovative entrepreneurial knowledge-based firms
Scope of Competition	Local	Global hyper competition
Competition: Name of the Game	Size: The big eats the small	Speed: The fast eats the slow
Marketing: Name of the Game	Mass marketing	Differentiation
Enterprise		
Pace of Business	Slow	Appreciably faster with ever-rising customer expectations
Emphasis on	Stability	Change management
Business Development Approach	Strategy pyramid: vision, mission, goals, action plans	Opportunity-driven, dynamic strategy
Success Measure	Profit	Market capitalization (the market price of an entire company)

Table 2.1: (Cont.)

Enterprise		
Organization of Production	Mass production	Flexible and lean production
Key Drivers to Growth	Capital	People, knowledge, capabilities
Key Sources of Innovation	Research	Research, systemic innovation, knowledge management, integration, new business creation, venture strategies, new business models
Key Technology Drivers	Automation and mechanization	Information and communication technology, e-business, computerized design and manufacturing
Main Sources of Competitive Advantage	Access to raw materials, cheap labour, and capital for conversion; cost reduction through economies of scale	Distinctive capabilities: institutional excellence, moving with speed; human resources, customer partnership; differentiation strategies; competitive strategies
Scarce Resource	Financial capital	Human capital
Decision Making	Vertical	Distributed
Innovation Processes	Periodic, linear	Continuous, systemic
Production Focus	Internal processes	Enterprise-wide business process management and entire value chain
Strategic Alliances with Other Firms	Rare, "go alone" mindset	Teaming up to add complementary resources
Organizational Structures	Hierarchical, bureaucratic, functional, pyramid structure	Interconnected subsystems, flexible, devolved, employee empowerment, flat or networked structure
Business Model	Traditional: command-and-control	New: refocused on people, knowledge, and coherence
Work Force		
Leadership	Vertical	Shared: employee empowerment & self-leadership
Work force characteristics	Mainly male, high proportion of semi-skilled or unskilled	No gender bias; high proportion of graduates
Skills	Mono-skilled, standardized	Multi-skilled, flexible
Education Requirements	A skill or a degree	Continuous learning: It's not what you know, it's how fast you can learn
Management-Employee Relations	Confrontation	Cooperation, teamwork
Employment	Stable	Affected by market opportunity / risk factors
Employees Seen as	Expense	Investment

(Source: Kotelnikov, n.d.)

Kotelnikov (n.d.) further summarises the qualities of a knowledge economy as follows:

- Technological breakthroughs, economic growth, market evolution, shifts in customer tastes, social changes and political events are all factors that may grow or shrink the business space.
- This new economy also opens up huge opportunities for entrepreneurs, thus being an entrepreneurial economy.
- Knowledge and continuous learning have become critical to success in the knowledge economy. The knowledge component of products and services

has increased dramatically and has become a dominant component for creating customer value. The knowledge economy is thus led by those who manage knowledge effectively.

- Fredman and Dell (1999) emphasise that the internet (i.e. technology) has changed the way in which we do business. Technology has enabled the world to get a lot smaller, i.e. globalisation.
- Dramatic change has led to organisations seeking better ways to increase productivity and competitiveness. These changes are especially apparent in the way organisations communicate today. Vast information resources need to be accessed quickly and communicated over huge distances efficiently.
- According to Ram, Noel and Tichy (1998), the ideas, technology and capital to satisfy new needs flow freely, thus creating huge growth opportunities. What was new today is old tomorrow.
- The new economy is complex. Viscio and Pasternack (1998) argue that because new characteristics are added frequently, but subtracted infrequently, business space, technologies, business processes and business models have become more complex. These factors create exciting new opportunities for organisations.
- The knowledge economy is a customer-driven economy. Globalisation has led to more companies pursuing the same customers. Customers, in turn, have become more sophisticated and more informed. Technology has enabled customers to find alternatives and to exploit them. It has become very difficult for companies to differentiate themselves. This phenomenon has transformed a supplier-dominated economy into one that is dominated by its customers (see also figure 2.2).
- According to Viscio and Pasternack (1998) technology gave birth to the information economy and transformed into the knowledge economy. Information and fast access to information have thus become an integral part of the knowledge economy.
- In business today, distance is becoming a shrinking barrier. The same geographic immediacy is no longer essential for people to work together. Kotelnikov (n.d.) supports this view by stating that markets are globalising and a rapid rate, as are the companies that compete in them.

- Kotelnikov (n.d.) goes further in stating that capital markets have evolved and that new investors are more informed and innovative. They have become agents of change by demanding superior performance and organisational transparency.
- There is also a new competitive dynamic where competition between organisations is now based more on capabilities than assets.
- Kotelnikov (n.d.) argues that specialised skills have now become increasingly important to organisations in order to make their employees more mobile in the market. The relationship between the company and its employees is also changing rapidly. The increase in importance of knowledge and capabilities means that an organisation's people have become more important. Due to evolving demographics, family time and values have also become very important.
- The business of today is about passion and creating new things. Fun has thus become an important element in the business strategy of today.

The last quality is based on Meyer and Davis's work (1998), stating that, in the new economy, the focus must be on the way in which the nature of value is changing. There should be new ways to price goods, information and emotion. An implication of this is the transfer of power from the producer to the customer (see also figure 2.2). Companies will need to think about offers merging products and services and to exploit their knowledge in order to give the customer a value-added experience, instead of just selling them "stuff".

The knowledge economy has an impact on the workforce as was highlighted above. In section 2.5 the impact of the knowledge economy on the workplace will be explored.

2.5 Impact of the knowledge economy on today's workplace

The section above suggests that in today's workplace, organisations are operating in a complex and ever-changing environment. Duffy (1997) predicted that the workplace of the future would be characterised by the following:

- The office would be "mobile" with people working from anywhere.
- Employees would not be unconditional lifetime workers anymore.
- The need for highly skilled employees (i.e. managerial, technical and service jobs) would increase while the need for clerical, manual labour and operators would decrease.
- There would be better technology, better processes and fewer, but better trained employees.
- The number of part-time workers and contractors would increase.
- Employers would take accountability for reskilling their employees, with the latter responsible for their own career growth.
- Jobs would be harder to find and keep for younger people.
- Global competition would force organisations to find new ways to improve productivity, resulting in an ever-changing work environment. This might lead to employees experiencing more uncertainty at work.

Although Duffy's (1997) predictions seemed strange to the people of the time, they all came true as highlighted by other authors such as Huggins (n.d.), Leadbeater (1998:375), Leonard (2003), Meisinger (2006:10), Rylatt (2003:37), Schlosser *et al.* (2006:291-303) and World Bank (n.d.). To keep up, organisations are expected to deliver new and high quality products and services in a flexible and rapid manner. Hackett's research (2000) indicates that if organisations wish to survive in the new knowledge economy, they should be able to do the following:

- Make faster decisions, closer to the point of action. This will be done by increasing sales and faster development of products/solutions.
- Internal and exterior barriers should be overcome by reducing costs and improving customer relationships.
- More opportunities for innovation should be provided. Organisations should not reinvent the wheel and they must save costs.
- Product development time should be reduced.

- Customer relationships should be enhanced by better utilising knowledge.

To deal with this new demand, organisations will need to reconsider and make new choices in how they design their work organisation (Van Amelsvoort, 2000). Old corporate structures that were very effective in the past (industrial economy) are now becoming obsolete in the knowledge economy's turbulent environment. In order to better understand the functioning of organisations and the strategic decisions that are made to adapt to these ever-changing circumstances, Van Amelsvoort (2000) developed a conceptual framework.

This framework is based largely on the modern socio-technical theory model. This approach views the functioning of an organisation in terms of a combination of social and technical systems.

According to Van Amelsvoort (2000), the technical system consists of the formal and informal structure of the organisation as well as the technology in use. The social system consists of the people, with all their attributes including their understanding, skills, beliefs and ideas.

The social system also consists of the organisational culture which is determined by the relations between people and the characteristics of the relationships between the employer and the employees (Van Amelsvoort, 2000).

An integrated approach means that a central position is occupied between the technical and social systems as highlighted by Van Amelsvoort (2000). An organisation's performance is therefore determined by a combination of technical and social factors, i.e. people, culture, structure and systems. By combining all these factors, an organisation has a better chance of continuous and sustained improvement and innovation. This continuous and sustained improvement and innovation is extremely important for organisations in order to survive in the knowledge economy, as stated earlier.

According to Van Amelsvoort (in Van Hootegem *et al.,* 2005), many popular management approaches in modern organisations also fail today, due to the fact that they only focus on the above factors in isolation.

This view is also supported by other researchers, such as Kotelnikov (n.d.), who argues that the corporate strategy in a knowledge economy is very different from one in an industrial economy. This is illustrated by comparing a corporate strategy pyramid (old view) with a corporate strategy stretch (new view), as depicted in figure 2.5 below.

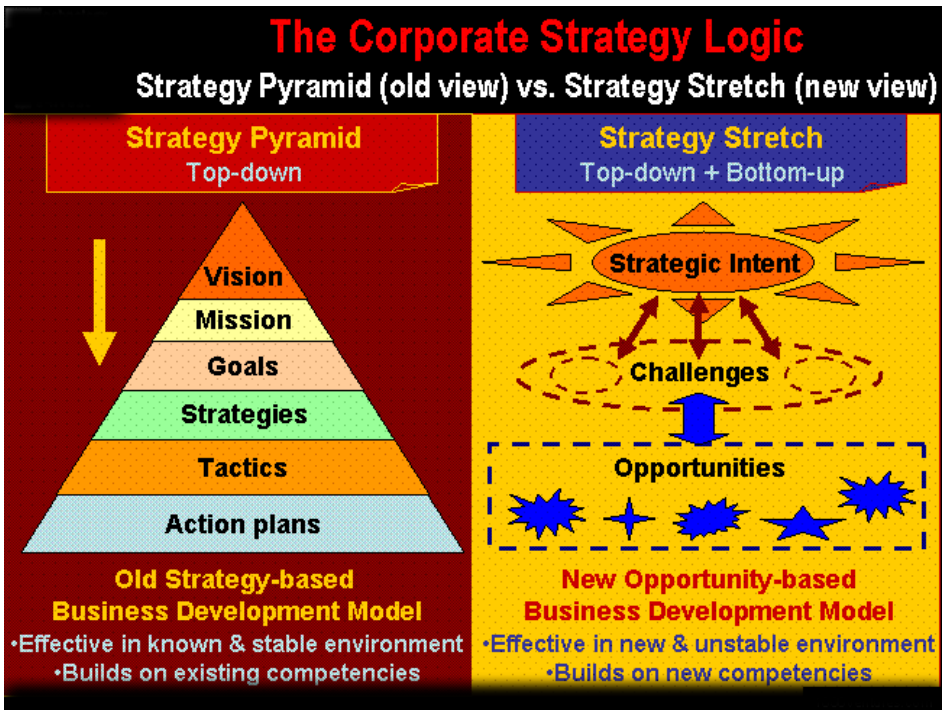


Figure 2.4: The corporate strategy logic (Palmer & Kaplan, 2007)

Figure 2.5 illustrates that the new knowledge economy creates many challenges for organisations wishing to flourish in an economy where new opportunities for growth and change are abundant.

An organisation's strategy also needs to be adapted from a traditional top-down approach to a top-down, bottom-up approach. The strategy needs to expand in order to cater for an ever-changing environment where change is the only constant. This change, in turn, creates many business opportunities, as stated earlier. Taking both the social and technical systems of Van Amelsvoort (2000) into consideration can lead to organisations having different organisational

compositions. This would be as a result of changing external demands over time, as mentioned earlier.

These external demands were researched by Bolwjin and Kumpe in 1998. They identified the following shifting patterns of business demands over the past 50 years (see table 2.2) as referred to by Van Hootegem *et al.* (2005):

- In the 1950s and 1960s, the focus was on price and cost control.
- In the 1970s, the focus was on price and quality.
- In the 1980s, the focus was on price, quality and flexibility.
- In the 1990s, the focus was on a combination of price, quality, flexibility and rapid production and service innovation.
- In the 2000s and onwards, the focus is on price, quality, flexibility, innovation and sustainable development.

As indicated by Bolwjin and Kumpe (1989, as cited in Van Hootegem *et al.* 2005) above, business demands have changed over the past 50 years in order to adapt in this new economy. Organisations are changing their strategies to survive. Things like price, quality, flexibility and product innovation have become critical success factors. These factors have resulted in an evolutionary model, with four different shapes for an organisation. These shapes/types can be summarised as follows (Van Hootegem *et al.*, 2005):

Table 2.2: Historical timeline of ideal types of organisations in connection with external demands of the time

Business demands	Structure	Systems	People	Culture
Price (1950's/1960's)	Specialisation Hierarchy Division of labour	Detailed rules and procedures Budget driven	Narrow tasks Simple and routine work	Focus on hierarchical authority Power based: command and control
Price Quality (1970's)	Horizontal meetings Quality circle	Statistical process Control	Integration of quality control Group meetings Quality awareness	Less hierarchical Reduced power distance

Table 2.2: (Cont.)

Business demands	Structure	Systems	People	Culture
Price Quality Flexibility (1980's)	Business line oriented Small units with a whole task and decentralised control	Just in time Minimal specification Local differentiation Result driven	Multi-skilling Teamwork Self management	Transformation process is leading Managers and staff have a supporting and facilitating role
Price Quality Flexibility Product innovation (2000's)	Mini companies Temporal structures Networking	Speeding up innovation process	High involvement Partnership	Customer focused Human talent is seen as business capital

(Source: Van Hootegem *et al.*, 2005)

Table 2.2 above summarises that various business demands dictate how an organisation needs to adapt in terms of its structure, systems, people and culture. For an organisation to stay competitive in a knowledge economy, it needs to adapt its strategy to ensure that it capitalises on the various new opportunities these demands will create.

According to Van Hootegem *et al.* (2005), an organisation needs to be innovative if it would like to bridge the gap between being quality-driven and flexible. In a quality-driven configuration continuous quality improvement is one of the main drivers. Better interaction between departments and hierarchical levels is needed to improve quality. Continuous innovation will ensure that the organisation stays one step ahead of its rivals in the knowledge economy.

Van Hootegem *et al.* (2005), in table 2.2 above, show that for an organisation to adopt a flexible configuration/shape, i.e. to survive in the knowledge economy, the functional structure should be replaced by a process-orientated structure. The organisation should be broken down into smaller, independent units, i.e. mini companies, each responsible for its own results. This is done by untangling processes and splitting them to link them to specific customer groups or market segments.

Van Hootegem *et al.* (2005) go further in stating that a network configuration/shape has a high customer-orientated culture. A strong focus is placed on the personal development of employees. This is also why this type of organisation is often called the learning organisation. In this organisation the structure changes frequently in order to meet customer demands. These structural changes and continuous learning are very important if an organisation wishes to stay competitive in the knowledge economy.

The following section will describe the term “learning organisation” in more detail.

2.5.1 The learning organisation

The term “learning organisation” has been around for more than a decade and was first introduced by Peter Senge in the 1990’s. Chalofsky (2005:54-57) states that the learning organisation is a way to change an organisation into a new form called “*learned organisation”* or *“knowledge organisation”*. This view is also supported by other authors such as Loren (2005:46-48), Bersin (2006:1), McLean (2006:48-50), Whitney (2006:28-31), Mayo (2007:4), Sowards (2007:65-74) as well as Mets and Torokof (2007:139-154), to name just a few. One of the learning organisation’s goals, according to Chalofsky (2005:54-57), is to help organisations move from the industrial economy to the knowledge economy. One of the pioneers of the learning organisation, Peter Senge (in Chalofsky, 2005:54-57), states that the learning organisation reflects this transformation the society is going through. Chalofsky points out that the learning organisation concept highlights the fact that learning should be implanted into an organisation’s culture. By making learning part of an organisation’s culture, continuous adaptation and improvement is made possible. This will help organisations to excel in facing the constant demands of the knowledge economy.

Mets and Torokof (2007:139-154) point out that organisational learning is one of the aspects related to an organisation’s ability to respond more effectively to changes in its environment, thereby adapting more effectively to the knowledge economy.

Mayo (2007:4), in his answer to the question: *"What are the characteristics of a true learning organization",* describes the character of a learning organisation by dividing these characteristics into two sections:

I. **Processes**

- Employees are visible, participating in processes which encourage and stimulate learning at all levels.
- Individuals take accountability for their own development by compiling personal learning plans.
- Individuals will actively make time and acquire the necessary resources in order to achieve their personal learning goals.
- Teams will share experiences and exchange knowledge between themselves on a regular basis.
- Project teams will learn from past mistakes and pass on those lessons learnt to the next teams.
- Dedicated individuals will coordinate knowledge management and be accountable for benchmarking by external scanning of the environment at organisational level.
- Dedicated individuals will facilitate communities of practice across internal teams and boundaries.

II. **Behaviours**

- A learning culture's behaviour will have certain behaviour enlisted in its followers which will be rewarded.
- Curiosity must be encouraged by top management.
- Collaborative decision making should be encouraged.
- Employees should be sharing their knowledge freely and willingly.

Mayo (2007:4) also lists the following tangible benefits which a learning organisation would be producing:

- Reduced duplication of effort, eliminating making the same mistakes over and over again
- Reduced causes of problems due to a lack of experience
- Increased productivity, higher levels of efficiency and better solutions

- Increased sensitivity to customers' needs and innovative products and services
- Employees will constantly grow and they will react positively to an open and trusting environment
- High retention of staff due to the various opportunities to develop and grow

For organisations to develop the characteristics of a learning organisation, as explained by Mayo (2007:4) above, they need to remodel themselves. This is also evident from the research by Van Hootegem *et al.* (2005) (see table 2.2 above). Mets and Torokof (2007:139-154), in their paper *"Patterns of learning organisations in Estonian companies",* suggest an integrated model for evaluating Estonian organisations. This model is based on Senge's model (1990) on organisational learning as well as Mets's OLF[2] model (2002, in Mets & Torokof, 2007:139-154). As seen in the table below, Mets and Torokof (2007:139-154) developed a questionnaire for their evaluation.

Mets and Torokof (2007:139-154) indicate that all these factors listed below (see table 2.3) play an integral part in evaluating a learning organisation. They conclude that a better understanding of learning processes supports better management practice, employees' growth, as well as better labour practice.

[2] Organisational learning framework model: internal environment and learning, shared values and the main business process (Mets & Torokof, 2007:139-154)

Table 2.3: A comparative overview of Senge's learning organisation model and the three-dimension organisation learning framework

Senge's learning organisation (LO) model	Three-dimension organisational learning framework (OLF)	Comments
Systems thinking: It is the discipline that integrates the others, fusing them into a coherent body of theory and practice.	**Mental systems:** Joint language, cognitive maps, mental models, shared vision, shared values, shared patterns, creativity, principles, culture, systems, knowledge…	OLF model covers Senge's LO features taking into account the general description of the OLF model. In the course of the process both individual and team capabilities (first phase) of the organisation members and leaders are increased and their mental intersection grows (second phase), as a result of which the business process of the company is developed (third phase). New experience gained from the development of business process re-launches the first phase. In reality the learning process will go on, connecting and passing the above-described phases (stages) simultaneously, i.e. a learning environment will be formed. Process-related character describes the OL cycle as a whole, which is fed back and continuous, and parts of which are interconnected in the way the cycle is connected to the emerging learning and development environment.
Mental models: These are 'deeply ingrained assumptions, generalizations, or even pictures and images that influence how we understand the world and how we take action'.		
Building shared vision: 'pictures of the future' that foster genuine commitment and enrolment rather than compliance.	**Main process:** Plans, procedures, projects, budgets, products, technologies…; Business processes; Corporate structure and resources; Client's needs; Environment; Product; Organisation capability.	
Personal mastery: It is a process. It is a lifelong discipline. People with a high level of personal mastery are acutely aware of their ignorance, their incompetence, their growth areas.		Partial coverage of the two components. Features of the main process are partially inherent to Systems thinking and Building shared vision.
Team learning: Team learning starts with 'dialogue', the capacity of members of a team to suspend assumptions and enter into a genuine 'thinking together'.	**Individual and joint learning:** Training key persons, training team thinking and acting, mapping and analysing business processes, creating general organisational vision, creating strategies…; coaching and advising managers; informing and training personnel.	Good coverage of each other by the team learning aspects in both models. Partly the Personal mastery is related to Main process and Mental systems. Individual and joint learning are partly related to Building shared vision.

(Source: Mets & Torokof, 2007:139-154)

It can be furthermore argued, by considering the description of a learning organisation, that employees should have a high emotional intelligence. By constantly improving themselves, employees give themselves a better chance to flourish in an ever-changing environment in which organisations need to function to be competitive in the knowledge economy. For this, they need high emotional intelligence.

In conversation with Vermeulen (2007), an expert in the field of emotional intelligence in South Africa, certain aspects came to the fore with regard to employees' ability to grow, which is also referred to by Vermeulen (2007) as the growth loop. This natural human need to grow and develop is depicted in figure 2.6 below.

To understand the growth loop, it is important to realise that "growth" refers to the concept of growing through experiences, as opposed to gaining knowledge

from books. Books may provide us with all the knowledge in the world, but this knowledge needs to be applied efficiently and effectively for it to add any value.

Vermeulen (2007) states that growth always starts with someone needing to make a choice (see figure 2.5). To function efficiently in the knowledge economy, employees are constantly facing new choices on a daily basis, due to the abundance of readily available information. Every new choice thus presents us with an opportunity to grow.

Based on the sheer number of new choices facing employees and organisations in the knowledge economy, hundreds of decisions need to be made rapidly. Vermeulen (2007) puts forward the idea that every action begins with a decision. These actions result in reactions or consequences. Organisations operating in the knowledge economy constantly need to face these consequences, enforced by this rapid decision making process. Rapid decision making is essential to stay competitive in the knowledge economy.

All consequences produce a result and/or a reason. According to Vermeulen (2007), how employees use these results and/or reasons depends on their success in a knowledge economy. These results and/or reasons will lead employees and organisations to new choices. Important to note is that organisations will experience average levels of success in the knowledge economy if they accept the results and if they then keep on making the same choices based on these results (Vermeulen, 2007).

Organisations and employees that struggle to adapt to the knowledge economy often get stuck in the reasons. When a project turns out badly, employees will then often see themselves as failures. When failure becomes the reason, employees tend to blame themselves and others. This blame leads to a feeling of helplessness, leading to a knowledge “unproductive” organisation. According to Vermeulen (2007), these helpless employees soon become the victims in the organisation, spreading negativity. Vermeulen iterates that this negativity will more than likely lead to depression, which could result in employees resigning.

In contrast to the average achieving organisations and employees, as described above, learning organisations, i.e. strategically innovative organisations, have a culture which promotes super achievement. These learning organisations thrive in the knowledge economy by using both results and reasons as valuable feedback. Evaluating feedback leads to preventing mistakes of the past. Strategically innovative organisations in the knowledge economy make different and often better choices, based on this feedback, thus elevating the organisation and its employees to higher levels of achievement.

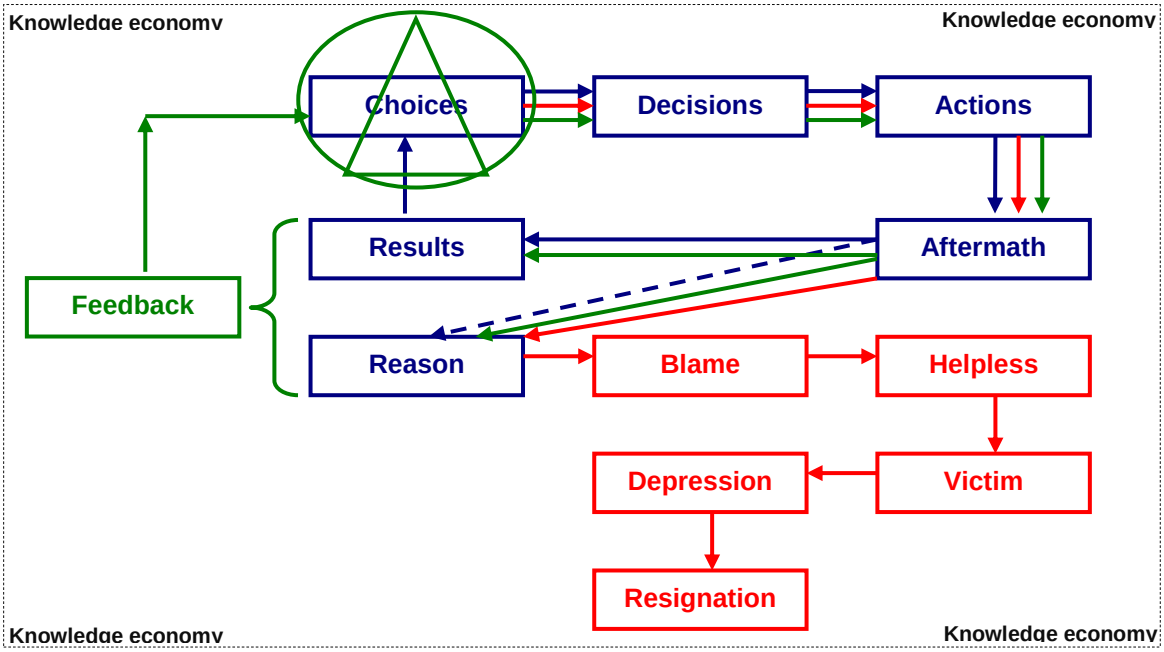


Figure 2.5: The growth loop (Adapted from: Vermeulen, 2007)

One of the critical success factors for any learning organisation to become super achieving is the constant direction and leadership from management (Mayo, 2007:4; Mets & Torokof, 2007:139-154). The following section will explain some of the challenges managers will need to face in the knowledge economy.

2.5.2 Challenges for managers

All the possible organisational “shapes” (table 2.2), as well as the different challenges of creating a learning organisation (table 2.3), have a huge impact on how organisations should be “managed” in the knowledge economy. Kotelnikov (n.d.) is of the opinion that the traditional role of the manager therefore needs to

change from a management role to a leadership role, as many organisations failing today are *"over-managed and under-led"*. This view is also supported by other authors such as Mayo (2007:4) and Mets and Torokof (2007:139-154). Figure 2.6 below illustrates this by comparing a traditional manager to a leader in the knowledge economy.

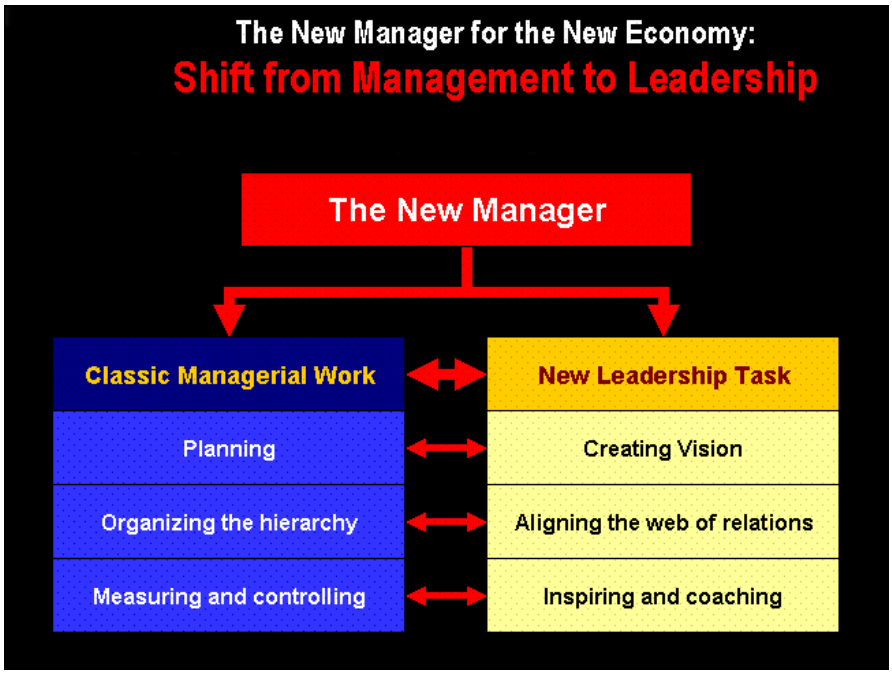


Figure 2.6: The new manager (Palmer & Kaplan, 2007)

This "new" managers in the knowledge economy are now faced with a new leadership task. They need to create a vision and align a web of relations and opportunities. For an organisation to capitalise on these opportunities, they need to be inspiring to their people and coach them for success, creating a learning culture, i.e. learning organisation.

This is different from the "traditional" manager in an industrial economy whose day-to-day work included planning, organising, leading and control (Smit & Cronje, 1998).

As mentioned earlier, the knowledge economy has a huge impact on organisations today. Not only is price, quality, flexibility and innovation important, as pointed out by Van Hootegem *et al.* (2005) (see table 2.2), but organisations also need to rethink their management styles (figure 2.6). For an organisation to adapt to the

shifting demands of the knowledge economy, it needs to adjust its structure, systems, people and culture (see table 2.2). This adjustment needs strong leadership and the emphasis must move from management to effective leadership. This is also highlighted by Collins (2001) in his book: *"Good to great: Why some companies make the leap...and others don't"*.

An effective leader needs to create a learning culture in an organisation, which will ensure that the organisation will grow from strength to strength in the knowledge economy.

2.6 Challenges for Africa

"Unless developing countries in general and South Africa in particular, act to create a growing return on investment in knowledge production, … these countries may suffer the effects of 'structural irrelevance' and fail to capitalize on the potential for economic growth and development that resides within our higher education institutions" (Abrahams, 2003:2).

Abrahams's (2003) quote above notes that developing countries in Africa have some unique challenges compared to developed countries. This section aims to highlight some of these unique challenges.

According to The Commission for Africa's report (in Murenzi & Huges, 2006:252-267), Africa will fail to meet the United Nation's millennium development goals unless it increases its share in world trade. Murenzi and Huges (2006:252-267) state further that the report indicates a steep decline in Africa's share of world trade, from 6% in 1980 to 2% in 2002. This decline is worse when comparing it to the growth of other developing countries over the same period, i.e. China and India.

For Africa to increase its capacity for global trade, Murenzi and Huges (2006:252-267) explain that the knowledge and skills in African countries should be developed further. Africa has a strong historical dependency on its natural resources and raw materials. It therefore needs to become strategically innovative if it wishes to

survive in a modern economy which is fuelled by the growing stock of knowledge and information. A high premium therefore needs to be placed on the investment and use of new knowledge. The knowledge economy therefore needs to be built upon the industrial economy for Africa to capitalise.

For knowledge and skills to increase in Africa, Juma and Agwara (2006:218-231) indicate that Africa is largely dependent on its economic vision and its realignment of national institutions. These authors note that this dependency is highlighted by Africa's realisation that economic growth is mainly a result of the transformation of knowledge into goods and services. Knowledge is expressed in the form of education, science and technology as well as associated institutions and is seen as the basis for economic transformation.

The major challenges for Africa are therefore underpinned in its educational structures as well as in innovation, i.e. science and technology. Another challenge facing Africa is losing its skilled labour force to other countries; this is especially a concern in South Africa. According to Juma and Agwara (2006:218-231), Africa needs to follow other emerging economies, by focusing on the following three factors if it wishes to transform its economy rapidly:

2.6.1 Infrastructure

Huge investments need to be made in things like roads, water, irrigation, telecommunications, sanitation, health centres as well as energy supplies.

By investing in its infrastructure, Africa will ensure that there are no barriers to accelerate its economic growth (Juma & Agwara, 2006:218-231). Poor infrastructure also increases the *"cost of doing business"*, according to Juma and Agwara (2006:224). These authors continue by saying that most African countries will not be able to benefit from increased access to developed countries, if their current infrastructure is not upgraded. This will be problematic for the second largest continent in the world because it will lead to extremely high levels of unemployment and poverty. People will simply not have the ability to collaborate with other developed countries on a global scale, thus improving themselves and Africa's economy.

Juma and Agwara (2006:218-231) also point out that electricity, transport and communications networks form an integral part of any country wishing to improve its basic science and technological capabilities.

One of the challenges for Africa is therefore to make sure that it has the underlying infrastructure in order to stay competitive in the global knowledge economy. Once the right infrastructure is in place, the development of small and medium enterprises can be promoted, as discussed in the next section.

2.6.2 Development of small and medium enterprises

According to Juma and Agwara (2006:218-231), one of the most important challenges for Africa is to create links between knowledge generation and business development. They suggest that Africa should explore various incentive schemes in order to promote business development. The UN Millennium Project (2005; Juma & Agwara, 2006:218-231) states that small and medium enterprises account for more than 90% of the private sector worldwide. It is important for these enterprises to continually develop and improve. They will thus ensure that they transform their knowledge into goods and services. This transformation will, in turn, have a positive impact on the economy. Africa is thus faced with promoting the establishment of small and medium enterprises if it wishes to become knowledge productive in the knowledge economy. For Africa's people to gain the necessary knowledge and skills to establish these enterprises, they would need to engage in the process of lifelong learning. For this process to be fruitful, the educational systems in Africa will need to be enhanced as depicted in the section below.

2.6.3 Government supported and funded higher education institutions

Africa should strive for continuous improvement if it wishes to transform its economy (Juma & Agwara, 2006:218-231). A strong emphasis should be placed on knowledge creation/production which is guided by business enterprises (Conceição *et al.,* 2003 in Juma & Agwara, 2006:218-231). Juma and Agwara (2006:219) point out that this improvement can be seen as *"a society's capacity to adapt to constant change through life long learning*". This continuous improvement will ensure that

Africa will achieve higher levels of performance in the global knowledge economy. These authors also state that government should function as a facilitator for social learning and that business enterprises will become the locus of learning. Knowledge will therefore become the currency of change (UN Millennium Project, 2005 in Juma & Agwara, 2006:218-231). Existing educational structures should be realigned and new ones should be created where they do not exist. Juma and Agwara (2006:218-231) highlight the following educational challenges for Africa:

- There is an urgency to invest in higher technical education, which is fuelled by the effect of various infectious diseases, especially HIV/AIDS, on Africa's labour force.
- Knowledge transfer of technical skills to succeeding generations has become pivotal.
- Universities and research institutions should be placed at the centre of the development process.
- Entrepreneurial skills should be promoted for students to transform their ideas into viable business proposals.

Another challenge for Africa is the concept of sustainable development. Juma and Agwara (2006:218-231) state that Africa's economic renewal should focus on protecting its environment for present and future generations. In other words, Africa needs to ensure that it retains its human capital.
According to Solimano (2002), one of the challenges for developing countries is to prioritise the development of scientists, technology experts and knowledge generation. This is also evident in what has been said before and will ensure heightened productivity as well as long-term development. The challenge for these developing countries is how to retain these newly developed skills. Solimano indicates that there has been an increase in the last decade in the international mobility of human capital. This increase is due to the expansion of the knowledge economy as well as globalisation. Africa is therefore in a very tricky situation. On the one hand it is necessary to send resources abroad to attain new skills and on the other hand these resources should be retained to prevent what Solimano refers to as the "brain drain".

The brain drain is a particularly big problem in Southern Africa, but more specifically in South Africa. Bhorat *et al.* (2002:10) indicate that emigration in South Africa has increased over the past two decades. To counter this outflow of skilled professionals Bhorat *et al.* (2002:10) suggest that skilled professionals should be incentivised for migrating to South Africa. This could be in the form of tax incentives for entrepreneurs wishing to set up their business in South Africa. On the other hand a lot more thinking should go into retaining skilled people. According to Solimano (2002), the outflow of human capital also co-exists with the return of natural talent, thus transforming the phenomenon of the "brain drain" to more of a "brain circulation". The emigration of national skilled talent therefore does not always have to relate to a permanent loss. Solimano (2002) makes the following suggestions for developing countries:

- There should be better incentives for the science and technology sectors.
- Greater priority should be given to the development of science, technology and knowledge generation.
- Developed countries should be prompted to increase the transfer of knowledge to developing countries by receiving grants from international foundations.

2.7 Conclusion

This chapter noted that the knowledge economy is built upon the industrial economy where knowledge is being used as a new exchange rate to make organisations more competitive.

It is argued that if organisations wish to be successful in the knowledge economy they need to develop an approach to adapt to the ever changing market conditions they operate in.

From analysing the literature it was determined that:

- by adapting to the challenges that the knowledge economy created will ensure that organisations stay in business;
- organisations need to nurture human capital as a critical success factor for becoming strategic innovative;

- organisational learning as well as leadership development are key components for survival in the knowledge economy;
- emotional intelligence will help individuals adapt to constant changes of the knowledge economy

Some unique challenges facing Africa were mentioned in section 2.6. These challenges include improving infrastructure and educational systems as well as promoting entrepreneurship. It was also noted that Africa has a major challenge in retaining its skilled workforce and suggestions were made to prevent the brain drain.

This chapter also highlighted the importance of intellectual capital in the knowledge economy. In the next chapter intellectual capital and its role in the knowledge economy will be explored further.

CHAPTER 3: INTELLECTUAL CAPITAL AND ITS ROLE IN THE KNOWLEDGE ECONOMY

3.1 Chapter overview

The diagram below gives a brief overview of this chapter:

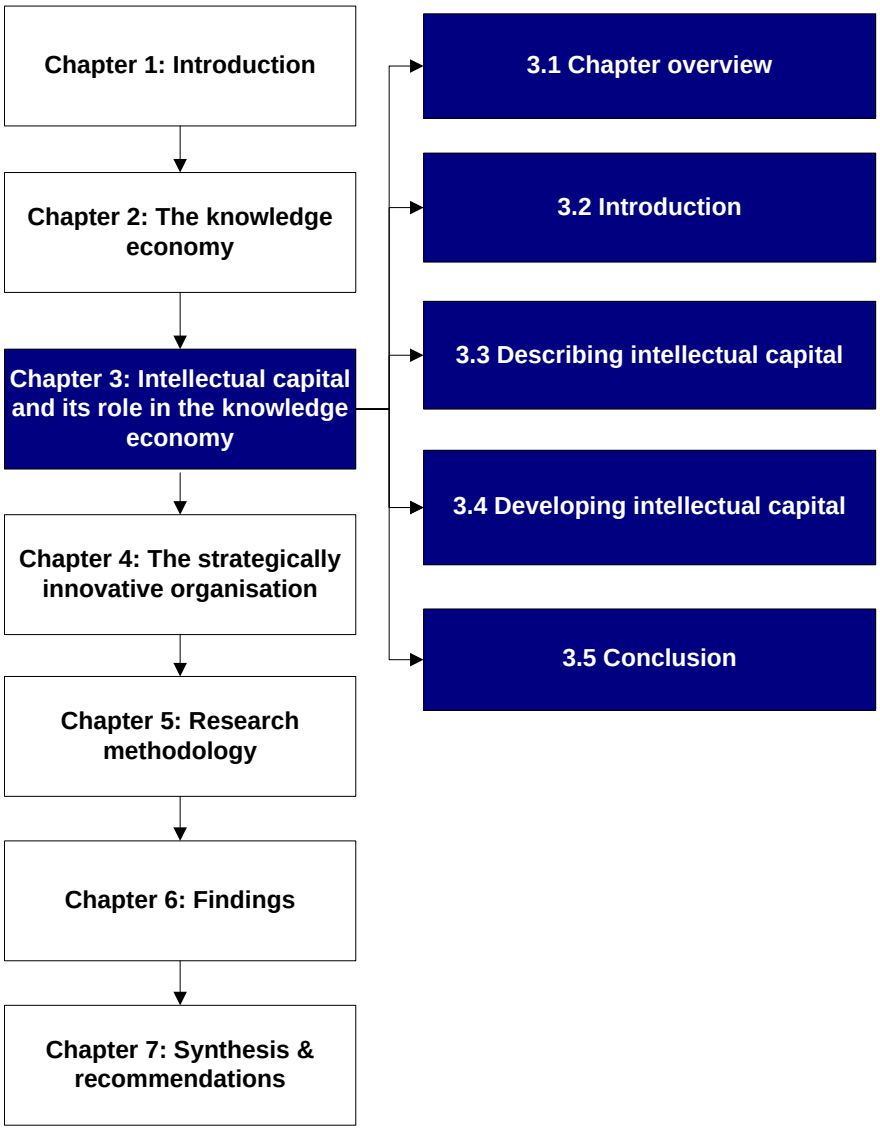


Figure 3.1: Chapter overview

Chapter 2 noted that intangible assets are one of the critical success factors if organisations wish to be competitive in the knowledge economy. One of the major success factors is how an organisation manages and applies its intellectual capital in order to "outsmart" its rivals, i.e. becoming strategically innovative.

The aim of this chapter is therefore to describe the term "intellectual capital" by comparing the different components of intellectual capital, describing the relationships between these components and thereafter sharing some thoughts on managing intellectual capital in the knowledge economy. Some thoughts on developing these different components in the knowledge economy will also be mentioned.

Once the different components of intellectual capital are described, their relevance to creating a strategically innovative environment will be manifested. This is important if organisations wish to stay competitive in the knowledge economy.

3.2 Introduction

Chapter 2 noted that the shift from an industrial economy to a knowledge economy has resulted in companies "winning" or "losing" by means of what they *know* and not what they *have*.

Knowledge has become the currency of the new knowledge economy. In this economy, intangible information and relationship resources are used by companies in order to gain a competitive advantage (see section 2.3). This is in contrast with companies in the industrial economy, where inventories, machinery and property were used to gain a competitive advantage (see table 2.1).

According to Stewart (2001), the term *"'intellectual capital' seems to have been employed first in 1958 when two financial analysts, describing the stock-market*

valuations of several small, science-based companies (Hewlett-Packard, its annual sales then $28 million, was one of them), concluded, 'The intellectual capital of such companies is perhaps their single most important element' and noted that their high stock valuation might be termed an 'intellectual premium'."

The concept of "intellectual premium" (Stewart, 2001) is also supported by other authors such as Arthur (1996), Edvinsson and Malone (1997), as well as Sveiby (1997). These authors state that the increasing gap between market values and book values, especially in high-tech growth and knowledge-intensive industries, has been as a result of the increasing importance of intellectual capital for these firms. Lev (1989:153-192) and Lev and Zarowin (1999:353) also argue that the major initiators of change are innovative activities. By taking the form of investment in intangible assets such as research and development, information technology, brands and human resources, these innovative activities constantly change an organisation's products, operations, economic conditions and market value.

There is thus a high premium on intellectual capital for organisations to be competitive in the knowledge economy. Rastogi (2000:39-48) refers to this level of competitiveness as an organisation's corporate IQ, i.e. how easily an organisation can share its information and how well the people in the organisation can build on each other's ideas.

In order to shed more light on what is meant by intellectual capital, section 3.3 below will try to describe the term further, by highlighting some of the concepts involved.

3.3 Describing intellectual capital

In order to describe intellectual capital, this section will be broken down into the following subsections:

- The components of intellectual capital
- The relationship between these components
- Managing intellectual capital

3.3.1 The components of intellectual capital

In recent years many authors, researchers, journalists and business people (i.e. Arthur, 1996; Edvinsson & Malone, 1997; Lev, 1989:153-192 and Lev & Zarowin, 1998:353; Rastogi, 2000:39-48; Stewart, 2001; Sveiby, 1997) have formed a general definition of intellectual capital. All these people had one thing in common: How to increase the competitiveness and performance of organisations. Today this is even more true, with organisations constantly trying to stay competitive.

Figure 3.2 below illustrates these views and explains how intellectual capital fits into the overall value of an organisation in today's knowledge economy.

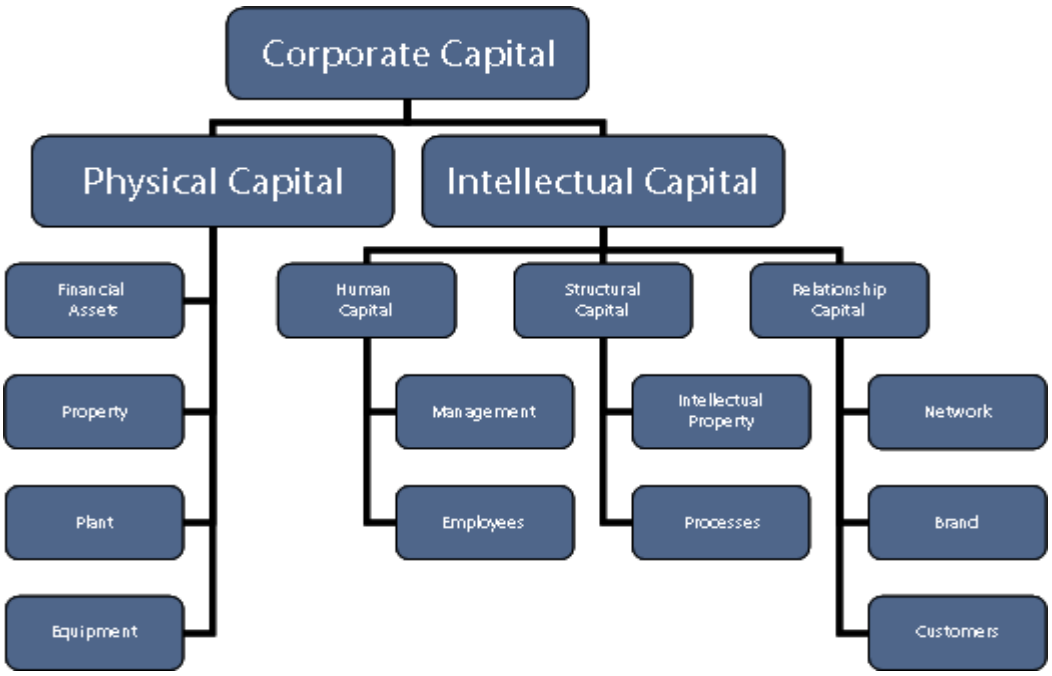


Figure 3.2: Describing intellectual capital in the knowledge economy (Source: Trek Consulting, 2005)

Figure 3.2 illustrates that a distinction is made between physical capital and intellectual capital. This illustration indicates that physical capital and intellectual capital form part of the broader corporate capital. It is this corporate capital that organisations use today to stay competitive in the knowledge economy.

As illustrated, physical capital includes financial assets, property, and plant and equipment, i.e. tangible assets. In contrast, intellectual capital consists of human -, structural - and relationship capital, i.e. intangible assets.

The following subsections will further explain these components of intellectual capital.

3.3.1.1 Human capital

Human capital can be described as the competencies and capabilities of employees (Bontis, 1998:63-75; Edvinsson & Malone, 1997; Sveiby, 2000).

By looking at human capital's description above, one could argue that in a learning organisation (see section 2.5) human capital increases and that an organisation therefore "owns" this asset. This, however, is not necessarily the case, as pointed out by Edvinsson and Malone (1997), who notes that in a free society an organisation cannot own, but only rents its human capital. Sveiby (2000) reiterates Edvinsson and Malone's (1997) statement by arguing that all tangible and intangible assets in an organisation depend on people for their continued existence. This dependency on people highlights the fact that human capital cannot be owned by an organisation but is actually "owned" by the minds of people that entertain their thoughts. It is therefore extremely important for organisations to retain their human capital to prevent them from being uncompetitive in the knowledge economy. This is also referred to as preventing the "brain drain" (chapter 2, section 2.6), which is one of the major challenges facing Africa in the knowledge economy.

In an attempt to define human capital, Bontis (1998) states that human capital is a combination of the following individual aspects:

- genetic inheritance
- education
- experience and
- attitude

Bontis (1998) further sees human capital as the source of innovation and strategic renewal. This view is also supported by Hines (2000). Hines (2000) defines human capital as the combined knowledge, skills, innovation and the ability of a company's employees to complete their daily tasks successfully.

By comparing the similarities between human capital and physical capital, Parnes (1984) further defines the concept of human capital. These similarities are as follows:

- both human capital and physical capital are expensive to attain
- both use resources that could have been used for other purposes
- acquisition of both is to increase productivity
- investment in both can be private or public
- both can be evaluated from an individual, social or a combination of these perspectives

The major difference between physical capital and human capital is that human capital cannot be owned by an organisation (Edvinsson & Malone, 1997). Human capital can only be rented and for this reason it is not as reliable as physical capital. By only being able to rent human capital, organisations are faced with a huge challenge to stay competitive in the knowledge economy. If this is true for developed countries, then the challenge would be even greater for developing counties to capitalise on their human capital (as explained in chapter 2).

For the purpose of this study Hines's (2000) definition of human capital will be adopted. For this reason it can be argued that the value of human capital will increase when:

- employees are continually trained and their skills are honed
- the potential of employees is harnessed and guided
- opportunities are created where people can learn from one another
- learning is captured for the benefit of those who were not initially involved in the learning process
- the organisation's environment is conducive for all of the above to take place

The points above all relates to the importance of learning in an organisation as a success factor for building a strategically innovative environment as was also mentioned in chapter 2.

This view of Hines (2000) is also supported in chapter 2 (figure 2.6), where the value of constant feedback was noted. This feedback is necessary for individuals and organisations to constantly make the correct decisions and adapt to change, i.e. to innovate, thus staying competitive in the knowledge economy.

To be innovative is also emphasised by Bontis (1998) who sees human capital as a source of innovation. Continued innovation will result in an increase in structural capital (Edvinsson & Malone, 1997 and Sveiby, 1998). Part of good leadership is to ensure that structural capital is expanded at every opportunity. In the next section structural capital will be described.

3.3.1.2 Structural capital

The Swedish insurance company Skandia has done missionary work by becoming the first company ever to publish an intellectual capital supplement to its annual financial report in 1995. According to this ground-breaking

organisation, structural capital is everything that is left, after the employees have left. For this reason Skandia defines structural capital as the result of all intellectual activities that were captured in data and knowledge bases, documents, models and drawings (Edvinsson & Malone, 1997).

Knowledge is thus rooted in things such as data and knowledge bases, documents, models and drawings. All this embedded knowledge makes structural capital identifiable in an organisation and provides the means to measure and build intellectual capital in an organisation.

Skandia visualised intellectual capital and its value creating potential internally. For it to do this, it created a framework called the Skandia Navigator (figure 3.3 below).

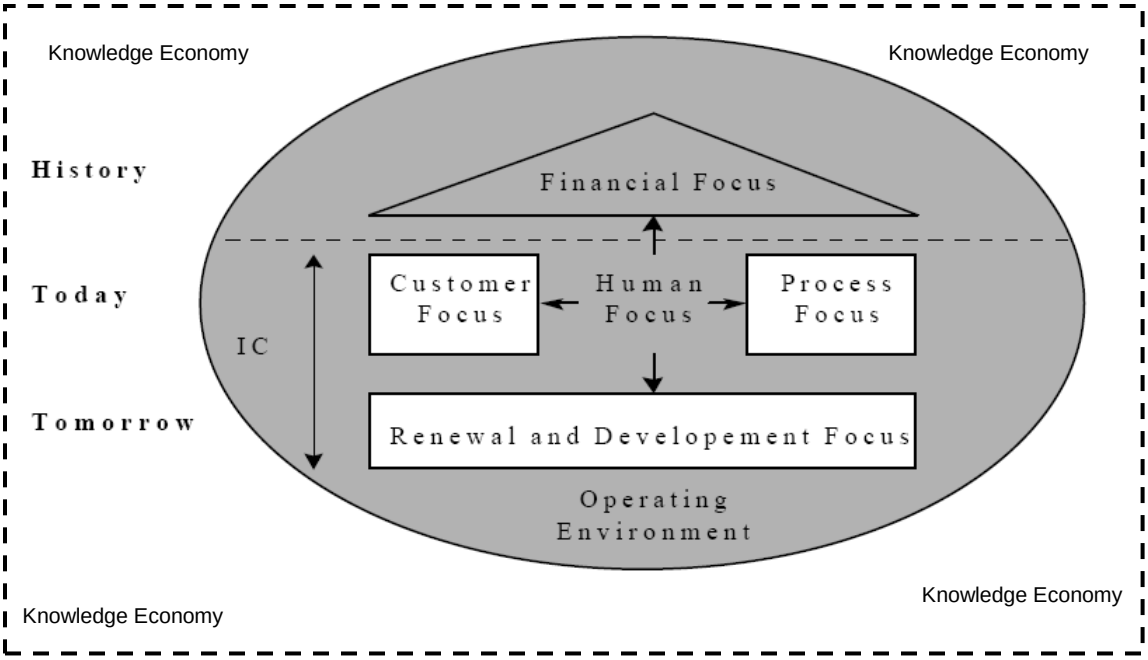


Figure 3.3: Measuring intellectual capital in the knowledge economy: The Skandia Navigator (Adapted from: Rylander *et al.*, 2000:715-741)

Skandia used the Navigator above to measure the importance of intellectual capital in its organisation with great success. This Navigator was therefore used as a tool to measure its competitiveness in the knowledge economy as well as

the relation between the different components of intellectual capital, i.e. structural capital in this case.

Bontis (1998) supports this view of Skandia by defining structural capital as "*the mechanisms and structures of an organisation that help support employees in their quest for optimum performance".* Bontis (1998) advises that if an organisation's employees have the motivation and direction, but lack structure, the overall intellectual capital in that organisation will not reach its full potential.

This view of Bontis (1998) that an organisation needs a strong "structure", i.e. must have sufficient structural capital, is also supported by other authors in the field of leadership development. Groenewald and Groenewald (2004) note that the greatest challenge for any leader lies in the motivational step of the universal law of movement, i.e. *Moditure* (see figure 3.4). The *moditure experience* is the process of learning how to move people, projects and organisations to become more profitable. The concept can be depicted as follows:

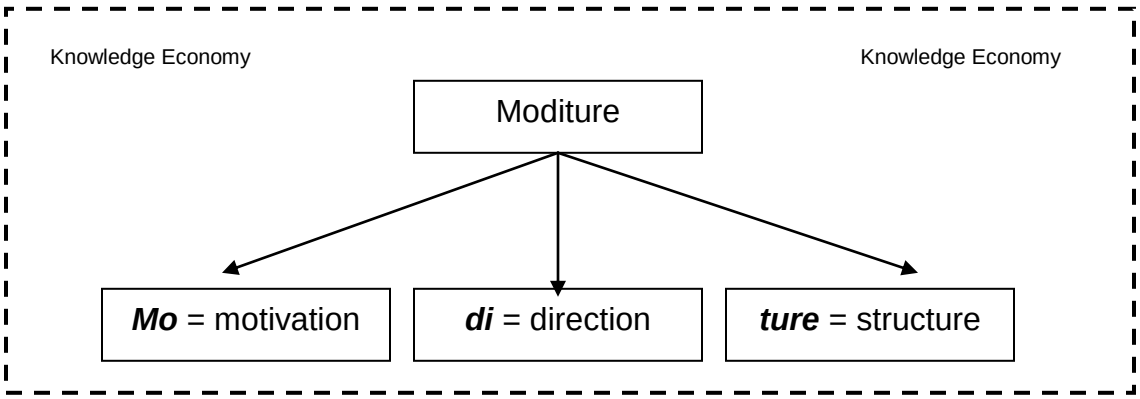


Figure 3.4: Leadership challenges in the knowledge economy (Adapted from: Groenewald & Groenewald, 2004)

Structural capital, together with motivation and direction, is thus very important for the overall intellectual capital to reach its full potential in an organisation. Groenewald and Groenewald (2004) also observe that the key to motivation, direction and structure in an organisation lies in good leadership and not good

management. This view is also supported by Bolwjin and Kumpe (1998, in Van Hootegem *et al.,* 2005), Kotelnikov (n.d.) and Van Amelsvoort (2000) – see chapter 2, section 2.5. These authors are of the opinion that many organisations fail in the knowledge economy, because they are over managed and under led, as stated in chapter 2.

It is argued by Bontis (1998) that an organisation with strong structural capital will create an environment where individuals can try new things, make mistakes, learn from these mistakes and try again and be innovative. Innovation will therefore ensure that the organisation stays competitive in the knowledge economy. It is, however, extremely important that these efforts be captured in order to prevent making the same mistakes over and over again. This feedback process is also referred to by Vermeulen (2007) as the growth loop (chapter 2, figure 2.6).

In order to ensure that employees have easy and fast access to captured knowledge in the knowledge economy, structural capital systems must make provision for access to information on three levels, according to Lank (1997). These levels can be illustrated as follows:

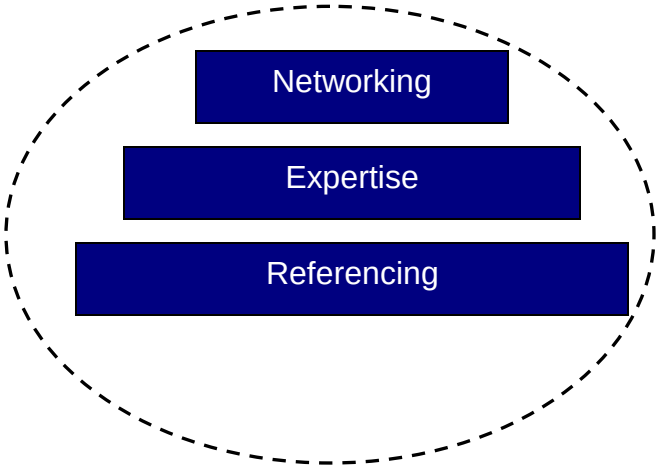


Figure 3.5: Levels of information access in the knowledge economy (Adapted from: Lank, 1997)

Retrieval for **referencing** requires repositories of documents, contracts, lessons learnt etc. These repositories are normally full-text documents in electronic format. This type of knowledge ensures that mistakes of the past are not repeated and that employees can leverage the learning curve for new colleagues.

Retrieval for establishing **expertise** allows employees to find the necessary expertise in an organisation when it is required. It is important to note that employees in this regard need access to tacit knowledge. According to Nonaka and Takeuchi (1995), "*knowledge, expressed in words and numbers, only represent the tip of the iceberg. Knowledge is not easily visible and expressible"*.

Jordan and Jones (1997) also mention that explicit systems tend to record what was done, but not why it was done or the contexts in which it was done. According to Lank (1997) an effective organisational knowledge base should enable employees to:

- waste less time looking for information or to find access to expertise within an organisation
- improve their own skills and performance through access to knowledge and expertise
- lessen the personal stress levels caused by having too much to do with too little resources

For these reasons a knowledge base is not the same as a database. It is a mix of tacit and explicit knowledge, as depicted by Nonaka and Takeuchi (1995).

The third level of access to information, according to Lank (1997) (figure 3.6) is retrieval for **networking** and just-in-time feedback. Here the organisation should stay in touch with its customers and world-wide experts. This can be done through e-mail and video conferencing. The idea is to break down global barriers of time and geography.

For the purpose of this study structural capital is defined as anything that is left when the people leave.

An important aspect of any organisation is the relationships it builds with its customers in order to become more strategic innovative. Structural capital lays a strong foundation for organisations to build these relationships on. In the next section relationship capital will be defined.

3.3.1.3 Relationship capital

In chapter 2 (table 2.2) it was illustrated that if an organisation wishes to thrive and survive in the knowledge economy, i.e. become more strategic innovative, its structure, systems, people and culture need to be realigned. This will allow the organisation to be competitive at the following levels: price, quality, flexibility and product innovation. It was illustrated that an organisation needs to adopt a structure of networking, i.e. relationship building, and its culture needs to be highly customer focused.

For this reason and for the purpose of this study, relationship capital is equal to customer capital. Duffy (2000) supports this view by arguing that organisations today are challenged to get to know their customers intimately. Organisations do not just need to know about their customers but they need to assess what contribution the relationships with their customers are making towards the achievement of the overall goals.

According to Bontis (1998) the main resource of customer capital is the knowledge of marketing channels and customer relationships. Bontis (1998) states that managers often forget that they can tap into a wealth of knowledge from their own customers. He further notes that customer capital gets more valuable over time and that it is more expensive to retain a customer than to get a new one. This is because the customer is much closer to the organisation

today than in the past. A very important point that Bontis (1998) makes, especially for the purpose of this study, is that the knowledge workers who look after these customers need special attention. This is also pointed out by Vermeulen (2007), who states that employees' emotional intelligence needs to be developed for them to keep growing, i.e. the growth loop (figure 2.6). This is because when knowledge workers leave an organisation, they tend to take their "knowledgeable" customers with them to the next organisation (Ramosedi, 2000). Another reason, according to Ramosedi (2000), why knowledge workers need special attention is that when they leave, it is very difficult to replace them. It is therefore very difficult to build customer capital.

Luckily, according to Sveiby (2000) organisations that are knowledge focused select their customers instead of the other way around. It could therefore be argued that strategically innovative organisations do the same. One of the primary factors for selecting the right customer, according to Sveiby (2000), is for the contribution this customer can make to the organisation at an intangible level. Co-developing products and services and building long-term relationships with customers have therefore become very important in the knowledge economy. One could argue that organisations in today's knowledge economy see competition among them rather in a way best described as "co-opetition" by means of building stronger relationships with one another. Organisations are therefore becoming more strategically innovative by building strong relationships with their customers.

As seen, the concept of customer capital is very difficult to define. For the purpose of this study customer capital is seen as a combination of brands, business collaborations, company names, relationships based on customers and their networks, favourable contracts, value chains, franchising agreements, to name a few.

The section pointed out that the components of intellectual capital do not create value individually, but rather in combination. In the next section the relationship between these components will be described briefly.

3.3.2 The relationship between intellectual capital components

As stated above, the components of intellectual capital work in combination to create value for an organisation (refer to figures 3.2 and 3.3 in the section above), thus making an organisation more knowledge productive. There is therefore a strong relationship between these components. Trek Consulting (2005) summarises these relationships as follows:

- *"**People** to create innovation. People are the source of the thinking that creates breakthrough ideas as well as the incremental improvements that lead to continuous improvement",* i.e. human capital.
- *"**Mechanisms** to record and share these ideas in the form of instructions, formulas and processes. Sharing ideas enables their value to be replicated throughout an organization—raising the level of everyone's performance. It also increases the potential for future improvement as more minds are focusing on the same issues",* i.e. structural capital.
- *"**Customers** to inspire. Value is only created if there is a willing customer for your ideas. But the relationship with customers in a knowledge company is often more interactive. Instead of being the source of current value, customer needs can be an inspiration for future innovation",* i.e. relationship capital.
- *"**Partners** to complement and expand your capabilities. Partners can be suppliers, distributors or service providers. As companies develop a greater understanding of their strongest competencies, many make a choice to 'outsource' non-core functions to other organizations",* i.e. relationship capital.

These relationships between the components of intellectual capital can be further illustrated by the following distinction tree (figure 3.6):

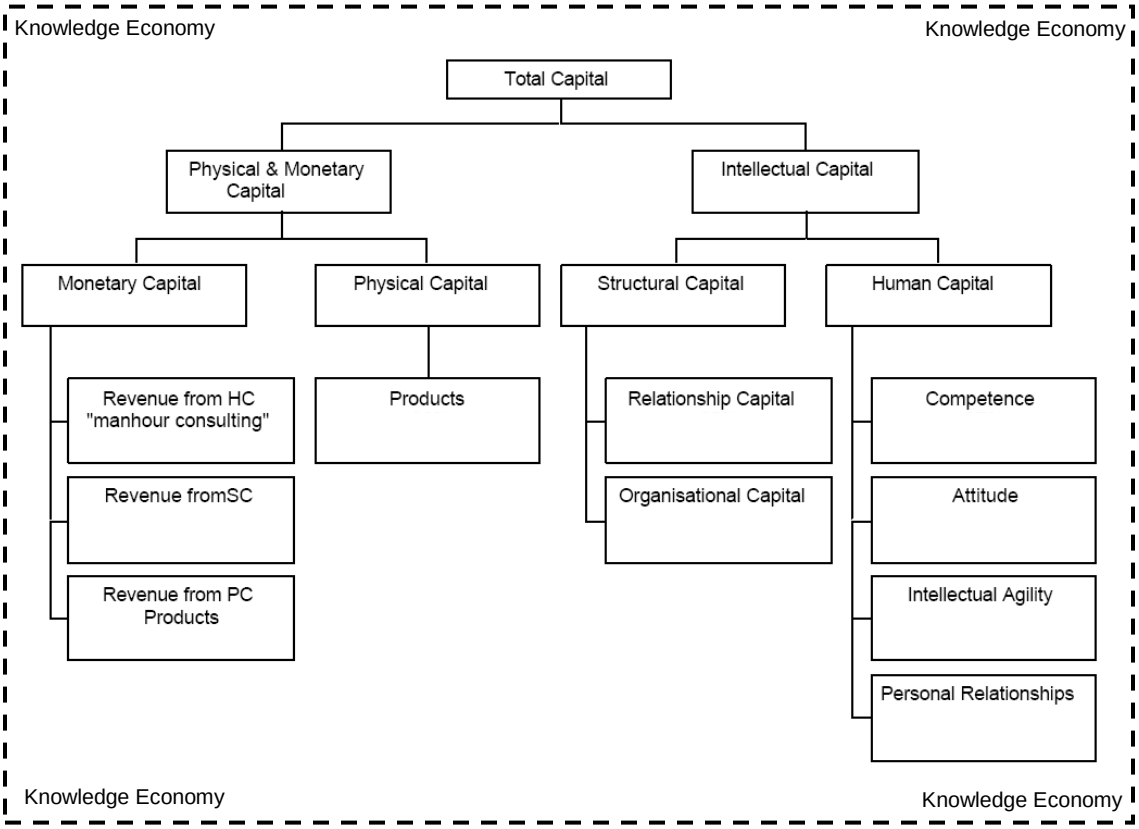


Figure 3.6: Relationship between intellectual capital components in the knowledge economy (Adapted from: Rylander *et al.*, 2000:715-741)

Figure 3.6 above serves as an example of how the different components of intellectual capital, in relation, can contribute to the overall success of an organisation in the knowledge economy. This distinction tree was used by Skandia in conjunction with the *Na*vigator (figure 3.3) in order to measure the contribution the different components of corporate capital made to the overall financial results of the company.

This study focussed on the human capital component of intellectual capital (see figure 3.6) as it is believed that that human capital is a catalyst for strategic innovation.

Intellectual capital should also be managed properly in order to allow organisations to become strategic innovative in the knowledge economy. Section 3.3.3 below will briefly look at managing intellectual capital in an organisation.

3.3.3 Managing intellectual capital

As seen from section 3.3.2 above, intellectual capital plays a big role in the overall success of any organisation (refer to figure 3.6 above). Many organisations manage individual components of intellectual capital very effectively. Human capital is, for example, the main focus area of any human resource department; sales are the main obligation of a sales department, and branding, marketing etc. are the obligation of a marketing department.

As one of the critical components of a strategic innovative organisation's success, intellectual capital, however, should also be managed at a strategic, company-wide level. Some of the critical success factors for managing intellectual capital at a strategic level, according to Trek Consulting (2005), are given below:

- Does the organisation have the right business model in order to be competitive in the knowledge economy?
- Does the organisation attract, develop and retain the right people?
- Do an organisation's people share what they learn in order to create structural capital?
- Does the organisation build lasting and effective external relations that build value and knowledge for the organisation?
- Does the organisation stay close to its customer needs?

Effective intellectual capital management will ensure that an organisation becomes smarter and builds on innovations from the past (Trek Consulting, 2005), thus becoming more knowledge productive.

To enable organisations to manage intellectual capital at a strategic level, they need combined information to analyse the bigger picture. In the past organisations relied on financial statements to provide them with this “bigger picture”. Unfortunately financial statements and systems are based on the needs of an old industrial economy. The balance sheet and income statement were used in the industrial economy in order to determine if the organisation was doing well or not, i.e. meet its targets.

Unfortunately intellectual capital cannot be captured by such an accounting model. This was also highlighted by Skandia (refer to section 3.3.1). As stated in section 3.3.1 above, an organisation cannot own its intellectual capital. For this reason intellectual capital cannot fit into an accounting model. A challenge for organisational leaders is therefore to understand what they have, where the organisation is and how to expand the future potential of the organisation.

According to Trek Consulting (2005), there are two alternatives to the traditional accounting model approach:

- **Dashboards or scorecards:** These will compile internally generated data from different departments, e.g. marketing, sales, in order to capture operational indicators that can be measured objectively. A dashboard or scorecard can help an organisation to see intellectual capital and then to link it to the accounting model.
- **Standardised assessment systems:** These tools can help to evaluate the different components of intellectual capital. This type of report captures the experience and understanding of internal and external stakeholders to understand the strength of intellectual capital. Contrary to the balance sheet, an assessment system gives a summary of the type and strength of resources available to the organisation. Unlike a balance sheet, which looks at a single point in time, this approach can also look forward by evaluating risk and innovation processes.

These tools will enable organisational leaders to better understand the impact of the different components of intellectual capital in the organisation and will allow them to improve the performance and value of the organisation (see also figure 3.6).

3.4 Developing intellectual capital

This section argues that developing intellectual capital, especially human capital, is at the heart of creating a strategically innovative environment.

Research conducted by Tebbut (2004) indicates that intellectual capital represents about 78% of the value of the Fortune 500 companies. Tebbut (2004) is of the opinion that any set of software tools cannot make an organisation rich in intellectual capital, but intellectual capital should rather be developed in line with the organisation's strategic priorities.

Tebbut (2004) concurs with the views of Rastogi (2000:39-48) and iterates that the success of developing intellectual capital lies not in an organisation's structures and systems, but in how employees relate to one another, how they work together to learn and how they learn to work together. There is thus a strong emphasis on the role the individual plays in developing intellectual capital. It is therefore the purpose of this section to highlight some of the initiatives to improve and develop intellectual capital by focusing on the role of the individual in the organisation. It is the researcher's opinion that without people intellectual capital cannot be developed and improved.

According to Rastogi (2000:39-48), intellectual capital cannot be harnessed in what the author refers to as an *"an absence of social fabric of virtuous reality"*. He explains that this virtuous reality comprises things such as trust and cooperation, sincerity and goodwill, help and care as well as shared values and vision. These traits are all human in nature and Rastogi (2000:39-48) refers to

them as an organisation's *"inner virtuous reality"* which in turn shapes the outer reality of its competitiveness in the knowledge economy.

An organisation's ability to combine, orchestrate and deploy its processes, competencies and innovative strength in a flexible and creative manner represents the effectiveness of its intellectual capital (Rastogi, 2000).

Rastogi (2000) advises that the development of intellectual capital in an organisation does not involve a plan, but that it should rather be a systematic process. This view of Rastogi (2000) that the development of intellectual capital is a systematic process is also supported by various other authors.

Concurring with Rastogi (2000), Schultz, Hatch, Larsen and Mouritsen (2002) conclude that the development of intellectual capital rests on the following four pillars:

1. The relationships between heterogeneous media to promote an organisation's *"aesthetic reflexivity"*
2. *"Games"* played by employees, demonstrating that local creativity produces results relevant to outside factors
3. Accountability between employees who commit "psychic energy" or motivation to identifying and solving problems; people commit themselves to be part of a team
4. Organisational storytelling

These "human" pillars result in organisations becoming expressive in nature. By developing these pillars Schultz *et al*. (2002) point out that expressive organisations create future value.

VanderKaay's paper (2000) on measuring the vital signs of intellectual capital argues that if organisations wish to thrive, i.e. create future value in the knowledge economy, they constantly need to measure their intellectual capital

"vital signs". These signs then constantly need to be realigned and developed. Although these vital signs might seem to be subjective, VanderKaay (2000) states that when times are tough for organisations, intangibles such as arrogance, complacency and remoteness from customers are often used as common explanations for the organisation's decline. VanderKaay (2000:18) describes the intellectual capital vital sign scorecard as follows:

1. *"Brand image and reputation"*
2. *"People living the strategy"*
3. *"Great place to work"*
4. *"Deliberately share knowledge"*
5. *"Challenge the status quo"*
6. *"Anticipate the future – action orientated"*
7. *"Net-driven – rethink entire business"*
8. *"Customer empathy"*
9. *"Recognising initiative"*
10. *"Knowledge intensive – learning from multiple sources"*

VanderKaay (2000) also highlights that most leaders in the field of intellectual capital development are still stuck in the Industrial Age, focusing on what is easy to quantify, rather than what really matters to an organisation's survival in the knowledge economy, as depicted by the "vital sign scorecard" above.

As stated earlier, Rastogi (2000) is of the opinion that a critical success factor for developing intellectual capital lies in how the organisation expects and enables its people to engage in the organisation.

Harrold (2000:63) emphasises the importance of human capital in an organisation too, stating that *"the scarce resource is now human talent, knowledge and creativity"*. He indicates that humans' ability to imagine, judge, create and to strengthen human relationships are the most essential human traits for increasing an organisation's economic growth. These human traits are also

highlighted by Rastogi (2000) as critical success factors for development if organisations wish to face up to the turbulence of today's business environment.

According to Rastogi (2000), certain high level initiatives can be employed by organisations wishing to develop their human capital. Continuous learning opportunities should be created for employees by creating a milieu where people can engage in dialogue and enquiry. A sustained manner for collaboration and team sharing should be encouraged and rewarded and tools should be developed to capture and share learning experiences. People should be involved in creating and sharing a collective vision and leaders should be identified and developed who model and support learning at individual, team and organisational level. Individuals should be provided with the opportunity to frequently debate, discuss and clarify for themselves what constitutes knowledge in their areas of work. The focus should be on the flow of knowledge rather than on its stock. Managers should not lose focus on what makes their organisation unique during benchmarking and comparing their organisation to others. A "boundary less" organisation should be created where people can look for ideas from anywhere. A skill-based pay plan should be introduced as part of a wider system of incentives and reward and recognition. Employees should be paid more for developing and mastering new skills that are relevant to the company's strategic goals.

Managers are faced with several challenges in order to promote and develop human capital. Rastogi (2000) feels that the role of managers should be reoriented towards coaching and mentoring. This is in line with authors such as Kotelnikov (n.d.), Mayo (2007:4) as well as Mets and Torokof (2007), who are all of the opinion that the traditional management role has shifted to one of leadership. Maxwell (2005) indicates that the main difference between leadership and management is as follows:

- Management = managing processes.
- Leadership = managing people, i.e. mentoring and coaching.

Rastogi (2000) as well as Mayo (n.d.) advise that management, i.e. leadership, should combine teaching and learning towards helping to identify skill gaps and development of these gaps in order to improve performance. Employees should be motivated to keep up with new developments in their professions. Employees should be enabled to gain insights into organisational goals, performance requirements and their readiness to meet the organisation's expectations. Out of the box thinking, when trying to solve problems should be encouraged and employee's perspective, aptitudes and aspirations should be valued. Performance feedback is essential in treating poor performance. Employees should furthermore be motivated to become responsible for their own personal development.

On the other hand, Lewis (1997) discovered that for human capital to develop successfully, individuals should take ownership of their own development, especially in harnessing the full potential of their brain. He gives the following tips for employees to train their brain:

- Take up mind sports such as chess etc.
- Take up a speed reading course.
- Learn about memory and how to improve it.
- Read more.
- Learn the skill of mind-mapping.
- Learn and develop accelerated learning techniques.
- Learn more about how your brain functions and how to use it better.

It is, however, important to note that all the above require patient efforts from both leadership and employees over time.

What is evident from this section is that without the development of human capital, intellectual capital cannot be improved and developed.

3.5 Conclusion

The aim of this chapter was to describe the term “intellectual capital” by comparing the different components of intellectual capital, describing the relationships between these components and thereafter to share some thoughts on managing intellectual capital in the knowledge economy. Some thoughts on developing these different components in the knowledge economy were also expressed.

It was found that the relationships between the different components of intellectual capital play an integral part in the success of an organisation in the knowledge economy. These relationships also need to be managed and developed if an organisation wishes to stay competitive in the knowledge economy. The development and nurturing of human capital was identified as a major contributor to creating a strategically innovative environment. This “human” factor was also identified in chapter 2 as a critical component in the knowledge economy.

As stated by Van Amelsvoort (2000), an organisation’s performance is determined by a combination of technical and social factors, i.e. people, culture, structure and systems. By combining all these factors, an organisation has a better chance of continuous and sustained improvement and innovation. This continuous and sustained improvement and innovation is extremely important for organisations wish to create a strategically innovative environment.

CHAPTER 4: THE STRATEGICALLY INNOVATIVE ORGANISATION

4.1 Chapter overview

The diagram below gives a brief overview of this chapter:

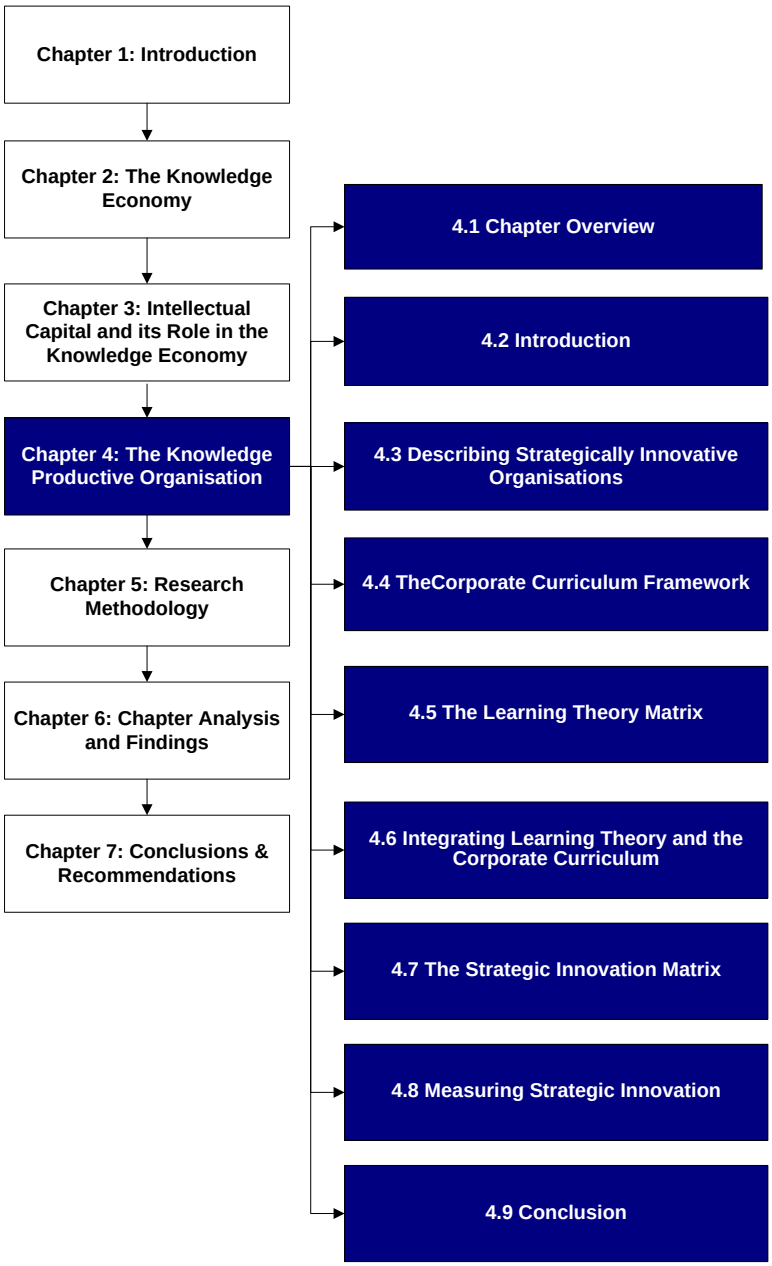


Figure 4.1: Chapter overview

The aim of this chapter is to describe the concept of a strategically innovative organisation.

After a brief introduction, the concept of strategic innovation is discussed. Human capital development through knowledge development is highlighted and the importance of organisational learning as a catalyst to creating a strategically innovative environment is once again emphasised.

After describing the concept of strategic innovation, the term “corporate curriculum” (Kessels, 1996) will be explored. It is important to understand what this curriculum entails as it provides a framework for organisational learning.

After explaining the corporate curriculum, Cronje and Burger’s (2006) matrix on learning will be briefly explained. These two authors proposed a learning matrix for organisations by incorporating learning theory and certain pedagogical dimensions to evaluate an information resource. An information resource, for the purpose of this study, is referred to as an environment conducive to learning as referred to by Harrison & Kessels (2004).

In the latter part of this chapter the corporate curriculum (Harrison & Kessels, 2004), Cronje & Burger’s (2006) matrix on learning theory as well as elements of strategic innovation (Palmer & Kaplan, 2007) are integrated to develop a four quadrant matrix for strategic innovation. Burger & Cronje (2006) matrix on learning theory will be used as a base to develop this new matrix for strategic innovation.

4.2 Introduction

The previous chapters highlighted that the development of intellectual capital is extremely important for organisational survival in the ever-changing knowledge economy. This dependency of a strategically innovative organisation on

intellectual capital is also supported by other authors as depicted in the preceding chapters, where it was expressed that the “human factor” is especially important due to the fact that knowledge resides in people and that this knowledge is crucial for survival in the knowledge economy.

As mentioned in chapter 3, intellectual capital is a catalyst in creating a strategically innovative organisation. The role of intellectual capital in creating a strategically innovative environment is summarised below. The first column notes certain variables associated with different intellectual capital components.

Table 4.1: Variables that inhibit or promote strategic innovativeness with reference to intellectual capital

Human capital – People development	
Variable	**Description**
Personal skilfulness	By understanding the way you acquire knowledge and how others acquire knowledge is at the heart of knowledge productiveness. The skill is therefore for the individual to become more knowledgeable **in ways that will benefit the organisation** by: • gathering & supporting individually produced information • supporting knowledge exchange by collective learning • creating situations where people can utilise existing knowledge to solve problems and to produce from it new knowledge
Practical judgement	Human sensitivity to a situation is needed as well as a sense of appropriateness to solve a problem. This community of knowledge and appropriateness, together with an inclusive approach to learning is vital for knowledge productivity.
Leadership	Facilitation, guidance and coaching is needed to create an environment for knowledge productivity.
Personal accountability	Individuals need to take personal accountability for lifelong learning and development.
Personal/self mastery	Individuals must know themselves. Individuals must understand how they acquire knowledge and how others acquire knowledge.

This study

Table 4.1: (Cont.)

Structural capital - Organisational environment	
Variable	**Description**
Organisational plan for learning	Harrison & Kessels (2004) proposed a corporate curriculum to create an environment conducive to knowledge productivity.
Knowledge creation & development	The process of knowledge creation should follow the knowledge spiral as suggested by Nonaka & Takeuchi (1995). There should be a mix of tacit and explicit knowledge, but the focus should be on developing tacit knowledge in developing countries, as depicted by Tushman & Nadler (1996, as cited by Harrison & Kessels, 2004). This study focuses on how to create and/or diagnose an knowledge productive environment.
Relationship capital - Networking	
Communities of knowledge	Focus group discussions on a particular topic to share and exchange knowledge.
Physical capital - Technology	
Variable	**Description**
Technology platform to promote learning and knowledge sharing	• An e-learning platform is proposed to enhance and promote the learning experience for individuals. • Information should be easily and freely available. • On-line forums e.g. BLOGS can be used to share knowledge.

This study

The second column describes these variables in relation to characteristics that could promote or inhibit strategic innovation.

From the table above it is clear that a strategic innovative organisation encompasses various different aspects of intellectual capital an organisation.

The reason for the importance of intellectual capital development as a critical success factor for developing a strategically innovative environment might lie in the way knowledge is viewed in an organisation. This view also has an implication for how knowledge is created in an organisation (Nonaka & Takeuchi, 1995). Nonaka and Takeuchi (1995) describe knowledge as either *tacit* or *explicit*.

If knowledge is viewed as a commodity it often leads to a centrally managed knowledge system with a strong emphasis on data collection and information processing systems. This commodity of knowledge is referred to as *explicit*

knowledge (Nonaka & Takeuchi, 1995) where knowledge is stored as an asset on a database. At the other end knowledge is viewed as a web of relations used to adapt and to transform. This is referred to as *tacit* knowledge by Nonaka and Takeuchi (1995) and requires an approach where knowledge is fostered in an environment suitable for learning (i.e. developing human capital) to take place. The emphasis here is for learning to take place through shared knowledge and experiences in communities of practice. The process of learning is therefore a continuous process as depicted by Kessels and Keursten (2001). Burger and Cronje (2006) also highlighted the importance of learning theory (i.e. process of learning). These authors argued that by integrating objectivist and constructivist elements of learning theory as well as certain pedagogical dimensions an environment conducive to optimal learning could be created. This will be elaborated on at a later stage.

According to Tushman and Nadler (1996, as cited by Harrison & Kessels, 2004), there is evidence from research indicating that organisations operating in an emerging knowledge economy, i.e. developing countries, should give less preference to developing explicit knowledge. The reason is that it is not likely to contribute to the constant innovation and improvements in work processes, products and services; because it is believed that explicit knowledge does not contribute to information (Weggeman, 1997; Malhotra, 2000; Kessels, 2001b).

Tacit knowledge, on the other hand, where there is a constant flow of ideas between parties and where relationships are at the core, should take precedence.

It can therefore be argued that knowledge as an entity cannot be “managed”, but that it should rather be facilitated, guided and coached, due to its human nature. It is also argued in this thesis that people should be led and processes should be managed (Maxwell, 2005), therefore putting a strong emphasis on leadership development in creating a strategically innovative environment. Based on what

has been said about management vs. leadership, leadership development (at all levels in an organisation) will be the essence for companies wishing to become strategically innovative. Harrison and Kessels (2004) developed what is believed as an organisational framework for learning. These authors believe that this learning framework could assist organisations in becoming knowledge productive. The author of this thesis argues that by integrating the corporate curriculum of Harrison and Kessels (2004) with learning theory (Cronje & Burger, 2006) and elements of strategic innovation (Palmer & Kaplan, 2007) an organisation could not only become knowledge productive but also strategically innovative.

4.3 Describing strategic innovation

According to Prentice (2009) people drive innovation. Prentice (2009) argues that innovation will only take place when people's needs are not adequately met. When needs are not met it urges people to learn and explore ways to meet their needs. This view of Prentice (2009) once again highlights the importance of human capital in an organisation.

Govindarajan & Trimble (2004) emphasis that people need to learn through strategic experiences in order for organisations to be innovative. These experiences are what Cronje & Burger (2006) refer to as constructivist learning (see addendum 3). Organisational knowledge development i.e. learning needs to be orchestrated at all levels of an organisation if organisations wish to be competitive in the knowledge economy according to Pitt & Clark (1999).

One of the challenges for managers today is therefore how to create an environment conducive to producing new knowledge (i.e. learning) as was highlighted by Harrison & Kessels (2004).

Palmer and Kaplan (2007, p.4) differentiate between a strategic innovation approach and the more traditional approach to innovation. According to these two authors there is a distinct difference between the two approaches as summarised by the table below:

Table 4.2: Traditional approach to innovation vs. a strategic innovative approach

Traditional approach	Strategic innovation approach
Adopt a "present to future" orientation. Takes today as a starting point	Starts with the end in mind. Identifies long term opportunities and then brings it back to the present
Assume a rule-maker/taker (defensive/follower) posture	Assume a rule breaker (revolutionary) posture
Accept established business boundaries	Seeks to create a new competitive space/playing field
Focus on incremental innovation	Seek breakthrough, disruptive innovation while continuing to build the core
Follow traditional, linear business planning models	Marries process discipline with creative inspiration
Seek input from obvious, traditional sources	Seek inspiration from unconvential sources
Seek articulated customer needs	Seek unarticulated customer needs
Are technology driven (seek customer satisfaction)	Is customer inspired (seek customer delight)
May have a "one-size-fits-all" organisational model	May experiment with organisational structures

(Source: Palmer & Kaplan, 2007)

In strategic innovative organisations, table 4.1 above describes the approach to innovation as being radically different from a traditional approach. Palmer and Kaplan (2007) indicate that many organisations rely on traditional serendipitous acts of creativity to bolster innovation. Sometimes an ad-hoc, unstructured approach is followed which may result in incremental improvements only with more often than not poor implementation as well.

According to Palmer and Kaplan (2007) strategic innovation on the other hand is characterised by a holistic and systematic approach, focussing on quantum-leap innovations. This holistic approach is also highlighted by DeGraff when questioned about the ingredients of innovation (Workforce Management, 2008). According to Tushman and Anderson (2004), without a multifaceted understanding of innovation, attempts to manage, encourage, and make the most of it are unlikely to succeed.

Palmer and Kaplan (2007) further indicate that innovation becomes strategic when it is an intentional and repeatable process that creates significant value for the organisation and its customers. Dehne (2006) also emphasises the fact that innovation moments should be encouraged in order for it to become repeatable and predictable. It is argued in this thesis that these innovation moments are nothing more than an environment suitable for learning.

Palmer and Kaplan (2007) distinguish between four types of innovations. These types of innovations are summarised by figure 4.2 below:

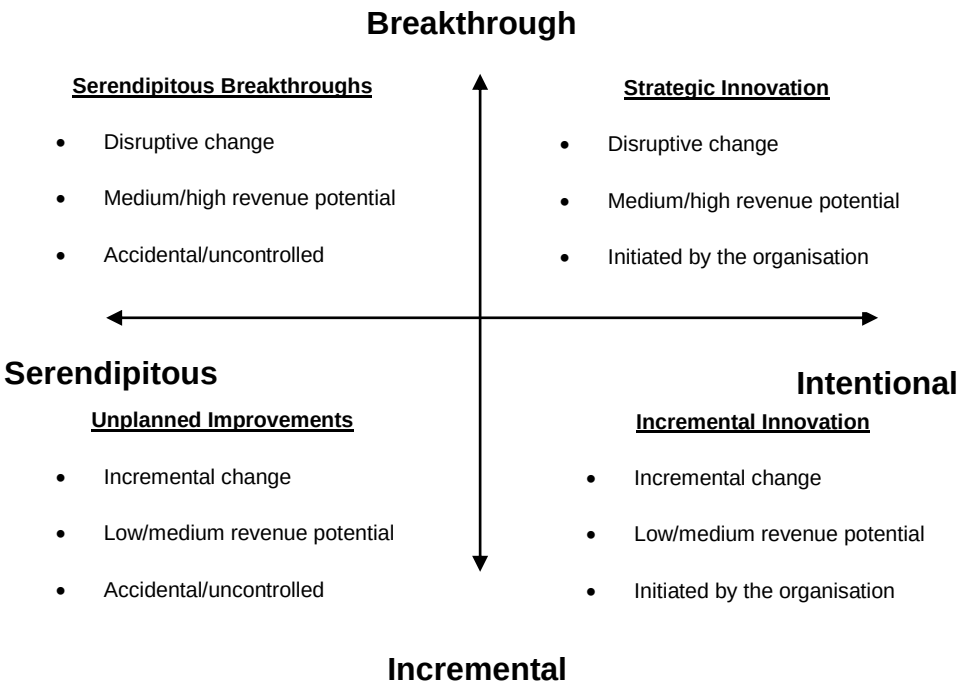


Figure 4.2: Four types of innovations (Palmer & Kaplan, 2007)

Figure 4.2 illustrates the four types of innovations (Palmer & Kaplan, 2004). The major difference between strategic innovation and the other three types of innovations is that strategic innovation is initiated by the organisation which leads to a disruptive change. This change in the organisation may lead to medium to high revenue potential for the organisation.

Based on what has been said before about the topics surrounding intellectual capital, organisational learning and strategic innovation, strategic innovation can be defined (for the purpose of this study) as: *"Creating and applying knowledge to the benefit of the organisation through creating an environment conducive to learning"*.

Understanding the way we and others acquire knowledge, i.e. learn, is at the heart of strategic innovation, as stated earlier. According to Keursten and Kessels (2002), this emphasis on knowledge development rather than knowledge management has instigated a demand for a corporate curriculum. In the next section this corporate curriculum will be explained.

4.4 The corporate curriculum framework

Keursten and Kessels (2002) raise the question of how the work environment can be conducive to learning. In attempting to answer this question, these authors propose the implementation of the corporate curriculum as introduced by Kessels in 1996.

According to Kessels (1996, 2001a), the corporate curriculum is nothing other than an organisational plan for learning. With this plan organisations can create an environment where learning and working can be integrated effectively. By doing this, organisations will become more innovative and will be able to continuously adapt to the many challenges that the knowledge economy poses.

One of the major challenges for such a learning plan in any organisation is to have the necessary coaching, guiding and mentoring, i.e. leadership (Maxwell, 2005) of experts in order to create an integrated community of practice (Wiessner & Sullivan, 2007:88-112; Wenger, 1999:2). Garrick (1999, as cited by Keursten & Kessels, 2002) says that this learning environment may also highlight other issues such as race, cultural differences, gender and ethical issues. These

issues are especially prominent in developing countries. It is therefore extremely important to provide a strong foundation, i.e. pillars, for organisational learning to take place and to emphasise the role that strong practical judgement plays in creating an environment for an organisation to become strategically innovative. Table 4.3 below lists these pillars of learning in the first column as described by Harrison and Kessels (2004) and Stam (2007:53-60). In the second column the author of this thesis expands these pillars by describing their impact on organisations in the knowledge economy.

Table 4.3: The eight pillars of the corporate curriculum

No.	Pillar (i.e. what an organisation should do)	Impact on the organisation and possible applications
1	Appoint and/or identify subject matter experts and professional knowledge	This should be directly related to the organisation's core competencies and strategy. Employees should have someone to "look up to", a guru from whom they can gain specialist knowledge, e.g. a junior software developer learning from a senior software developer. There should be a mix between tacit and explicit knowledge (Kessels, 2002a).
2	Teach employees how to identify and deal with new problems	Employees should apply their new knowledge which they gained from the subject matter experts. They need to be guided and coached in order to help them integrate their knowledge to solve problems and to innovate.
3	Cultivate reflective skills and metacognitions	This will help to locate, acquire and apply new knowledge. Sessions can be conducted to answer the following questions: How do we learn from our experiences? How can we improve our ability to develop, share and utilise knowledge in the workplace? How can we help others? A knowledge productive organisation helps people find their passion by stimulating their growth. This in effect will give people a feeling of substance.

Table 4.3: (Cont.)

No.	Pillar (i.e. what an organisation should do)	Impact on the organisation and possible applications
4	Acquire and develop communicative and social skills	This will assist in accessing the knowledge networks of others, participate in communities of practice and make organisational learning more socially inclusive. Social networks need to be established where workers can freely share their knowledge. Socialising of experiences and the development of collective competence are essential for resolving problems. Trust, concern, curiosity and inspiration for a common mission will enhance knowledge productivity and benefit knowledge sharing. Staff can sit together in mixed teams where they can learn from one another and build trust and recognition from one another's expertise.
5	Acquire and develop skills to regulate motivation, affinities, emotions and affections concerning working and learning in the organisation	Knowledge productive employees should be encouraged to identify personal skills that they may need to develop when learning in the workplace and they must have the confidence and encouragement to develop these skills. Introducing career path planning will help employees to grow.
6	Promote a calm and stable working environment	This will promote exploration, coherence, synergy and integration as well as continuous improvement of products, services and processes. Employees must be given the opportunity to master and to elaborate on a plan, idea or operation procedures. There should always be a balance because too much calm and stability can lead to laziness, one-sided specialisation and an excessive internal focus. Career development opportunities will be used to judge the workplace.
7	Stimulate and steer creative turmoil	This can lead to radical innovation. It must be noted that disturbance alone, without the drive to innovate, can be very counterproductive. There must always be a balance between calm and stability and creative turmoil. Employees should work in an environment which constantly intrigues them. This should inspire them to continuously learn and apply these new learnings. It would not be a bad idea to move employees around in different departments to stimulate their growth and to build their confidence and skills. However, the reason and goals must be clearly communicated beforehand.

Table 4.3: (Cont.)

No.	Pillar (i.e. what an organisation should do)	Impact on the organisation and possible applications
8	Develop and apply practical judgement between employees	This is done to ensure sensitivity, flexibility to the needs of the situation and of those involved in it. Practical judgement/wisdom can only be developed through a continuous interplay between experience, feelings and cognitions. This is the most difficult aspect of the corporate curriculum to achieve and measure.

(Adapted from: Harrison & Kessels, 2004 and Stam, 2007:53-60)

The author of this thesis argues that by applying the eight pillars of learning, organisations can create an environment conducive to learning, therefore improving the operational environment for strategic innovation. If these pillars are further integrated with learning theory (Cronje & Burger, 2006) and elements of strategic innovation (Palmer & Kaplan, 2007) the author of this thesis believes that an instrument could be developed to measure an organisation's strategically innovative environment.

The corporate curriculum highlights a few important principles to guide organisations in the task of creating and sustaining the learning environment. These principles are summarised by Harrison and Kessels (2004) as follows:

- *"…it is essential to develop every individual's skilfulness in learning and knowledge processes.*
- *Learning environments should respond positively to diversity in individuals' involvement in learning and knowledge development.*
- *A reduction in emphasis on knowledge as a type of commodity should lead to reduced preoccupation with designing and distributing uniform instructional content.*
- *A major focus should be placed on the effective combination of learning and working.*
- *Ways should be identified in which practical judgement can be developed and supported in the workplace".*

It is important to note that strategic innovation flourishes in uninhibited learners who participate in self-controlled communities of practice (Harrison & Kessels, 2004). Organisations must focus on building sustainable collaborative communities of practice that rely on the practical judgement/wisdom of its members to ensure that the organisation's value systems are respected in order to promote learning. Cronje and Burger (2006) refer to these communities of practice as connection strengths between individuals.

The next section will describe Cronje and Burger's (2006) matrix on learning theory. This matrix is important as it describes the way in which people learn.

4.5 The learning theory matrix

Cronje and Burger's (2006) learning matrix (figure 4.3) was developed by integrating two learning theories namely objectivism and constructivism as well as Reeves' (1997) pedagogical dimensions.

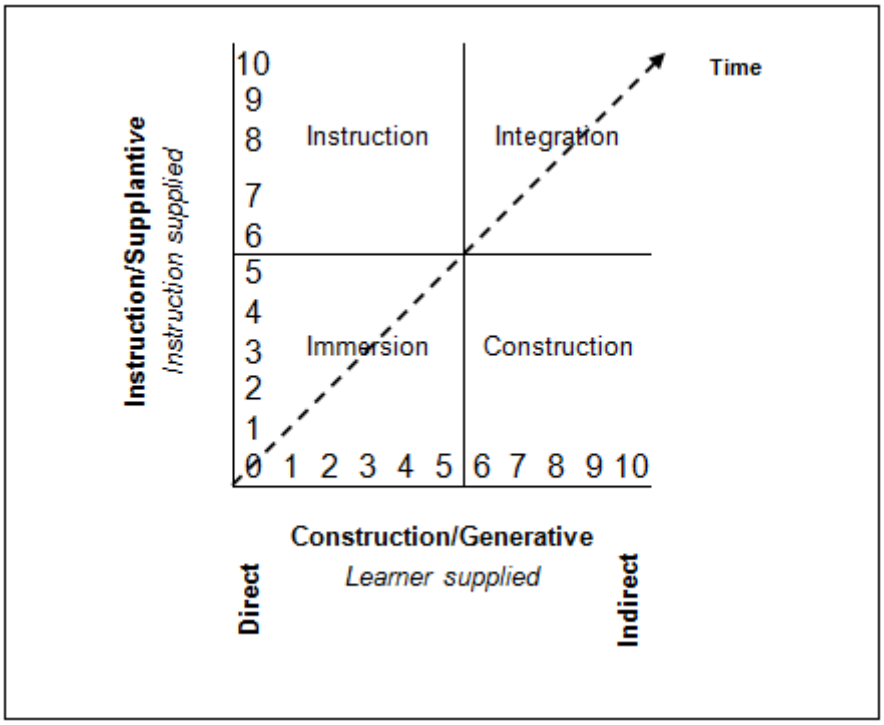


Figure 4.3: Cronje & Burger's (2006) learning matrix

This matrix, as depicted in figure 4.3 above, was developed to evaluate an information resource, which, for the purpose of this study can be regarded as the learning environment Harrison and Kessels (2004) refers to.

The x- and y-axis can be explained as follows:

The x-axis is called the generative axis, with the cognitive load of information processing supplied (generated) by the learner. The y-axis is called the supplantive axis, with the cognitive load of information processing supplied by instruction through a third party.

According to Smith and Ragan (1999) there are some factors that influence the cognitive load of information processing when learning takes place. These factors are categorised as follows and some examples are given:

- **Context factors**, which include time (generative strategies take longer), goal priority and accountability
- **Learner factors**, which include prior knowledge (more prior knowledge decreases the load), aptitude (high skills = supplantive; low skills = generative), motivation, anxiety (very anxious = supplantive; very relaxed = generative) and available cognitive strategies
- **Task factors**, characterised by complexity, performance level and if the task is critical or hazardous (hazardous task = supplantive; non-hazardous = generative)

Smith and Ragan (1999) conclude that a learning event should be as generative as possible and that any learning event may move from supplantive to generative.

A brief description of each of the four quadrants follows:

4.5.1 Construction

A learning event is designed in such a way that the learner constructs his/her own meaning intrinsically, by building on previous knowledge. The principle outcome is individual understanding and it has the advantage of effectiveness and transfer, i.e. constructivism, constructionism and cognitivism.

This is supported by Gullo (1999), who defines constructivism as a theory of learning which recognises that individuals learn within a social context, and they are internally driven. As a result of this learning theory, a constructivist environment is individual-focused and emphasises problem-based activities that are anchored in relevant world settings.

According to Lowry and Wilson (2000), it appears that constructivist learning can be considered in different ways:

- To some people, constructivism implies specific learning activities or instructional strategies, e.g. case- or project-based learning, working within authentic contexts (Savery & Duffy, 1996).
- To others, constructivism is a theory of learning. This theory includes the notion of schemas or mental models, and emphasises qualitative changes in understanding based on prior knowledge (Mayer, 1996).
- To others still, constructivism is an underlying way of thinking that informs instructional decisions and activities - but does not imply specific strategies. Teaching from a constructivist viewpoint may include a drill, or a lecture, or a prepared reading assignment without sacrifice of principle. A constructivist would ask: "*What are the fundamental aims?", "How is meaning construction best facilitated in this case?"* Strategies are then placed opportunistically in the service of these worthwhile ends.

Greeno (1998:55) offers what might constitute a mission statement for constructivist learning:

"We need to organise learning environments and activities that include opportunities for acquiring basic skills, knowledge, and conceptual understanding, not as isolated dimensions of intellectual activity, but as contributions to students' development of strong identities as individual learners and as more effective participants in the meaningful social practices of their learning communities in school and elsewhere in their lives."

Lowry and Wilson (2000) introduce three core principles for using the Web for effective learning based on the above mission statement by Greeno (1998):

- Provide access to rich sources of information.
- Encourage meaningful interactions with content.
- Bring people together to challenge, support, or respond to each other.

Nordhoff (1999) highlights the following characteristics of constructivism:

Table 4.4: Characteristics of constructivism

Constructivism
Constructivism = learners are in control
The learner: • Takes responsibility for his/her own learning • Learns new ways to learn • Uses technology to learn
The educator has to: • Be a facilitator • Be a guide • Give cognitive support • Be open-minded • Assess the learners individually
Learning: • Is an active process • Is achieved through discovery • Aims to develop higher order thinking skills • Is a social activity and cooperative learning is supported
Material: • Constructivist teaching is inclined to be inductive – from the general to the specific • Constructivist teaching supports cooperative learning

(Source: Cronje & Burger. 2006)

According to Mann (1994), it is imperative that individuals today learn how to be an information manager, rather than an information regurgitator. This is evident in today's world where there is an enormous amount of information available at the click of a button.

Appropriate assessment must be considered as perhaps the thorniest issue yet to be resolved regarding the implications of constructivism for learning (Jonassen, 1991). If constructivism is a valid perspective for delivering instruction, it should also provide a valid set of criteria for evaluating the outcomes of that instruction. In other words, the assumptions of constructivism should be applied to evaluation.

Jonassen (1991) makes twelve points about appropriate assessment and constructivism:

1. Technology can and will force the issue of constructivism.
2. Assessment will have to be outcomes-based and student-centred.
3. Assessment techniques must be developed which reflect instructional outcomes.
4. "Grades" must be contracted where grades are required.
5. There must be non-graded options and portfolio assessment.
6. There must be self-evaluation and peer evaluation as well as teacher assessment.
7. Performance standards must be developed.
8. A grading system must be developed which provides meaningful feedback.
9. Technology will be used to facilitate communication with parents.
10. Students will be videotaped as they work as part of their portfolio.
11. The focus must be on originality rather than regurgitation; it is important to evaluate how the learner goes about constructing his/her own knowledge rather than the product.
12. Assessment is context-dependent.

4.5.2 Instruction

Instruction corresponds closely to what has been written about behaviourism and instructivism. It is a preplanned extrinsically determined learning practice. It is the domain of programmed learning, tutorials, processes, lectures and drill-and-practice. The principle objective is “automaticity” (Bloom, 1986). It has the advantage of efficiency and focus. It is lean and effective and can be found in, for example, military instruction.

Untiedt (2001) defines behaviourism as follows:

- Behaviourism is a theory in the philosophy of mind, which maintains that talk of mental events should be translated into talk about observable behaviour.
- The foundations of behaviourist theory are based on animal research. Pavlov demonstrated that a dog would reflexively salivate upon hearing a bell after he came to associate the bell with feeding time. In the behaviourist model, individuals react reflectively to their environment.
- The theoretical goal of behaviourism is the *prediction and control of behaviour.*
- Associated with behaviourism are the terms "stimulus" and "response".
- The basic ideas of behaviourism are that human behaviour is a product of the stimulus-response interaction and that behaviour is modifiable.

Table 4.5: Characteristics of instructivism

Area	Characteristic
Stimuli-response	Learners play active role in responding to stimuli
Repetition	Desired actions are reinforced
Sequence	Initial success is assured by arranging tasks in order of difficulty
Reinforced	Desired behaviour is reinforced
Motivation	Teacher provides needed extrinsic motivation
Fluency & automatism	Drill and practice until fluency and automatism
Learning	A process of changing behaviour as the result of reinforcement of an individual's responses to events
Learners	Efforts to accumulate the knowledge
Teachers	Their efforts to transmit knowledge

Source: Untiedt (2001)

4.5.3 Immersion

This quadrant can also be called the chaos quadrant. Learning is not determined by an outside entity and it is not placed in a predetermined sequence. The learning experience is opportunistic and is often seen as experiential/incidental learning. It is the domain of serendipitous learning.

Around 450 BC Confucius stated the following: *"Tell me, and I will forget. Show me, and I will remember. Involve me, and I will understand."* This argument suggests that the learner should be "involved" in his/her own learning experiences. This statement relates closely to Kolb's (1998) theory on experiential learning.

Kolb (1984) had a dramatic impact on the design and development of lifelong learning models. What happens in Cronje and Burger's (2006) quadrant of immersion relates closely to Kolb's (1984) theory, with one difference: Kolb (1984) states that the concept of experiential learning explores the cyclical pattern of all learning from experience through reflection and conceptualising to action and on to further experience, as depicted by the diagram below:

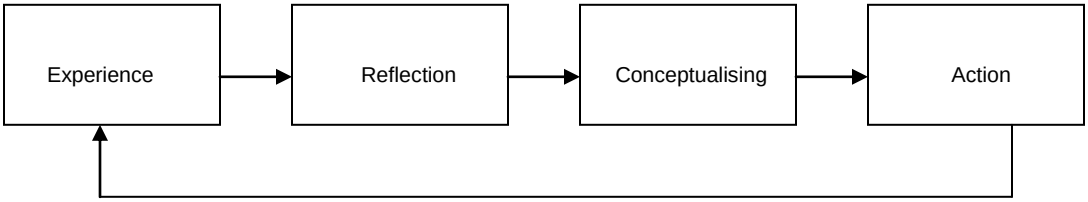


Figure 4.4: Cyclical pattern of learning

This differs from Cronje and Burger's (2006) viewpoint that learning does not take place in a predetermined sequence.

Kolb's (1984) model is well known and forms the heart of many training and learning events such as the learnership model followed by the South African government to bridge the gap between the skills shortage in the country and unemployment. It describes the process for recording continuous professional development, by taking time to capture, record and implement learning through the learner's daily work routine. Another organisation using Kolb's (1984) theory is the South African based International Consortium for Experiential Education, which organises its networking activities within four "villages" concerned with community action and social change and with personal growth, self-awareness and group effectiveness.

A further development of Kolb's (1984) ideas has led to the notion of some companies transforming themselves into what is called learning organisations.

One also needs to look no further than the Internet to explore and develop one's own learning experiences, as it offers a virtually limitless source of data.

4.5.4 Integration

This quadrant is a combination of instruction and construction where the goal would be analysed to determine the essential learning outcome. Further analysis

would then determine the skills and sub skills required for the learning outcome to be achieved and the development of instructional objectives.

4.5.5 Comments on Cronje and Burger's (2006) matrix

Cronje and Burger (2006) have introduced an interesting concept to the whole debate about organisational learning and developing an environment conducive for strategic innovation.

Apart from Cronje and Burger's (2006) objectivism/constructivism debate, other conceptions of organisational learning include the corporate curriculum (Harrison & Kessels, 2004) socially shared cognition (Resnick, 1991), socio-cultural theory (Rogoff, 1990), situated learning (Lave & Wenger, 1998) and social development theory (Vygotsky, 1978). Other approaches being discussed also include expansive learning (Engeström, 1987) and explorative learning (Hakkarainen *et al*., 1999).

With all these approaches being explored, no particular theory has yet been accepted as the best approach or as the big theory or model for organisational learning. The reason for this could lie in the fact that because we as human beings develop constantly, our conceptions change constantly to form new conceptions.

According to Sievänen (2004), it might be impossible to construct a learning environment that would support only one particular learning theory. Sievänen (2004) states that it is more important to recognise different underlying learning conceptions than to justify focusing on some particular learning theory when developing particular types of learning events.

The instrument from this research could be developed into such an operational tool to support different learning perceptions to make learning environments as

rich as possible, therefore enhancing an organisation's strategically innovative ability. By adding more dimensions to the initial matrix of Cronje and Burger (2006) and by incorporating the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) as well as elements of strategic innovation (Palmer & Kaplan, 2007) the matrix could help organisations understand and function better in the innovative environment in which they find themselves.

The next section will attempt to integrate the mentioned concepts in order to refine Cronje and Burger's (2006) matrix. This matrix will be used to plot the results on from the instrument developed for this study as already mentioned.

4.6 Integrating the corporate curriculum, learning theory and strategic innovation

The following tables will attempt to integrate elements of intellectual capital (see table 4.1) with characteristics of the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and strategic innovation (Palmer & Kaplan, 2007). From integrating the aforementioned constructs four quadrants emerge which is described in tables 4.6 - 4.9. These quadrants are:

- Unplanned improvements (table 4.6)
- Incremental innovation (table 4.7)
- Serendipitous breakthroughs (table 4.8)
- Strategic innovation (table 4.9)

Table 4.6: Unplanned improvements quadrant

Quadrant / Variable	**Proficiency** (Human Capital)	**Personal skilfulness** (Human Capital)	**Subject matter expertise** (Human capital)	**Organisational learning environment** (Structural capital)	**Complexity** (Structural capital)	**Leadership** (Human capital)	**Communities of knowledge** (Relationship capital)	**Approach to innovation** (Human capital)
Unplanned improvements	1. Chaotic 2. Brainstorming	1. Lack of integration of concept 2. Not necessarily beneficial to organisation	1. Ideas are valued more than expert knowledge 2. Expert knowledge not required	1. Opportunistic learning 2. Interactive environment and flexible 3. Environment should be as rich as possible taking into account personal interests, motivation and capabilities of people	1. No high skill involved 2. Anything goes	1. Poor or non-existent 2. No real focus on people or processes	1. Crisis management 2. Chaotic 3. Knowledge acquired through senses 4. Weak connection between individuals and between individuals and manager 5. Mode I to Mode II knowledge	1. Thinking out of the box 2. Forced change 3. Unplanned improvements 4. Low revenue potential

Characteristics based on: Harrison & Kessels (2004); Cronje & Burger (2006); Palmer & Parker (2007)

This quadrant could be referred to as the “chaos” quadrant where there is a lack of integration of concepts. Brain storming is used to come up with new ideas but these ideas are not always to the benefit of the organisation. Opportunistic learning takes place in an interactive and flexible environment. It is not necessary to have expert knowledge to participate in discussions and there is an attitude of “anything goes”.

This quadrant is often characterised as having very poor or non-existent leadership without a focus on people and processes. This quadrant is often associated with crisis management where someone must come up with a solution quickly to avoid a catastrophe. There are very weak connections between peers and between peers and their manager.

Thinking out-of-the box is encouraged where organisations sometimes wish to force change without consensus. Operating in this quadrant leads to unplanned improvements in an environment with low to medium revue potential for the organisation. An example of people operating in this environment is people brainstorming a new idea.

Table 4.7 below describes the incremental innovation quadrant. This quadrant is characterised by repeatable and predictable outcomes and is often referred to as “best practice”.

In this quadrant people are sharply focussed and errors are not tolerated. People demonstrate a high skill level in this quadrant where learning is unsupported.

Table 4.7: Incremental innovation quadrant

Quadrant / Variable	**Proficiency** (Human capital)	**Personal skilfulness** (Human capital)	**Subject matter expertise** (Human capital)	**Organisational learning environment** (Structural capital)	**Complexity** (Structural capital)	**Leadership** (Human capital)	**Communities of knowledge** (Relationship capital)	**Approach to innovation** (Human capital)
Incremental innovation	1. Repeatable and predictable outcomes 2. Best practice 3. Consistent	1. People do what they are told and ask no questions 2. Sharply focused and task driven 3. No room for error	1. Definite prerequisite 2. High skill	1. Preplanned environment 2. Programmed learning – tutorials, military instruction 3. Unsupported learning – individuals are extremely motivated to learn 4. Inflexible environment 5. Individualism is not tolerated	1. Low level complexity for individuals 2. Routine tasks in a moderately complex environment 3. No room for experimentation	1. Little emphasis on individual but rather on processes 2. Authoritarian leadership 3. Direct instruction	1. Strong connection between individuals and manager 2. Weak connection between individuals 3. Mode I knowledge	1. Intentional, incremental change 2. Incremental improvements, initiated by organisation 3.Low/medium revenue potential

Characteristics based on: Harrison & Kessels (2004); Cronje & Burger (2006); Palmer & Parker (2007)

The working environment is inflexible and individualism is not tolerated. The work environment is not very complex and routine tasks are carried out daily. There is often a strong connection between individuals and their manager with the manager adopting an authoritarian leadership style.

Operating in this quadrant results in incremental improvements which are initiated by the organisation to achieve incremental change in an environment. This quadrant is characterised by low to medium revenue potential for an organisation. An example of this quadrant is military instruction where errors are not tolerated or where mistakes could lead to possible life loss in the field.

Popadiuk and Choo's (2006) fourth quadrant probably best describes this quadrant. These authors state that and organisation creates new knowledge through the exploitation of explicit knowledge and commercialises this knowledge with existing market knowledge. Popadiuk and Choo (2006) describe this scenario as incremental innovation where changes in products and processes are relatively minor. The business case for commercialisation is often clear and customer reaction can be anticipated.

Table 4.8 below describes the serendipitous breakthroughs quadrant. Individual understanding through continuous feedback is one of the characteristics of this quadrant. Past experiences of individuals are key to unlock value and a high skill level is required to operate in this quadrant. The learning environment is flexible where people are encouraged to learning from their past mistakes. This is indirect contrast with the unplanned improvements quadrant (see table 4.6) where mistakes are not tolerated at all.

This environment is further characterised with a high level of adaptable complexity which individuals must deal with on a daily basis. The leadership still in this quadrant could be described as being participative where the manager

plays a facilitation role. There exist a strong connection between peers but not so strong connection between individuals and their manager.

Unintentional quantum changes may occur in these environments. Accidental and uncontrolled breakthroughs are initiated by individuals with medium to high revenue potential for the organisation.

This quadrant is similar to the first quadrant of Popadiuk and Choo (2006). These authors describe the scenario as one of radical innovation where ideas often appear unexpectedly from unexpected sources. The ideas appear usually from through the insight of some unexpected individual or group. Addressing new customer needs or entering new markets may be the catalyst for this type of innovation according to Popadiuk and Choo (2006).

Table 4.8: Serendipitous breakthroughs quadrant

Quadrant / Variable	**Proficiency** (Human capital)	**Personal skilfulness** (Human capital)	**Subject matter expertise** (Human capital)	**Organisational learning environment** (Structural capital)	**Complexity** (Structural capital)	**Leadership** (Human capital)	**Communities of knowledge** (Relationship capital)	**Approach to innovation** (Human capital)
Serendipitous breakthroughs	1. Outcome is individual understanding 2. Lessons learnt	1. Past experiences – key to unlocking value 2. Reconstruction of concepts – retrospection and introspection	1. Definite prerequisite	1. Environment should be as rich as possible taking into account personal interests, motivation and capabilities of people 2. Flexible environment 3. Learning from mistakes 4. Supported learning 5. Tailored to outcome	1. High level of adaptive complexity	1. Facilitation 2. Identify and manage patterns 3. Participative leadership	1. Stand still, pay attention, gain new perspective 2. Strong connection between individuals – share experiences 3. Mode II knowledge	1. Different approaches to solving a problem 2. May lead to unintentional quantum change 3. Accidental and uncontrolled breakthroughs which are initiated by individuals 4. Medium to high revenue potential

Characteristics based on: Harrison & Kessels (2004); Cronje & Burger (2006); Palmer & Parker (2007)

Table 4.9: Strategic innovation quadrant

Quadrant / Variable	**Proficiency** (Human capital)	**Personal skilfulness** (Human capital)	**Subject matter expertise** (Human capital)	**Organisational learning environment** (Structural capital)	**Complexity** (Structural capital)	**Leadership** (Human capital)	**Communities of knowledge** (Relationship capital)	**Approach to innovation** (Human capital)
Strategic innovation	1. High performing organisation 2. Adaptive enterprises – reinvent themselves	1. Past experiences – key to unlocking value 2. Reconstruction of concepts – retrospection and introspection 3. Constant feedback and retrospection	1. Definite prerequisite	1. Flexible – depends on outcome 2. Uninhibited to promote personal interests and stimulation	1. High level of adaptive complexity	1. Facilitate, guide, coach – situational leadership model 2. Servant leadership	1. Scenario planning 2. Sense-analyse-respond 3. Strong connection between individuals and between manager and individuals 4. Mode II knowledge by integrating Mode I knowledge	1. Intentional quantum change 2. Controlled breakthroughs – initiated by organisation 3. Medium/high revenue potential

Characteristics based on: Harrison & Kessels (2004); Cronje & Burger (2006); Palmer & Parker (2007)

Table 4.9 above describes the strategic innovation quadrant. Organisations who constantly reinvent themselves to adapt to their environment find themselves in this quadrant. Employees have a high skill level and there is constant feedback to foster growth in employees (see figure 2.5, chapter 2). A high skill level is required of staff to work in a complex, flexible and adaptable environment.

In this environment the manager adopts a servant leadership style and he acts as facilitator, guide and coach. This quadrant is further characterised with scenario planning where there is a strong connection between peers and between peers and their manager.

There are intentional controlled breakthroughs, initiated by the organisation which might lead to medium to high revenue potential for the organisation.

This quadrant is similar to Popadiuk and Choo's (2006) third quadrant of innovation where an organisation creates new knowledge through exploitation that combines existing explicit knowledge and commercialises this knowledge by using new market knowledge. This type of innovation is normally associated with product development where an important source of innovation is knowledge that has been made explicit. According to Popadiuk and Choo (2006) reconfigurations of component architectures can lead to new products for new markets. New markets are therefore created based on incremental improvement in technology and processes.

A phased approach was followed for integration (tables 4.6 – 4.9) as explained below:

Firstly literature pertaining to the topic at hand was analysed. From analysing the literature, categories and subcategories were identified. These were:

- The knowledge economy (chapter 2)
- Intellectual capital (chapter 3)
- Learning theory and the corporate curriculum (this chapter)
- The strategic innovative organisation (this chapter)

Secondly, material within these categories was reanalysed to identify certain variables or elements on the basis of specific content within the data.

This resulted in the following intellectual capital variables being identified based on their contribution in creating a strategically innovative environment:

- Proficiency
- Personal skilfulness
- Subject matter expertise
- The organisational learning environment
- Complexity
- Leadership
- Communities of knowledge
- Approach to innovation

Further to this, Cronje and Burger's (2006) matrix on learning theory, the corporate curriculum (Harrison & Kessels, 2004) as well as Popadiuk and Choo's (2006) model on innovation was used to add characteristics to each variable per innovation quadrant (Palmer & Kaplan, 2007).

By integrating key concepts of intellectual capital, strategic innovation (Palmer & Kaplan, 2007), learning theory (Cronje & Burger, 2006), Popadiuk and Choo's (2006) model on innovation and the corporate curriculum (Harrison & Kessels, 2004) Cronje and Burger's (2006) matrix can be adapted. The next section will discuss the changes to this matrix in more detail.

4.7 The strategic innovation matrix

Prentice (2009) argues that people drive innovation. These human conceptions related to innovation can be analysed, based on positioning data on what is called a learning matrix (Sievänen, 2004), or as in the case of this study, an innovation matrix. A matrix ensures a relationship between data presentation, data analysis and the theoretical framework.

Cole (1994) states that the use of a matrix not only provides a conceptual frame for coding data, but also suggests a map for reproducing analysed data into an organised pattern that connects the findings of the research with the review of the literature.

According to Sievänen (2004), the set of dimensions comprising a matrix distinguishes between emphasis on individuality and sociality in learning, between viewing learning as knowledge adoption and as knowledge construction, and between viewing learning as subjective and objective to time. This same argument could be applied on how innovation is viewed in an organisation.

This study proposes a matrix on strategic innovation by integrating Cronje and Burger's (2006) matrix on learning theory, the pillars of the corporate curriculum (Harrison & Kessels, 2004 and Palmer & Kaplan's (2007) matrix (see figure 4.2) on strategic innovation to explain the evolving process towards an organisation's ability to create and apply knowledge effectively to become strategically innovative. Cronje and Burger's (2006) matrix could therefore be adapted as depicted in figure 4.5.

The strategic innovation matrix can be used to visualise and compare conceptions of strategic innovation extracted from literature and by using other data analysis methods, such as interviews and observation.

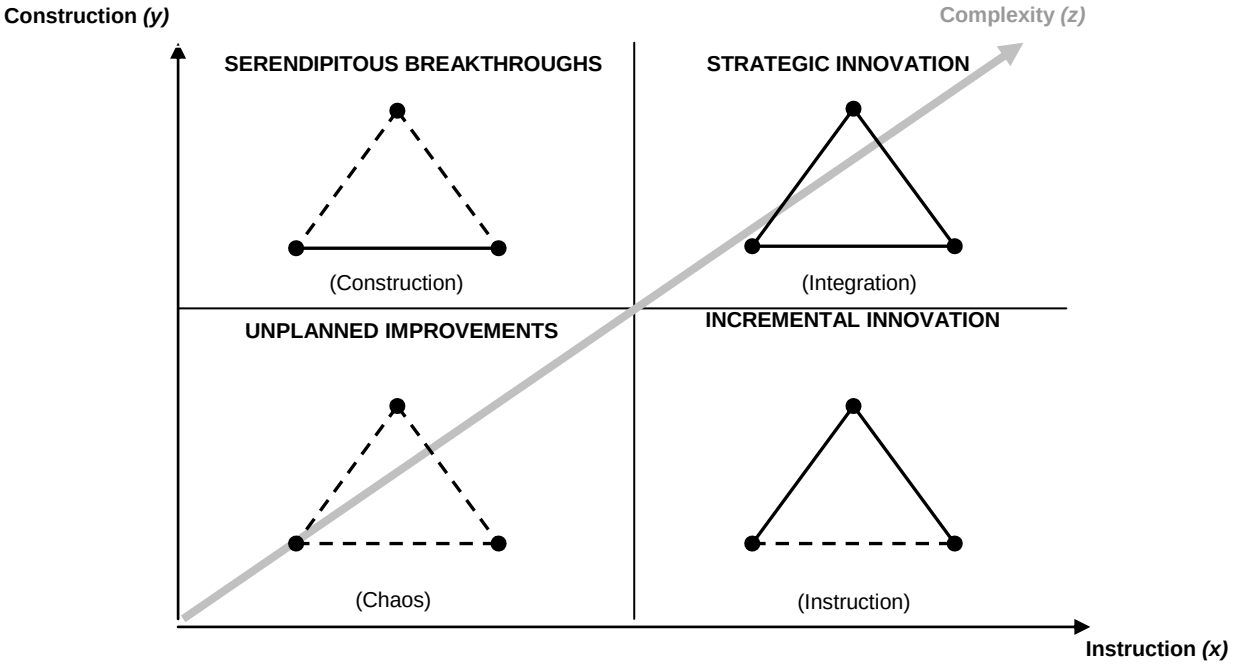


Figure 4.5: Integrated matrix towards strategic innovation (Adapted from: Cronje & Burger (2006:218-236) and Palmer & Kaplan (2007)

The four quadrants of Cronje and Burger (2006:218-236) have been renamed as follows:

Immersion/chaos	→	Unplanned improvements
Instruction	→	Incremental innovation
Construction	→	Serendipitous breakthroughs
Integration	→	Strategic innovation

The quadrants are explained in tables 4.5 – 4.8 above. The *x-axis* represents learning through construction and the *y-axis* represents learning through instruction (see addendum 3). The *z-axis* represents complexity. The triangles represent the connection strengths (communities of knowledge) between peers and subordinates.

In order to develop an instrument to measure if an organisation is strategically innovative the characteristics on the instruction axis (see table 4.10) and construction axis (see table 4.11) are summarised below. The distinction between the two axes was based on analysing the literature. Characteristics from Burger and Cronje's (2006) model on learning as well as Palmer and Kaplan's (2007) model on innovation that best describe each axis were matched to Harrison and Kessels' (2004) pillars of learning therefore attempting to create a more holistic instrument to

measure innovation that incorporates learning theory and elements of knowledge production and innovation.

Table 4.10: Characteristics of the instruction axis

Variable	Characteristic
Proficiency	• Business outcomes are predictable and repeatable • Errors are not tolerated – no room for experimentation
Personal skilfulness	• People are task driven and sharply focused • Clear-cut objectives to meet
Subject matter expertise	• Emphasis is on doing and not understanding
Learning environment	• Tutorials and manuals exist with documented processes to follow • Inflexible environment
Complexity	• Low level of complexity for workers – routine tasks
Leadership	• Manager is the authoritarian provider of knowledge • Workers get instructions on what to do on a constant basis – "spoon fed"
Communities of knowledge	• Group work not a priority • Peers do not socialise or interact with one another
Approach to innovation	• Works from the "present" towards the future • Adopts a rule-maker/taker (defensive/follower) attitude • Business boundaries and product categories are accepted • The focus is on incremental innovation • Traditional and linear planning models • Input from obvious sources • Seeks to respond to "known" customer needs • Technology driven – seeks consumer approval • "One size fits all" organisational model

Intellectual capital (see table 4.1)

Innovation

Learning theory: Cronje & Burger (2006)

Palmer & Kaplan (2007)

(Adapted from: Harrison & Kessels (2004); Cronje & Burger (2006:218-236) and Palmer & Kaplan (2007))

These characteristics can be used to determine the degree to which an organisational environment lends itself to an instructivist approach to innovation.

Table 4.11: Characteristics of the construction axis

Variable	Characteristic
Proficiency	• Employees are allowed to gain their own understanding of a situation • Experimentation is encouraged in order to promote understanding of a problem
Personal skilfulness	• Past experience is key to unlocking value • Employees are regarded as individuals with pre-existing knowledge, aptitudes and motivations – self-directed exploration and discovery
Subject matter expertise	• Employees' intentions and experience are central in creating and applying new knowledge
Learning environment	• Simulations and post-mortems are used to gain new insights • Flexible environment
Complexity	• High level complexity for employees – adaptive • Constant change
Leadership	• The manager guides, coaches and mentors the employees through issues and obstacles • The manager tries to identify unique interests of employees and then utilises these interests to solve problems
Communities of knowledge	• Group work is encouraged • Peers socialise and interact with one another
Approach to innovation	• Starts with the end in mind • Adopts a rule-breaker (revolutionary) attitude • Wants to create a new competitive "space" • Continues to build core while seeking breakthrough (disruptive) innovation • Integrates process with creative inspiration • Seeks input from unconventional sources • Seeks to respond to "unknown" customer needs of the future • Consumer inspired – seeks consumer delight • Experiments with entrepreneurial ventures and organisational structures

Intellectual capital (see table 4.1)

Innovation

Learning theory: Cronje & Burger (2006)

Palmer & Kaplan (2007)

(Adapted from: Harrison & Kessels (2004); Cronje & Burger (2006:218-236) and Palmer & Kaplan (2007))

These characteristics can be used to determine the degree to which an organisational environment lends itself to a constructivist approach to innovation.

4.8 Measuring strategic innovation

Various authors were consulted on the topic of measuring innovation. These authors put forward what they believe are appropriate models and/or tools to measure an organisation's innovativeness. Rogers (1998) notes that innovation covers a broad range of activities which varies vastly from firm to firm. Rogers (1998) highlights that

various methods exist to measure innovation in organisations. These methods include using information gathered from survey data, company accounts and intellectual property statistics. From these methods a large number of measures or indicators are produced which can be used for further analysis to determine an organisation's innovativeness. These innovation indicators are classified into inputs to the innovation process and then the subsequent outcomes of the innovation process.

Mairesse and Mohnen (2002) proposes the innovation accounting framework to measure innovation which also considers indicators relating to innovation inputs and outputs.

Berwig and Marston *et al*. (2009) argue that organisations typically focus on inputs e.g. research and development spending versus outputs e.g. number of patents filed to evaluate their innovation efforts. Some organisations also use interview-based assessments and rankings to track their innovation effort. According to these authors the approach mentioned above is very narrow and does not take into account the evolution of innovation performance over time. These authors also mention that data availability is a problem and that most metrics fail to connect innovation to the organisation's performance. Berwig and Marston *et al*. (2009) proposes a scorecard to measure innovation which they call the Innovation Performance Score (IPS) which they argue takes into account a broader spectrum of variables to determine an organisation's innovation success.

With so many views on how innovation should be measured the question then arises: How do you measure innovation?

All the mentioned authors above agree that metrics can be important levers to innovation, driving behaviour as well as evaluating the results of specific initiatives. This was also noted by Kaplan and Winby (2007). Due to the nature of innovation Kaplan and Winby (2007) noted that measuring innovation can be more than an art than a science. Kaplan and Winby (2007) argues that although metrics can be valuable for driving investment in innovation and evaluating results they often provide a very limited view on innovation. These authors go further in stating that

some of the metrics used today can even inhibit strategic innovation. Kaplan and Winby (2007) promote using a "family" of metrics to measure innovation. A more holistic approach to measuring innovation was also proposed by authors such as Rogers (1998), Mairesse and Mohnen (2002) as well as Berwig and Marston *et al*. (2009).

Kaplan and Winby (2007) suggest using the approach as illustrated by the figure below:

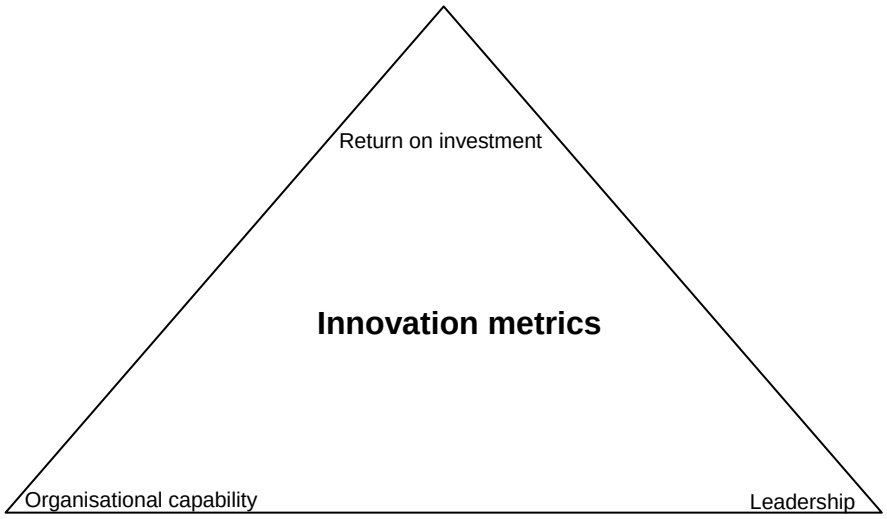


Figure 4.6: Family of metrics to measure innovation (Kaplan & Winby, 2007)

According to Kaplan and Winby (2007) metrics for measuring innovation should include:

- **Return on investment (ROI):** This should address resource investments and financial returns. ROI will help justify and recognise the value innovation programs and the overall investment in innovation.
- **Organisational capability*:*** These metrics focus on the organisational environment (i.e. training, instruction, distinctive skills and knowledge etc.) and process for innovation. Capability measures provide focus to initiatives geared towards building repeatable and sustainable approaches o invention and re-invention.
- **Leadership*:*** These metrics address the behaviour that senior managers and leaders in the organisation must demonstrate to support a culture of innovation, including the support of certain growth initiatives.

The biggest difference between Kaplan and Winby's (2007) proposed way of measuring innovation and the authors already mentioned is the inclusion of the organisational environment and leadership (as defined above) as metrics to measure innovation. It seems that Kaplan and Winby's (2007) method focuses more on the "human" element of innovation as opposed to mere tangible inputs and outputs

This thesis defines strategic innovation as: *"Creating and applying knowledge to the benefit of the organisation through creating an environment conducive to learning"*. For this reason the instrument developed for this study will focus only on elements of organisational capability and leadership as defined by Kaplan and Winby (2007) above.

4.9 Conclusion

It was argued in Chapter 2 that the environment in which organisations need to operate in the knowledge economy is totally different from the one in which they used to operate in the industrial economy (see table 2.2). The environment in the knowledge economy is dictated by factors such as price, quality, flexibility and product innovation. Chapter 2 further noted that the innovation process needs to speed up if organisations wish to survive in the knowledge economy (see table 2.2). People are key in speeding up the innovation process and organisations needs strong leadership in order to retain and develop key talent.

Chapter 3 explained the role intellectual capital plays in the knowledge economy. It was argued in this chapter that human capital development is critical if organisations wish to become strategically innovative.

This chapter argues that organisations therefore need an environment where key talent can be retained and developed in order to meet the challenges of doing business in the knowledge economy. Individuals need to create and apply knowledge effectively and to the benefit of the organisation, which will result in organisations being strategically innovative. This chapter argues that if organisations

become strategically innovative, they will be able to meet the many challenges of operating in a knowledge economy.

There are many views on how to measure strategic innovation as highlighted in this chapter. It is argued that that a different approach should be taken in measuring strategic innovation. The aim of this thesis is to build an instrument that integrates elements of intellectual capital (see chapter 3), the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and strategic innovation (Palmer & Kaplan, 2007) to measure the organisational environment and leadership which Kaplan and Winby (2007) refers to.

The results from the newly developed instrument will be plotted on the matrix proposed in this chapter (see figure 4.5). By plotting the results on this matrix the researcher aims to illustrate which variables affect an organisation's strategically innovative environment. Furthermore, by understanding in which quadrant an organisation operates in the matrix could provide a guideline for organisations, helping them to create environments conducive to strategic innovation.

The method used to develop this instrument is described in the next chapter.

CHAPTER 5: RESEARCH METHODOLOGY

5.1 Chapter overview

The diagram below gives a brief overview of this chapter:

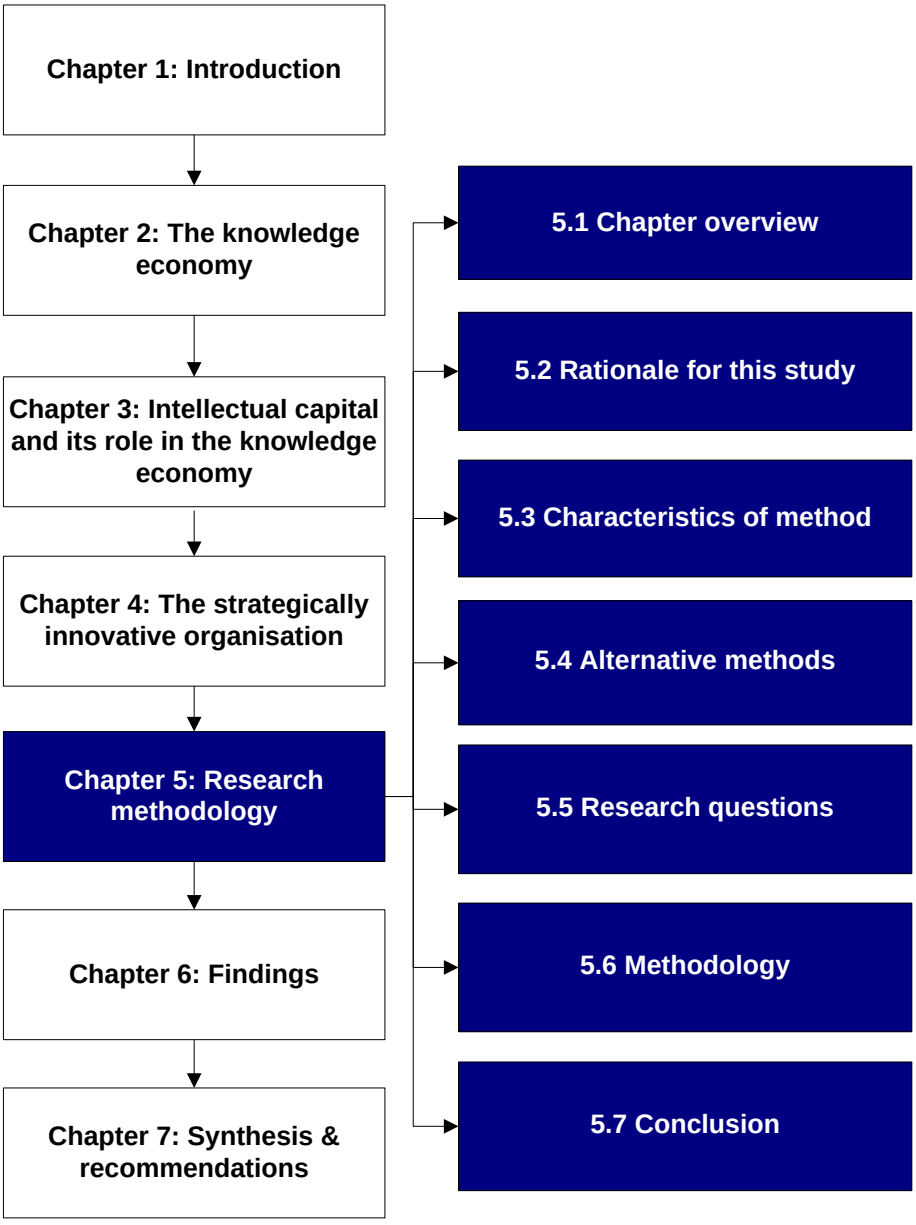


Figure 5.1: Chapter overview

The main aim of this chapter is to explain the methodology followed to conduct this research.

This study attempts to answer the following question pertaining to researching strategically innovative organisations:

To what extent can an instrument be developed to measure and organisation's strategically innovative environment?

To explore how strategically innovative organisations can be measured, literature was analysed pertaining to the knowledge economy, intellectual capital, the corporate curriculum, learning theory as well as strategic innovativeness. From analysing the literature certain variables were identified which were used to develop a Likert-based questionnaire (from now on referred to as instrument) to measure strategic innovativeness. Results from the instrument were then plotted on a four-quadrant matrix (see addendum 5).

The rationale for this study is given in section 5.2. In section 5.3 the characteristics of the selected research method are explained and in table 5.1 the implications of these characteristics for this study are highlighted.

5.2 Rationale for this study

The insurance industry is a multi-billion dollar industry worldwide. In South Africa there are eighty two registered long term insurers, a hundred and six short term insurers and two hundred and twenty friendly societies according to the Professional Provident Society of South Africa (2009).

According to Ferrante-Harris *et.al.* (2003) the global insurance market is in turmoil with market and organisational trends putting huge strain on insurers.

Two years on from Ferrante-Harris's *et.al* revelations about the insurance industry, Earley *et.al.* (2005) notes that insurers are still struggling to meet their ever changing

customer expectations. There is still increased competition in the insurance industry and distribution channels have been restructured. Earley *et.al.* (2005) highlights that this changing environment is putting a lot of pressure on margins and profits. Today this trend continues worldwide with insurance industry watchdogs, new regulations and increased scrutiny by rating agents, forcing insurers to become strategically innovative in order to rapidly bring new products to market in order to stay competitive.

The challenges that the insurance industry faces also have an impact on vendors supplying services to insurance organisations, thus forcing these vendors to become strategically innovative as well, due to the increased competition among them.

The problem facing insurance organisations and vendors is how to create an environment that would promote strategic innovation. By proposing an instrument to measure an organisation's strategically innovative environment this thesis attempts to provide these organisations with a tool to help them to become strategically innovative by evaluating the environments they find themselves in. The results from this instrument, when plotted on a strategic innovation matrix, could give organisations insight into the areas which they need to improve to become strategically innovative.

SDT Financial Software Solutions (Pty) Ltd (from now on referred to as SDT) is the industry leading vendor in evolutionary life administration and delivers advanced solutions for the financial assurance industry. Its cost-effective and highly flexible platforms based on Microsoft technology enable its life assurance customers to effectively create, deliver, administer and manage a full range of financial solutions - including insurance policies, group investment schemes, employee benefits, life assurance and credit life assurance.

SDT is based in Pretoria, South Africa, and has a staff complement of hundred life assurance and information technology specialists. The products delivered by SDT have found favour with demanding life assurance organisations in Southern Africa and beyond. The flexibility, value and advanced functionality of SDT's solutions are

enabling financial services providers in South Africa, Namibia, Zimbabwe, Malawi, Kenya, Swaziland, Lesotho, Ghana, Nigeria and Mauritius to manage the provision of their products to market effectively.

In 2006 SDT listed on Johannesburg's alternative stock exchange for small to medium enterprises, the AltX. This in itself posed many challenges for this information technology company, one of which was how to add value to its growing customer base and shareholders in tough economic conditions.

For SDT's customers to meet the demands of a changing knowledge economy in the life assurance industry in Southern Africa, it is believed that it needed to be strategically innovative as well. One of the challenges for SDT was therefore to understand which factors/variables contribute in creating an environment which would promote its customer base's strategic innovativeness. Analysing and understanding these variables would help SDT to customise its own product offering (which includes training as well), aligning it to specific customer needs. These needs may vary from customer to customer and country to country, based on the customer's specific strategy, the maturity of its business and specific financial legislation imposed by the various countries' financial governing bodies. Understanding which variables contribute to strategic innovativeness would also assist SDT in creating a "stimulating environment" (Harrison & Kessels, 2004:179) for its own staff to work in.

Developing an instrument to measure an organisation's strategically innovative environment was seen as an ideal method to ensure that the researcher and his reporting staff would gain the necessary knowledge and skills in understanding which variables contribute to the strategic innovativeness of SDT and its customers.

According to Boutellier and Gassman (2008) case study research is the most commonly used qualitative research method when researching business and management.

Given the circumstances mentioned above, case study research was therefore seen as the appropriate method to use. It was further established that this research would be explorative and qualitative in nature.

Case study research has certain characteristics. These characteristics are explained in the section below.

5.3 Characteristics of case study research

Mouton (2003) and other authors such as Holliday (2007) describe the aims of qualitative research as follows:

- To understand, rather than to explain
- A naturalistic observation rather than a controlled measurement
- The focus is on implementation rather than on quantifiable outcomes
- A subjective exploration of an insider's perspective rather that of an outsider
- To enhance further improvement and self-determination
- To gain an in-depth understanding of human behaviour and the reasons that drive this behaviour
- To investigates the *why* and *how*

Case studies are characterised by the following as described by Yin (2003), Neale *et al.* (2006) and Boutellier and Gassman (2008):

Table 5.1: Characteristics of case study research

Definition: A (normally) qualitative study based on a small number of cases (less than 50)	
Characteristics	
Description	**Impact on this study**
Design classification (Neale *et al*., 2006).	Empirical, text, low control.
Research questions: Exploratory and descriptive (Yin (2003) & Neale *et al*., 2006).	This study used both exploratory and descriptive questions to develop an instrument to measure strategically innovative organisations.
Typical applications: Case studies of organisations, social work research or political science (Neale et al., 2006).	In this study eight life assurance companies were used as cases to measure their strategic innovativeness and the variables that impact on the strategic innovativeness of these organisations.

Table 5.1: (Cont.)

Description	Impact on this study
Sampling: Theoretical or judgement sampling (Neale et al., 2006).	In this study the researcher together with executive members of SDT used their judgement to determine the sample.
Sources of data: Participant observation, semi-structured interviews, use of documentary sources and other existing data (Neale *et al*., 2006).	For this study interviews were the instrument of choice. In order to ensure reliability and validity these interviews were conducted telephonically with participants. They were then also recorded to enable the researcher to establish validity and reliability. Literature pertaining to the topics at hand were also analysed and reanalysed for crystallisation.
Analysis: Analytical induction or grounded theory approach (Neale *et al*., 2006).	In this study grounded theory was used to develop and apply the instrument.
Advantages	
Description	**Impact on this study**
Provides much more detailed information on the cases than other methods (Neale *et al*., 2006).	Participating organisations provided company data and profiles. This assisted in getting a more detailed understanding of the climate and environment in which they operate. It also helped to understand the challenges they face.
Allows for data presentation from multiple instruments, i.e. surveys, interviews, document review and observation (Neale *et al*., 2006).	For this study telephonic interviews were used to gather data. Literature pertaining to the topics at hand were also analysed and reanalysed for crystallisation.
Describes the real world without influencing or simplifying it (Boutellier & Gassman, 2008).	Eight life assurance organisations in Southern Africa were used as cases for this study.
Theories can be tested on real-life examples (Boutellier & Gassman, 2008).	Eight life assurance organisations in Southern Africa were used as cases for this study.
Limitations	
Description	**Impact on this study**
Can be lengthy (Neale *et al*., 2006).	This study was broken down into different phases in order to provide the information in an easily digested manner.
Lack rigor (Neale *et al*., 2006).	A systematic and multi-model approach to data collection was followed to ensure validity and reliability.
Non representativeness of cases (Boutellier & Gassman, 2008).	Eight life assurance organisations across Southern Africa were used as cases for this study.
Small number of analysed cases (Boutellier & Gassman, 2008).	Different cases were compared to one another as well as different theories were compared to establish a domain where the results could be verified.

(Adapted from: Yin (2003); Neale *et al.* (2006) & Boutellier and Gassman (2008))

In the first column of table 5.1 the characteristics of case study research are summarised with references to the advantages and disadvantages of this method. In the second column the impact these characteristics had on this study is explained.

The advantages and limitations of case study research and the implications on this study are summarised in table 5.1 above.

Case studies are further employed in research to reach different objectives. One of these objectives, according to Yin (2003), has relevance to this study:

- **Descriptive:** These case studies are used to describe an event or process. The main objective is to answer questions such as: How?, why? and what? For this study the process of developing an instrument (see addendum 1) to measure strategic innovation is described.

The Economist (2002, as cited by Boutellier & Gassman, 2008) highlights that the importance of case study research should not be neglected as case studies are used to sell ideas. This study attempts to sell the idea that by integrating elements of the knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategic innovation an instrument can be developed to measure the strategically innovative environment of organisations.

There could have been alternative methods to conducting this study as noted in section 5.4 below.

5.4 Alternative methods

The researcher has identified two alternative methods to conducting this research. These alternative methods are described below:

5.4.1 Participant observation

Mouton (2003:148-150) describes participant observational studies as usually qualitative in nature and providing an in-depth description of a group of people or large community. Although very similar to case studies, observational studies are applied mostly to ethnographic studies of communities or cultures (Ezeh, 2003), in contrast to case study research which is applied to a “smaller” selection/group and is used mostly to study organisations. This study focused on eight life assurance organisations in Southern Africa and for this reason case study research was selected as the appropriate method of conducting this research.

Mouton (2003:148) also indicates that observational studies focus primarily on primary (new) data, in contrast to case studies which focus on hybrid data (i.e. new and existing data). In this study the researcher combined both new and existing data to develop an instrument (see addendum 1) to measure an organisation’s strategically innovative score. In combining both new and existing data to develop the instrument, case study research was used as the chosen methodology.

A limitation of observational studies (as is the case with case study research as well) is that data collection and analysis can be very time consuming. As mentioned earlier, this study was exploratory. Telephonic interviews were conducted on a selection of staff per organisation, which gave the researcher more control over the duration of this study. The researcher further believed that if observation had been the chosen method of data collection and analysis, the group might have been too small for proper analysis through observation. For this reason case study research also seemed to be more suited to this study due to the fact that this study focused on only eight organisations, thereby limiting the time for data collection and analysis.

Another possible method for data collection and analysis for this study could have been to compare the organisations with one another. The next section briefly describes a comparative study.

5.4.2 Comparative studies

Mouton (2003:154-155) notes that the primary focus of a comparative study is to find the similarities and differences between groups, as was also noted by Ragin (1989). The objects of the study could include organisations, countries, cultures and societies. Comparative studies also use hybrid data for data analysis, but a major difference between a comparative study and a case study, according to Mouton (2003:154), is that questions used in comparative studies are descriptive and historical, in contrast to case study research where the questions are exploratory. As this study was exploratory, the researcher chose the case study method to gather and analyse data.

Comparing different organisations to one another might look like the logical choice for determining their strategic innovativeness in terms of their similarities and differences; however, the focus of this study was to explore how strategic innovativeness could be measured by focusing on the organisational environment i.e. learning environment and the role of leadership in creating a strategic innovative environment. Exploring themes in a small group such as the knowledge economy (see chapter 2), intellectual capital (see chapter 3), the corporate curriculum, learning theory and approach to innovation (see chapter 4) gave the researcher an understanding of which variables could promote or inhibit strategic innovativeness.

As described later (see section 5.6), these variables were then applied in an instrument where individuals had to use a Likert-like rating to establish the impact these variables had on the participating organisations' overall strategic innovativeness. The results were then plotted on a four-quadrant matrix (see figure 4.5 and addendum 5) developed for this study to illustrate the overall strategically innovative results across all the participating organisations.

The focus of this study was therefore not to highlight the similarities and differences between the participating organisations, but rather to conduct an exploration to how strategic innovativeness could be measured.

5.5 Research questions

The qualitative method of research was used to gain an understanding of the concepts of knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategically innovative organisations according to rubrics that attempted to address the following issue:

To what extent can an instrument be developed to measure an organisation's strategically innovative environment?

Once these concepts were clearly defined, an instrument to test for their complementary attributes in a strategically innovative environment was developed.

By answering the question above, the following sub questions arise:

- What is the knowledge economy and what impact does it have on a strategically innovative environment?
- What role does intellectual capital play in the strategically innovative environment?
- What is a strategically innovative organisation?
    - Which variables contribute to the creation of a strategically innovative environment?
- How can learning theory contribute to the creation of a strategically innovative environment?
- To what extent can organisations in the life assurance industry in Southern Africa be regarded as strategically innovative?

This study was conducted in a phased approach as discussed later in section 5.6.

5.5.1 Participants in this study

Eight life assurance organisations were selected by the researcher and management of SDT Financial Software Solutions (Pty) Ltd (hereafter referred to as SDT) for this

study. Selecting only eight cases ensured that this project concluded in a reasonable timeframe, thereby not prolonging the process. These organisations were all customers of SDT, a software development company in Pretoria, South Africa. The organisations varied in size and turnover. Some were listed on the JSE Limited. As a prerequisite for participation in this study, the organisations requested to stay anonymous. For this reason these organisations are referred to as organisations 1 to 8 in this study and are described in addendum 4.

In each organisation three staff members were interviewed telephonically. Statements were e-mailed to the participants two weeks prior to the telephonic interview. This gave the participants enough time to prepare for the telephonic interview. To avoid potential bias of the participants, the telephonic interviews were conducted individually and staff at different levels in the organisation was interviewed (i.e. senior management, middle management and general staff member). No additional questions were asked by the researcher. One interview per level was conducted and the staff members were identified by the researcher in collaboration with SDT.

These interviews were recorded to enable the researcher to analyse and reanalyse the data (see addendum 4).

The table below gives a brief overview of the participants in this study:

Table 5.2: Summary of participants

Country	Region	Number of organisations interviewed	Number of interviews	Date of interview
South Africa	Western Cape	1	3	2009/02/13
	Eastern Cape	1	3	2009/02/12-2009/02/13
	Gauteng	2	6	2009/02/14
Namibia	Khomas	1	3	2009/02/12
Lesotho	Maseru district	1	3	2009/02/16
Swaziland	Hhohho	1	3	2009/02/17
Mauritius	Port Louis	1	3	2009/02/18
Total		**8**	**24**	

5.5.2 Data collection methods

A combination of methods was used to collect relevant data. The methods used to collect the data are noted in chapter 1 (see section 1.6.3 and table 1.1). Literature reviews, web pages and participant interviews were used to collect data.

5.6 Methodology

This research was methodologically broken down into three phases. The qualitative research was done by means of contextual analysis (phase I) of current literature on the topic at hand.

In phase II an instrument (addendum 1) was developed, using the data in phase I.

In phase III the instrument was applied to different cases (see addendum 4) and the results plotted on a four quadrant matrix (see addendum 5) that was developed

using the data in phase I and Cronje and Burger's (2006) matrix as a base (see chapter 4, figure 4.3)

These phases are briefly summarised below:

5.6.1 Phase I: Contextual analysis

In this phase of the study the following categories were identified from analysing the literature:

- Knowledge economy (chapter 2)
- Intellectual capital (chapter 3)
- The corporate curriculum and learning theory (chapter 4)
- Strategic innovation (chapter 4)

Material within these categories was then analysed further to identify subcategories on the basis of specific content within the data.
This resulted in the following subcategories being identified:

- Integration
- Similarities
- Gaps

The strength of contextual analysis, as depicted by Mouton (2003), lies in the fact that it is a non-reactive method, which means that errors associated with the interaction between researcher and subjects are avoided. A main limitation of contextual analysis is the authenticity of the data sources (Mouton, 2003). This was overcome by testing the identified categories above for validity by using tools developed by other researchers on this particular topic, i.e. Harrison and Kessels's (2004) corporate curriculum (chapter 4), Cronje and Burger's (2006) initial matrix on learning theory (see figure 4.3) as well as Palmer and Kaplan's (2007) four quadrants on strategic innovation (see figure 4.2).

The output from the contextual analysis (phase I) was the identification of certain variables that promote or inhibit strategic innovation in organisations. These variables are:

- Proficiency
- Personal skilfulness
- Subject matter expertise
- Learning environment
- Complexity
- Leadership
- Approach to innovation
- Communities of knowledge

A further output from phase I was the design of a four-quadrant matrix of strategic innovation (see figure 4.5).

5.6.2 Phase II: Developing the instrument

In phase II an instrument was developed (addendum 1), based on the identified variables from phase I.

The instrument consisted of forty four statements.

Two statements per variable were formulated on the construction axis as well as on the instruction axis of the newly developed strategic innovation matrix (see figure 4.5, chapter 4). These statements were formulated by the researcher based on the characteristics of each axis as explained in tables 4.10 and 4.11 (see chapter 4). For the approach to innovation variable, eight statements per axis were formulated due to the emphasis on strategic innovation in this study. The statements on the construction axis were as follows:

Table 5.3: Statements on the construction axis

Variable	Statement
Proficiency	• In solving problems you are allowed to gain your own understanding (sometimes by "trial and error") first before someone tells you what to do • You are encouraged to experiment when faced with finding solutions to difficult problems in order for you to improve your understanding
Personal skilfulness	• Your past life and working experiences are key to adding value to your current employer • Your organisation values your past experiences
Subject matter expertise	• Your intentions and experience are central in creating and applying new knowledge in your environment • Your environment requires you to be an expert in your field
Learning environment	• You regularly engage in "lessons learnt" sessions to gain new insight into problems • You work in a flexible environment
Complexity	• Your work environment is constantly changing • You adapt easily to change
Leadership	• Your interests are valued in the workplace and are used to solve problems • Your manager is a guide, coach and mentor, without telling you how to do your job
Communities of knowledge	• You are encouraged to work in groups to solve difficult problems • Your work environment encourages socialising with one another
Approach to innovation	• You always start with the end in mind when dealing with complex issues • You are encouraged to challenge the "norm" • Your organisation integrates existing processes with creative new ideas • When facing a difficult problem you are encouraged to seek input from unconventional sources • Your organisation continuously seeks customer delight • Your organisation is inspired by what the consumer wants • Your organisation experiments with entrepreneurial ventures and organisational structures • Your organisation continuously seeks for breakthrough improvements

Various cognitive processes are used by the employee to process information and the manager normally has a facilitative role where he/she encourages group activity. The employees are encouraged to learn from their experiences by probing their environment, sensing what is going on and then acting on their senses, followed by making decisions based on their senses.

The statements in table 5.3 above were used to determine the degree to which the particular organisation lent itself to the serendipitous breakthroughs quadrant (figure 4.5) where innovation takes place in an constructivist environment (addendum 3).

The incremental breakthroughs (see figure 4.5) quadrant is characterised by an errorless approach to innovation. Innovation takes place in an instructivist environment (addendum 3) where the manager has a didactic, instructional function. Employees can be observed closely. Employees sense what is happening around them, they categorise it and then choose the appropriate response. Table 5.4 presents the statements on this axis.

Table 5.4: Statements on the instruction axis

Variable	Statement
Proficiency	• Your business outcomes are repeatable and predictable • Your working environment leaves no room for experimentation. Errors are not tolerated
Personal skilfulness	• You are encouraged to focus on the task at hand • You've got clear cut business objectives to meet
Subject matter expertise	• Your focus must be on "doing" and not necessarily "understanding" • You don't necessarily need to be an expert in your field to be successful in your job
Learning environment	• Tutorials and manuals exist with documented processes to follow • Your working environment is inflexible
Complexity	• You are faced with routine tasks on a daily basis • You are not faced with complex problems on a regular basis
Leadership	• Your manager is the sole provider of knowledge in your environment • Your manager instructs you on what to do and how to do it
Communities of knowledge	• In your environment group work not a priority • It is not a priority to socialise and interact with colleagues

Table 5.4: (Cont.)

Variable	Statement
Approach to innovation	• Your organisation focuses on understanding the present before improving the future • You are expected to follow clear cut rules • Your organisation continually seeks customer approval • You're a technology driven organisation • Your organisation adopts a "one size fits all" organisational model • Your organisation focuses on gradual improvements • Your organisation responds to "known" customer needs • When facing a difficult problem you are encouraged to seek input from obvious sources only

These statements were used to determine the degree to which the particular organisation lent itself to the incremental breakthroughs quadrant (see figure 4.5).

All these statements listed in tables 5.3 and 5.5 were then applied (phase III) in the form of a questionnaire with a Likert scale rating to test the extent to which an organisation could be strategically innovative. The results were plotted on a four-quadrant matrix (see addendum 5).

5.6.3 Phase III: Applying the instrument and plotting the results

In the instrument the evaluator had to rate each statement based on an adapted Likert rating. The following options were available as part of the rating (see addendum 1):

- Strongly disagree
- Disagree
- Agree
- Strongly agree

The reason this adapted Likert-based instrument had only four items was to force a decision, thus resulting in avoiding indecision as pointed out by Sclove (2001). The participants were also asked to provide comments (where applicable) when responding to a statement to ensure reliability.

Only one option per statement was allowed and the scoring for each option was as follows:

- Strongly disagree - 1
- Disagree - 2
- Agree - 3
- Strongly agree – 4

To plot the results per organisation on the matrix, the maximum score per variable was a mark out of eight (four marks per statement). In the case of the approach to innovation variable, the participants were asked to rate their organisation's approach to innovation based on eight statements. The maximum score for this variable was therefore a mark out of thirty two (four marks per statement). The total score for this variable was then divided by thirty two and multiplied by eight to give a total score out of eight (weighted average) for both the construction and instruction axes. Each organisation's result per variable was then plotted on a matrix as depicted in addendum 5.

To calculate the consolidated score per variable (across all eight organisations) all the scores per variable were added up per organisation and then divided by eight to get the average score per variable across all organisations.

5.7 Conclusion

The sections above described the methodology chosen to conduct this research. By applying the instrument to the selected cases the researcher hope to gain an understanding of what role the identified variables from phase I (i.e. proficiency, personal skilfulness, subject matter expertise, complexity, communities of knowledge, the learning environment, leadership and approach to innovation) could play in measuring a strategically innovative environment.

It is believed that the results from the instrument could also indicate which variables scored the highest and the lowest in terms of their contribution to an organisation's strategic innovativeness. The researcher believes that visibility on each variable's

score would assist organisations in identifying which areas they need to improve on in order to improve their strategically innovative environment.

The results from the instrument were plotted on a four-quadrant matrix to illustrate each organisation's strategically innovative results in relation to the four innovation quadrants (see addendum 5 and table 6.2).

This matrix together with the instrument can therefore be used to assess the organisational environment Palmer and Kaplan (2007) refer to.

By combining each organisation's results (see table 6.3) the researcher attempts to determine if life assurance organisations in Southern Africa could be regarded as being strategically innovative.

CHAPTER 6: FINDINGS

6.1 Chapter overview

The diagram below gives a brief overview of this chapter:

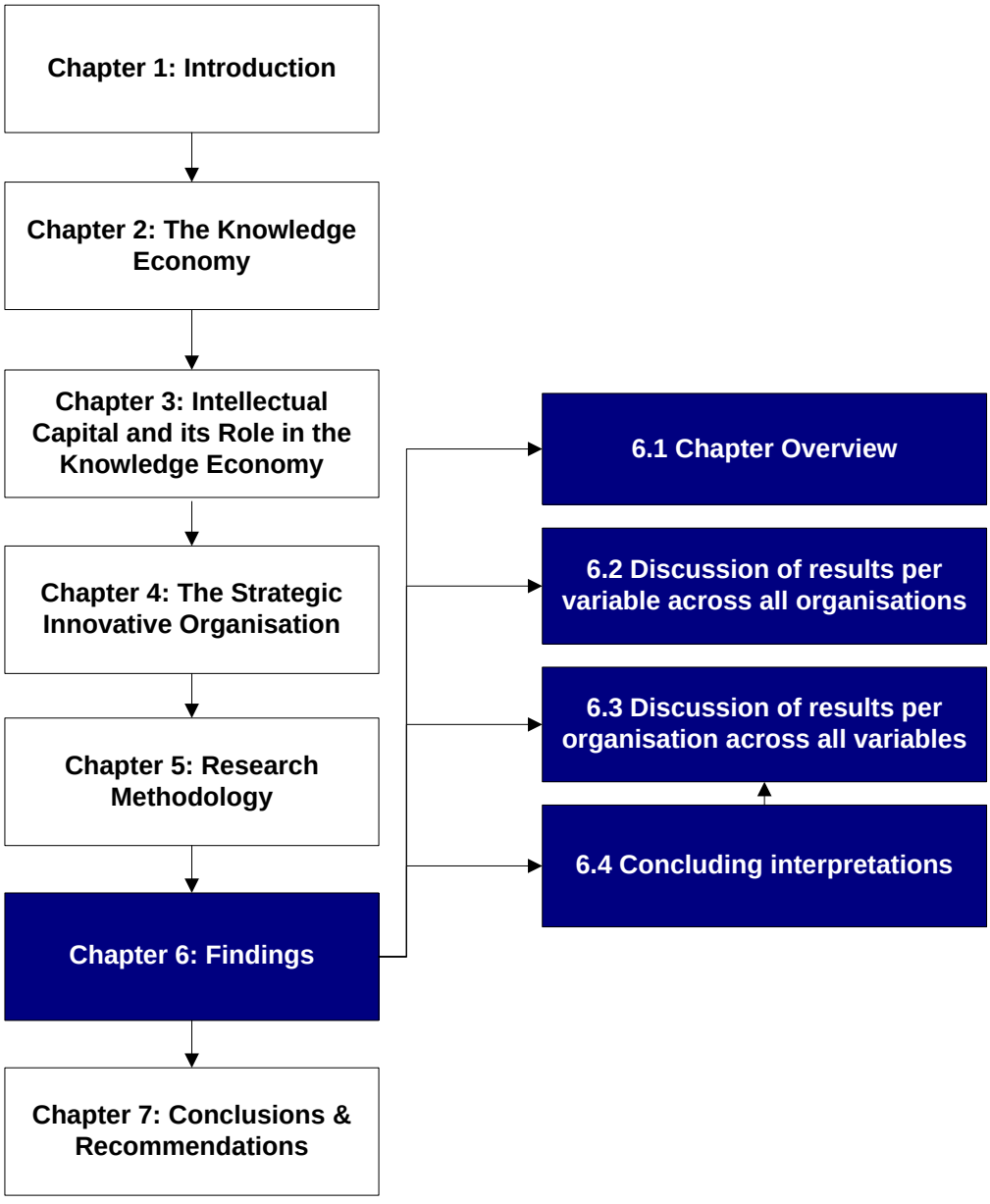


Figure 6.1: Chapter overview

The purpose of this chapter is to evaluate the method followed in developing an instrument to measure the strategically innovative environment of selected life assurance organisations in Southern Africa.

The further purpose of this chapter is to present an analysis and interpretation of data collected during the telephonic interviews to determine the extent to which the environments of the organisations selected for this study can be regarded as being strategically innovative. The analysis and interpretation are necessary to deny or confirm the findings of the literature review presented in chapters 2, 3 and 4.

In order to achieve the goal of this chapter the following aspects are addressed:

- Results are presented for all the participating organisations per variable that could promote or inhibit a strategically innovative environment. This provides a synopsis per variable across all organisations. These variables formed the basis of the instrument and understanding the results per variable could help in refining the instrument (see table 6.2).
- Consolidated results across all organisations are presented (see table 6.3). This view will highlight if the selected life assurance organisations' environments could be regarded as being strategically innovative. Reviewing the results across all organisations in respect of the instrument developed for this study could demonstrate the value such an instrument could have in measuring a strategically innovative environment.

6.2 Discussion of results per variable across all organisations

Table 6.1 (which is based on the results as depicted in addendum 5) gives a summary of the consolidated results across all organisations per variable. The aim of this section is to highlight which variables are most prominent in contributing to a strategic innovative environment in the selection of cases. By scoring the variables across all organisations the researcher will try to identify if certain variables are more commonly present than others across the organisations. Scoring the variables will also demonstrate the value the instrument could have in determining if the life assurance industry in Southern Africa have an operational environment

conducive to strategic innovation. The instrument could also be used to evaluate other industries and organisations.

A tick (√) is given per variable where the results indicate that the specific variable was plotted in the strategic innovation quadrant (see addendum 5). A total score is then given out of eight (because there were eight participating organisations) per variable. Where the variable was not plotted in the strategic innovation quadrant, no tick was given. The reason for giving no tick was that the researcher wanted to determine which organisations lent themselves towards strategic innovativeness regarding the specific variable.

The following sections will attempt to interpret the results achieved per variable.

6.2.1 Proficiency

Proficiency is described in table 4.5 as the technique organisations use for problem resolution and reflection. Organisations that are deemed to be strategically innovative in terms of their proficiency are characterised by the following as described in the preceding chapters:

- They are highly adaptable to changing circumstances.
- They are able to reinvent themselves to adapt to customers' needs and economic circumstances.
- They use a combination of techniques for problem resolution. These techniques may vary from brain storming, lessons learnt sessions on projects to instruction on how to grasp a new concept or new legislation.

By operating in the highly competitive market of life assurance, life assurance organisations constantly need to develop new products and adapt existing products to stay competitive. With so many organisations operating in this market and so many products to choose from, the consumer has multiple options to choose from. It has also become a lot easier for consumers to compare life assurance products with one another over the internet, thus making the environment even more competitive.

Chapter 2 referred to Bolwjin and Kumpe (1989) in Van Hootegem *et al.* (2005). These authors note that organisations followed an evolutionary path over the last 50 years (see table 2.2). These authors predicted that in the 2000s and onwards, organisations' focus would be on price, quality, flexibility, innovation and sustainable development. This new focus has left organisations with some challenging problems in terms of the aforementioned, if they want to stay competitive. Life assurance organisations therefore need to be proficient in creating quality products at a competitive price. These organisations need to be flexible to adapt to new financial legislation as well as a constantly changing economy. Finally these organisations' product offerings need to be sustainable in an ever-changing economy. All these factors, as highlighted by Bolwjin and Kumpe (1998), create a challenging environment for organisations to operate in. It could therefore be argued that employees in these organisations need to be very proficient in solving some challenging problems.

To gain an understanding of the participants' perception of proficiency in their organisations they had to answer the following questions:

- *In solving problems you are allowed to gain your own understanding (sometimes by "trial and error") first before someone tells you what to do*
- *You are encouraged to experiment when faced with finding solutions to difficult problems in order for you to improve your understanding*
- *Your business outcomes are repeatable and predictable*
- *Your working environment leaves no room for experimentation. Errors are not tolerated*

Table 6.1: Results per variable across all organisations

Variable	Organisation 1	Organisation 2	Organisation 3	Organisation 4	Organisation 5	Organisation 6	Organisation 7	Organisation 8	Total score
Proficiency	√	√	√	√	√	√	√		**7/8**
Personal skilfulness	√	√	√	√	√	√	√	√	**8/8**
Subject matter expertise						√			**1/8**
Learning environment			√				√	√	**3/8**
Complexity						√	√		**2/8**
Leadership				√					**1/8**
Communities of knowledge			√	√			√	√	**4/8**
Approach to innovation	√	√	√	√	√	√	√	√	**8/8**

By asking these questions the researcher attempted to understand the following:

- Were the participants encouraged to learn from past mistakes and to learn from others?
- Did they know exactly what they needed to achieve?
- Was their environment constantly changing?
- Were they allowed to experiment in order to solve problems?

The results from table 6.1 above indicate that seven of the eight organisations, organisations 1-7, were rated by the participants as being proficient.
In the interviews participants indicated that depending on the situation faced problem solving techniques might differ from one circumstance to another. This ability to adapt and to use different problem solving techniques is a conduit for sustainable development in these organisations. People are encouraged to learn from one another and guidance is given where needed. These factors indicate that seven organisations in this study could be rated as strategically innovative in terms of their proficiency.

One organisation, organisation 8, was rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant. This borderline rating could be because participants were unsure about the level of proficiency in their organisation. This was verified by the researcher in the interviews when some participants indicated that they adapted their problem solving techniques depending on the situation faced. Some participants, however, could not confirm this. It is the researcher's belief that this indecisiveness could easily be rectified by encouraging individuals to use an array of problem solving techniques when faced with difficult problems.

As stated previously, the results from table 6.1 indicate that seven of the participating organisations in this study all placed a strong emphasis on proficiency in order to survive in a very challenging and competitive environment. It is recommended that these organisations keep up with exploring and implementing techniques to stay proficient. Suppliers to these organisations also need to keep proficiency improvement in mind when developing products and providing a service to these organisations. They need to be able to adapt quickly to this fast-paced

environment where time to market is critical for survival. Suppliers need to understand that price, flexibility, quality and innovation are critical for survival and their products need to adhere to these criteria.

For organisations to be strategically innovative, they need to be proficient. They also need staff members with a level of personal skilfulness to assist them in becoming strategically innovative as explained in chapter 4. The next section will discuss the personal skilfulness of the participating organisations.

6.2.2 Personal skilfulness

Table 4.5 described personal skilfulness as an individual's ability to apply their knowledge in ways that will benefit the organisation. Individuals can no longer only apply rules and procedures, but they need to improve and evolve these rules and procedures in order to innovate and enhance the organisation. In other words, they need to improve the organisation's strategic innovativeness by not only applying the correct knowledge, but knowing when and how to apply it. It would seem from the literature in preceding chapters that an individual's past experiences and an organisation's ability to set clear objectives are key in developing a level of personal skilfulness to help employees to know how and when to apply their knowledge to the benefit of the organisation.

Some personal skills that are required for individuals to contribute to an organisation's strategic innovativeness are (Harrison & Kessels, 2004):

- willingness to gather and support individually produced information of any form;
- supporting knowledge exchange by collective learning, i.e. bringing together individuals to discuss and reflect upon the knowledge they have gathered and
- supporting knowledge development by creating situations where people can utilise existing knowledge to solve problems and to produce new knowledge from it

By demonstrating these skills individuals will help create a strategically innovative organisation.

Participants were asked to rate the emphasis on personal skilfulness in their organisations based on the following statements:

- *Your past life and working experiences are key to adding value to your current employer*
- *Your organisation values your past experiences*
- *You are encouraged to focus on the task at hand*
- *You've got clear cut business objectives to meet*

The purpose of these statements was to give the researcher some insight into how personal skilfulness was perceived in the participating organisations. The researcher wanted to understand if the participants were encouraged to apply their knowledge to the benefit of the organisation by challenging the status quo and improving on current products, processes and procedures. It is also important to note that individuals need to be developed so that they understand when and how they should apply their knowledge. The researcher also wanted to understand if these organisations valued an individual's past experiences and highlighted the importance of these experiences in evolving the organisation.

Lastly, if individuals are focused only on the task at hand, it might influence their willingness to share their experiences, thereby inhibiting knowledge transfer. It is important to note that in a strategically innovative organisation business objectives need to be understood by all and must therefore be clear cut. It is no use for individuals to share past experiences and learn from one another if these experiences are not relevant to meeting the organisation's objectives as described in the preceding chapters.

The results from table 6.1 indicate that all organisations (8/8) were rated as strategically innovative regarding their ability to apply their knowledge in ways that would benefit the organisation. It seems that developing and promoting personal skilfulness was therefore a priority for the participating organisations and all

participants felt that their knowledge and skills were valued in order to achieve their organisation's objectives.

It is recommended that these organisations continue to enhance and promote their employees' personal skilfulness by creating a culture of knowledge sharing. This will enable new knowledge to be created and organisations then need to create an environment for this new knowledge to be applied. The participating organisations must continue to have clear-cut business objectives and it is recommended that a balance be created between focusing on daily tasks and making time for sharing new knowledge. Getting this balance right will improve the participating organisations' strategically innovative footprint in terms of personal skilfulness.

Suppliers, especially training providers, and suppliers doing product training for these organisations need to be sensitive to the fact that a strong emphasis is placed on the development of personal skilfulness, as indicated by the results from the this study (see table 6.1). It is therefore recommended that training material and training courses have the right mix between instructivist and constructivist elements (see addendum 3) as described by Cronje and Burger (2006). These authors conclude that constructivist and instructivist learning are complementary and should be mixed when developing training material or when providing training.

As pointed out, proficiency and personal skilfulness are important cogs in developing an organisation's strategically innovative footprint. It is, however, important to note that these two variables form part of a combination of other variables which affect an organisation's overall strategic innovativeness. Another important variable is the subject matter expertise that exists in an organisation. It is no use for an organisation to be proficient and have a high level of personal skilfulness amongst its employees but lack subject matter expertise. The next section attempts to reflect on the results pertaining to this variable.

6.2.3 Subject matter expertise

Chapters 2, 3 and 4 highlight the importance of subject matter expertise in an organisation. Subject matter expertise can be developed through acquiring Mode I

(scientific knowledge) or Mode II knowledge (applied experience) as described by Gibbons *et al.* (1994). As noted in chapter 4 (see table 4.2) where the application of the corporate curriculum (Harrison & Kessels, 2004) is explained, subject matter expertise should be directly related to the organisation's core competencies and strategy. Employees should have someone to "look up to", a guru from whom they can gain specialist knowledge, e.g. a junior software developer learning from a senior software developer. Employees should then apply and integrate their new knowledge which they gained from the subject matter experts in order to solve problems.

It is therefore evident from literature that subject matter expertise is vital to an organisation's existence. To understand how vital the participating organisations deemed subject matter expertise to be, the following statements were put to the participants for rating:

- *Your intentions and experience are central in creating and applying new knowledge in your environment*
- *Your environment requires you to be an expert in your field*
- *Your focus must be on "doing" and not necessarily on "understanding"*
- *You don't necessarily need to be an expert in your field to be successful in your job*

Only one organisation, organisation 6, could be plotted in the strategically innovative quadrant with regard to the perceived level of subject matter expertise present in this particular organisation, as is evident from the results in table 6.1. The results furthermore indicate that one organisation, organisation 4 was rated in the serendipitous breakthroughs quadrant with regard to its perceived level of subject matter expertise.

The results for the rest of the participating organisations, organisations 1, 2, 3, 5, 7 and 8, indicate that these organisations are on the brink of a high level of subject matter expertise, i.e. towards becoming strategically innovative. These organisations were borderline between the serendipitous breakthroughs quadrant and the strategic innovativeness quadrant. This shows that with a little guidance and focus they could move into the strategic innovation quadrant.

This was surprising to the researcher as it was expected that the cases would all rate high in this variable due to the nature of their business. The results confirm the opposite for the participating organisations, although most organisations were borderline (organisations 1, 2, 3, 5, 7 and 8). There could be a few reasons for these organisations being borderline, one of which could be that some participants felt that not enough focus was placed on the development of subject matter expertise in these organisations. Another assumption could be that some participants felt that they were faced with a lot of routine tasks on a daily basis that did not require a high level of subject matter expertise. These assumptions were confirmed when the interviewer asked the participants to comment further when they were a bit hesitant in answering the questions in the interviews. A further assumption is that some participants did not fully grasp what the statements were about. This is highly unlikely because the participants had two weeks to prepare for the interview and they were encouraged by the interviewer to ask questions if anything was unclear.

What is even more surprising is the fact that the results indicate that all the participating organisations scored high in the variables of proficiency and personal skilfulness but low in subject matter expertise, as pointed out already. The researcher is of the opinion that a high level of proficiency and personal skilfulness without a high level of subject matter expertise is counterproductive to the improvement of an organisation's strategic innovativeness. Rules and procedures need to be improved for an organisation to innovate. In order to improve and innovate individuals would need a thorough understanding of these rules and procedures and must know how and when to apply their knowledge, as discussed under personal skilfulness. Individuals also need to apply the right techniques to improve and innovate, as discussed under proficiency. So even though the results for the participating organisations indicate that these organisations demonstrate high levels of proficiency and personal skilfulness, without a high level of subject matter expertise to guide them, their techniques for and approach to problem solving, improvement and innovation might be less effective.

Due to the importance of a high level of subject matter expertise to develop and improve an organisation's strategic innovativeness, it is recommended that the

participating organisations that were borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant (i.e. organisations 1, 2, 3, 5, 7 and 8), as well as organisation 4 in the serendipitous breakthroughs quadrant make every effort to develop further the subject matter expertise in these organisations.

As stated previously, the level of subject matter expertise is improved in an organisation by developing and acquiring Mode I (scientific knowledge) and Mode II knowledge (applied experience) as noted by Gibbons *et al.* (1994). The researcher therefore recommends that employees at all levels in the participating organisations engage with their human resource departments to plan their personal development in acquiring these modes of knowledge. Staff members could be sent on training courses (Mode I knowledge) (Gibbons *et al.*,1994) to hone their skills and could be rotated with other departments to learn new skills. Current skills and experience (Mode II knowledge) (Gibbons *et al.*,1994) could also be shared among staff members by rotating them and by giving them alternative tasks to break their daily routine.

The challenge for the participating organisations is to strike the right balance between Mode I and Mode II knowledge (Gibbons *et al.*,1994), as highlighted in the preceding chapters. These organisations should demonstrate Mode II knowledge (Gibbons *et al.*,1994) by integrating Mode I knowledge (Gibbons *et al.*,1994) in their daily activities. It is recommended that these organisations engage in activities such as scenario planning to assist in the integration of the different modes of knowledge as depicted in chapter 4. It is also recommended that a strong connection be established between the managers and employees for these managers to guide and coach the employees. This guidance and coaching will also assist in improving the level of subject matter expertise in these organisations.

Suppliers, especially when training on new products, should be sensitive to the fact that subject matter expertise needs to improve, as the results indicate. For these suppliers it is important to understand where the gaps exist in order to address the shortcomings. This could be achieved by doing proper training analysis before any training is conducted.

For organisations to develop their proficiency, personal skilfulness and subject matter expertise, individuals must work in an environment conducive to learning, as stated in previous chapters. The next section will discuss how the participating organisations perceived the learning environment they operate in.

6.2.4 Learning environment

In chapter 4 (see table 4.5) the learning environment of a strategically innovative organisation is described as being flexible, constantly adapting to achieve different outcomes. It was also stated that the learning environment should be uninhibited to promote personal interests and stimulation.

The work environment should therefore be conducive to learning as well as knowledge sharing and creation for organisations to improve and develop their strategic innovativeness. The researcher asked the participants to rate their learning environment according to the following statements:

- *You regularly engage in "lessons learnt" sessions to gain new insight into problems*
- *You work in a flexible environment*
- *Tutorials and manuals exist with documented processes to follow*
- *Your working environment is inflexible*

Through the statements above, the aim was to understand the learning environment of the participating organisations in terms of its flexibility and the promotion of feedback sessions and to determine if guides existed to assist staff members in fulfilling their daily tasks.

Three of the eight organisations, organisation 3, 7 and 8, could be plotted in the strategically innovative quadrant with regard to the perceived learning environment, as is depicted in table 6.1.

The results for the rest of the participating organisations, organisations 1, 2, 4, 5 and 6, indicate that these organisations were on the brink of establishing a learning environment conducive to strategic innovation. They were borderline between the

serendipitous breakthroughs quadrant and the strategic innovativeness quadrant, which indicates that with a little guidance and focus, they could move into the strategic innovation quadrant.

There were a few reasons for these organisations to be borderline, one of which was that some participants felt that not enough focus was placed on the development of tutorials and manuals in their respective departments. Other participants categorically stated that these guides did not exist in their departments and that they were so busy working that there was no time to develop any guides. Another reason was that some participants felt that their environment, although flexible, was not flexible enough to promote different styles of learning. In discussion, some participants also felt that they only occasionally learnt from past mistakes and that these mistakes could be repeated in future. This occasional repetitive failure was noted by the participants as having a lack of formal feedback sessions. In chapter 2 (see figure 2.5) Vermeulen (2007) notes that employees may resign due to a lack of feedback because they feel that they are not growing anymore. Employers should therefore make sure that feedback is given constantly if they wish to retain their staff and intellectual capital.

Interesting to note, as already mentioned, is that the participating organisations need to improve its subject matter expertise as well if it wishes to improve its strategic innovativeness. The researcher is of the opinion that if subject matter expertise is not improved, individuals might create (Mode I) and apply (Mode II) knowledge that is not necessarily beneficial to the organisation. It was mentioned earlier that to improve subject matter expertise an environment should be created to promote the acquisition of Mode I and Mode II knowledge (Gibbons *et al.*,1994). The results pertaining to the participating organisations' learning environment indicate that if the learning environment in these organisations (organisations 1, 2, 4, 5 and 6) does not become more flexible, supported and documented, staff members in these organisations will have difficulty in acquiring Mode I and Mode II knowledge (Gibbons *et al.*,1994).

It is recommended that the participating organisations focus on creating a more flexible learning environment which is uninhibited as suggested in Harrison and

Kessels's (2004) corporate curriculum (see table 4.2). It is also recommended that the participating organisations make every effort to document guidelines and procedures. It is important that tutorials be in place to assist employees in acquiring Mode I knowledge (Gibbons *et al.*,1994). An uninhibited and flexible learning environment will then assist in employees integrating Mode I and Mode II knowledge (Gibbons *et al.*,1994) by sharing new knowledge, ideas and experiences.

Another important cog in improving and developing strategic innovativeness is ensuring that employees stay interested in their work by making sure that there is a fair amount of complexity in their daily tasks. The corporate curriculum (table 4.2) of Harrison and Kessels (2004) also suggests creating and steering creative turmoil in an organisation to stimulate employees. It is believed that creative turmoil will ensure that these employees continuously learn and develop.

The next section will report on the results with regard to the complexity variable.

6.2.5 Complexity

Normally strategically innovative organisations operate in a highly complex environment which is constantly changing (see table 4.5).

Strategically innovative organisations have a balance between stability and creative turmoil in organisations as mentioned in chapter 4. Individuals should always work in an environment which intrigues them, otherwise they might get bored. This research further suggests that employees should be moved around in different departments to stimulate their growth and to build their confidence and skills. However, the reason and goals must be clearly communicated beforehand so that these individuals are stimulated as suggested by Harrison and Kessels (2004).

There should always be a balance between creative turmoil (change) and calm and stability, because too much calm and stability can lead to complacency, one-sided specialisation and an excessive internal focus.

The participants were asked to rate their organisation's perceived approach to complexity based on the following statements:

- *Your work environment is constantly changing*
- *You adapt easily to these changes*
- *You are faced with routine tasks on a daily basis*
- *You are not faced with complex problems on a regular basis*

The intent of the statements above was to give the researcher an appreciation for the complexity participants had to deal with on a daily basis.

Only two organisations, organisations 2 and 7, could be plotted in the strategically innovative quadrant with regard to the perceived level of complexity associated with the participants' daily tasks, as is evident from the results in table 6.1. The results furthermore indicate that two organisations, organisations 1 and 2, are on the verge of being strategically innovative in terms of the level of complexity present in their environment. These organisations were borderline between the serendipitous breakthroughs quadrant and the strategic innovativeness quadrant, which indicates that with a little guidance and focus, they could move into the strategic innovation quadrant.

There could be several reasons why organisations 1 and 2 were rated borderline. Some participants indicated that their environment did not change often and they therefore did not need to adapt to frequent changes. Other participants in the same organisation noted that their environment was constantly changing and they adapted easily to these changes. It is assumed that this mixed message could be ascribed to the fact that these individuals worked in different departments with different objectives. Another interesting fact is that individuals from the same organisation felt that the environment was quite complex, while others in the same organisation indicated that they were faced with routine tasks on a daily basis. It was assumed that senior level participants had to deal with a higher level of complexity than junior staff members and this therefore resulted in a conflicting message. This assumption was confirmed by one of the senior staff members interviewed.

The remaining organisations, organisations 3, 4, 5 and 8, rated in the serendipitous breakthroughs quadrant in terms of the level of complexity present in their environment.

Due to the importance of a high level of complexity present in daily tasks to develop and improve an organisation's strategic innovativeness (see table 4.5), it is recommended that every effort be made to raise the level of complexity in organisations 1, 2, 3, 4, 5 and 8.

The researcher therefore recommends creating a balance between stability and creative turmoil in organisations, as noted in chapter 4. Individuals should be allowed to work in an environment which intrigues them, otherwise they might get bored. The researcher further suggests moving employees around in different departments to stimulate their growth and to build their confidence and skills. However, the reason and goals for moving employees around must be clearly communicated beforehand so that these individuals are stimulated.
The eight pillars of the corporate curriculum (see table 4.5) indicate that creating the right balance between calm and stability and creative turmoil can lead to radical innovation. This creative turmoil could be introduced by instigating change in an environment. The corporate curriculum, however, warns that disturbance alone, without the drive to innovate, can be very counterproductive. Organisations should therefore be very clear on what the objective is for introducing change in an environment.

Consequently it could be argued that leadership is extremely important in developing a strategically innovative organisation. The importance of strong leadership at all levels in an organisation was confirmed by the literature review in chapters 2, 3 and 4. The next section reports on the findings regarding the perceived leadership style in the participating organisations.

6.2.6 Leadership

The preceding chapters all highlighted the importance of strong leadership in creating a strategically innovative organisation. Chapter 3 suggested that leadership should combine teaching and learning to the benefit of the organisation as advised by Rastogi (2000:39-48) and Mayo (n.d.).

By combining teaching and learning leaders would play a very important part in developing employees as noted in chapter 3 (section 3.4).

Participants were asked to rate the level of leadership in their organisations based on the following statements:

- *Your interests are valued in the workplace and are used to solve problems*
- *Your manager is a guide, coach and mentor, without telling you how to do your job*
- *Your manager is the sole provider of knowledge in your environment*
- *Your manager instructs you on what to do and how to do it*

A strategically innovative organisation's leaders are characterised by being mentors and coaches, guiding individuals to success as was evident from analysing the literature in chapters 2, 3 and 4.

The aim of these statements was to give the researcher some insight into how the participants perceived their managers, i.e. leaders. The researcher wanted to establish if individuals' interests were valued and whether these interests were then used to solve problems. The researcher also wanted to establish if the leaders in the participating organisations were seen as guides, mentors and coaches, playing a facilitative role as opposed to being the authoritative provider of knowledge that instructs people what to do and how to do their jobs.

Probably the most significant finding in this study is that only one out of the eight organisations, organisation 4, could be regarded as strategically innovative regarding its leadership. It seems that this organisation is characterised by

management acting as a mentor, guide and coach to instil trust in its employees' ability to innovate, as described in chapter 4 (see table 4.5).

Organisation 5, 6 and 7 were on the verge of being strategically innovative in terms of the level of leadership demonstrated in their environment. These organisations were borderline between the serendipitous breakthroughs quadrant and the strategic innovativeness quadrant.

This result might indicate that, with regard to leadership, these organisations are in a transition phase to become more strategically innovative. It is, however, unclear to the researcher why organisations 5, 6 and 7 were rated borderline. It is quite possible that with a little guidance and focus, they could move into the strategic innovation quadrant.

Organisations 1, 2, 3 and 8 were rated in the serendipitous breakthroughs quadrant regarding their approach to leadership.

It is recommended that organisations 1, 2, 3, 5, 6, 7 and 8 seriously consider leadership development at all levels as a method to improve their strategic innovativeness.

This study argues that in a strategically innovative organisation (such as organisation 4) a strong emphasis should be placed on leadership in order to guide, facilitate and coach the process of lifelong learning and to develop individuals' personal skilfulness, practical judgement and integration of different modes of knowledge.

Without exceptional leadership organisations will struggle to become strategically innovative.

6.2.7 Communities of knowledge

Strategic innovation flourishes in uninhibited learners who participate in self-controlled communities of practice as indicated in chapter 4.

This research also emphasised the importance of communities of knowledge in a strategically innovative organisation. By building collaborative communities of practice that rely on the practical judgement/wisdom of its members, the organisation's value systems will be respected in order to promote strategic innovativeness. Chapter 4 (section 4.6) also describes the bond (i.e. connection strength) that needs to exist between employees and management. It is important that there be a strong connection between peers and management. This bond builds trust and respect and enables individuals to share knowledge freely among themselves and management in informal discussions.

For the researcher to understand what emphasis the participating organisations placed on developing communities of knowledge, the participants were asked to rate their organisation's approach to developing and building these communities based on the following statements:

- *You are encouraged to work in groups to solve difficult problems*
- *Your work environment encourages socialising with one another*
- *In your environment group work is not a priority*
- *It is not a priority to socialise and interact with colleagues*

By discussing these statements the researcher attempted to understand if the participating organisations encouraged their staff to engage in group activities to solve problems and if employees were encouraged to interact with one another and their management in an informal way.

Four organisations, organisations 3, 4, 7 and 8, were rated as strategically innovative in this variable. The results from table 6.1 indicate that these organisations place strong emphasis on creating communities of knowledge for sharing ideas. Table 4.5 suggests that staff members in these organisations should have a strong connection between themselves and their manager. This good relationship between staff members and management could enable the organisation to develop Mode II knowledge by integrating Mode I knowledge (Gibbons *et al.*,1994). The results for these organisations could also indicate that scenario planning plays an important part in dealing with difficult problems.

The claims above were confirmed by participants during the interviews. All participants indicated that they were encouraged to engage in group work and socialise with one another. Participants also confirmed a good relationship between themselves and their manager and that they engaged in scenario planning in informal forums on a regular basis.

Three organisations, organisation 2, 5 and 6, were on the verge of being strategically innovative in terms of the presence of communities of knowledge in their environment. These organisations were borderline between the serendipitous breakthroughs quadrant and the strategic innovativeness quadrant.

This result might indicate that, with regard to establishing communities of knowledge, these organisations are in a transition phase to become more strategically innovative. Some participants did confirm that their organisations were trying to improve knowledge sharing by encouraging group work and informal discussions on certain issues and topics. These participants also indicated that they had started involving management in these knowledge sharing sessions but that it would take time for these forums to develop fully. By listening to the interview recordings the researcher is of the opinion that group work and knowledge sharing sessions in these borderline organisations take place on an ad hoc basis and should be encouraged even more. By making the establishment of communities of knowledge a priority, the researcher believes that it will improve the strategic innovation footprint of these borderline organisations.

The results from table 6.1 further indicate that organisation 1 is in the serendipitous breakthroughs quadrant with reference to the communities of knowledge variable. The differences between organisations in the serendipitous breakthroughs quadrant and those in the strategic innovation quadrant with reference to communities of knowledge are explained in chapter 4 (see table 4.5). The major difference between organisation 1, which falls in the serendipitous breakthroughs quadrant, and organisations 3, 4, 7 and 8, which are in the strategic innovation quadrant, could be that the connection strength between employees and management in organisation 1 is not as strong as that in organisations 3, 4, 7 and 8. This was confirmed by the participants from the latter organisations who

indicated that they regularly shared knowledge and ideas with their superiors, whereas in organisation 1 participant felt that there was a stronger relationship amongst peers than with management. This indicates that staff members from organisation 1 were more comfortable sharing knowledge and ideas amongst themselves than with their superiors.

It is recommended that organisation 1 promote the formation of informal focus groups to share knowledge. These groups should consist of employees at all levels in the organisation to promote the development of Mode II knowledge (Gibbons *et al.*,1994) by using scenario planning to integrate Mode I knowledge (Gibbons *et al.*,1994). It is also recommended that management encourage the formation of these groups and encourage employees at all levels in the organisation to participate and share knowledge. The researcher also believes that by engaging in social events, management will develop trust amongst employees which will assist in building stronger connections between management and staff. It is believed that stronger connections will build trust and therefore will promote knowledge sharing between employees at different levels in the organisation.

The next section will discuss the participating organisations' approach to innovation.

6.2.8 Approach to innovation

Table 4.5 indicates that in a strategically innovative organisation the approach to innovation is controlled and that breakthroughs are initiated by the organisation. Strategically innovative organisations deliberately seek a quantum change and guide all activities in the organisation to achieve huge breakthroughs. Any innovation achieved is not by chance and rather is intentionally achieved.

In order to understand the participating organisations' approach to innovation the researcher asked the participants to rate their organisation's approach to innovation according to the following statements:

- *You always start with the end in mind when dealing with complex issues*
- *You are encouraged to challenge the "norm"*

- *Your organisation integrates existing processes with creative new ideas*
- *When facing a difficult problem you are encouraged to seek input from unconventional sources*
- *Your organisation continuously seeks customer delight*
- *Your organisation is inspired by what the consumer wants*
- *Your organisation experiments with entrepreneurial ventures and organisational structures*
- *Your organisation continuously seeks for breakthrough improvements*
- *Your organisation focuses on understanding the present before improving the future*
- *You are expected to follow clear cut rules*
- *Your organisation continually seeks customer approval*
- *You're a technology driven organisation*
- *Your organisation adopts a "one size fits all" organisational model*
- *Your organisation focuses on gradual improvements*
- *Your organisation responds to "known" customer needs*
- *When facing a difficult problem you are encouraged to seek input from obvious sources only*

As explained in chapter 5 (see section 5.6.2) participants were asked to rate their organisation's approach to innovation based on sixteen statements. The reason for the fairly high number of statements associated to this variable is the emphasis on strategic innovation in this study. From the statements above the researcher's intention was to comprehend the way in which the participating organisations approached innovation.

The results from table 6.1 indicate that all the organisations were rated by the participants as having a strategically innovative approach to innovation.

Palmer & Kaplan (2007) describes a strategically innovative approach to innovation as an approach where an organisation:

- "starts with the end in mind" – identifies long-term opportunities and then "bridges back to the present"
- assumes a rule-breaker (revolutionary) posture

- seeks to create new competitive space/playing fields
- seeks breakthrough, disruptive innovation – while continuing to build the core
- marries process discipline with creative inspiration
- seeks inspiration from unconventional sources
- seeks unarticulated customer needs
- is consumer-inspired (seeks consumer delight)
- may experiment with entrepreneurial "new venture" or other organisational structures

It was assumed that organisations would demonstrate the above characteristics (see table 6.1). This assumption was confirmed by the researcher in the interviews when all participants described their organisations as having a strategically innovative approach to innovation. Participants all indicated that their respective organisations a placed strong emphasis on being innovative by demonstrating the characteristics as depicted above. It is recommended that the participating organisations continue to improve their approach to innovation.

It needs to be mentioned that although an organisation has the correct approach to innovation, this study argues that all the variables discussed above impact on an organisation’s strategic innovativeness. Even though an organisation’s approach to innovation might be strategically innovative, variables such as proficiency, complexity, learning environment, subject matter expertise, leadership, personal skilfulness and communities of knowledge all play a part in the level of strategic innovativeness of an organisation.

This section described the score out of eight for the participating organisations per variable with reference to being strategically innovative. From the results in table 6.1 the overall score per variable is summarised below from highest to lowest.

Table 6.2: Summary of results per variable across all organisations and recommendations

Position	Variable	Score	Organisation	Recommendations
1	Personal skilfulness	8/8	1-8	• These organisations should continue to enhance and promote their employees' personal skilfulness by creating a culture of knowledge sharing. • The participating organisations must continue to have clear-cut business objectives and it is recommended that a balance be created between focusing on daily tasks and making time for sharing new knowledge. • Suppliers, especially training providers, and suppliers doing product training for these organisations need to be sensitive to the fact that a strong emphasis is placed on the development of personal skilfulness by the participating organisations. • Training material and training courses must have the right mix between instructivist and constructivist elements (see addendum 3) as described by Cronje and Burger (2006).
1	Approach to innovation	8/8	1-8	• It is recommended that the participating organisations continue to focus on improving their approach to innovation.
2	Proficiency	7/8	1-7	• The organisations should keep up with exploring and implementing techniques to stay proficient. • Suppliers need to keep proficiency improvement in mind when developing products and providing a service to these organisations. Suppliers need to be able to adapt quickly to this fast-paced environment where time to market is critical for survival. • Suppliers need to understand that price, flexibility, quality and innovation are critical for survival and their products need to adhere to these criteria.

Table 6.2: (Cont.)

Position	Variable	Score	Organisation	Recommendations
3	Communities of knowledge	4/8	3, 4, 7 & 8	• The formation of informal focus groups to share knowledge should be encouraged. These groups should consist of employees at all levels in the organisation to promote the development of Mode II knowledge (Gibbons et al.,1994) by using scenario planning to integrate Mode I knowledge (Gibbons et al.,1994). • Management should encourage employees at all levels in the organisation to participate and share knowledge. • By engaging in social events management will develop the trust amongst employees which will assist in building stronger connections between management and staff. It is believed that stronger connections will build trust and therefore will promote knowledge sharing between employees at different levels in the organisation.
4	Learning environment	3/8	3, 7 & 8	• These organisations should focus on creating a more flexible, uninhibited learning environment. • These organisations should make every effort to document guidelines and procedures.
5	Complexity	2/8	6 & 7	• These organisations should create a balance between stability and creative turmoil. • Individuals should be allowed to work in an environment which intrigues them. • It is suggested that employees be moved around in different departments to stimulate their growth and to build their confidence and skills. However, the reason and goals for moving employees around must be clearly communicated beforehand so that these individuals are stimulated.

Table 6.2: (Cont.)

Position	Variable	Score	Organisation	Recommendations
6	Subject matter expertise	1/8	6	• Employees at all levels in the participating organisations should engage with their human resource departments to plan their personal development. • Staff members could be sent on training courses (Mode I knowledge) (Gibbons et al.,1994) to hone their skills and could be rotated with other departments to learn new skills. • Current skills and experience (Mode II knowledge) (Gibbons et al.,1994) could also be shared among staff members by rotating them and by giving them alternative tasks to break their daily routine. • These organisations should demonstrate Mode II knowledge (Gibbons et al.,1994) by integrating Mode I knowledge (Gibbons et al.,1994) in their daily activities. • These organisations should engage in activities such as scenario planning to assist in the integration of the different modes of knowledge. • A strong connection needs to be developed between the managers and employees for these managers to guide and coach the employees. This guidance and coaching will also assist in improving the level of subject matter expertise in these organisations. • Suppliers, especially when training on new products, should be sensitive to the fact that subject matter expertise needs to improve. For these suppliers it is important to understand where the gaps exist in order to address the shortcomings. This could be achieved by doing proper training analysis before any training is conducted.
6	Leadership	1/8	4	• Potential leaders at all levels in the organisations should be identified. • Leaders should be developed through formal and informal training. • Leadership forums could be created. • Leaders should be fast-tracked to key decision-making positions.

Table 6.2 above indicates that the variables of personal skilfulness and approach to innovation ranked highest across all organisations in terms of having a strategically innovative environment.

The proficiency variable was ranked second, with seven organisations, organisations 1-7, meeting the criteria for being strategically innovative with regard to being proficient.

The community of knowledge variable was ranked third, with organisations 3, 4, 7 and 8 meeting the criteria for being strategically innovative with regard to communities of knowledge.

The learning environment variable was ranked fourth, with organisations 3, 7 and 8 meeting the criteria for this variable in reference to being strategically innovative.

The complexity variable was ranked fifth by the participants. Only organisations 6 and 7 met this criteria for being strategically innovative.

Subject matter expertise and leadership were ranked sixth, with organisation 6 (subject matter expertise) and organisation 4 (leadership) the only two organisations that met the criteria for being strategically innovative with reference to these variables.

Ranking these variables for highest to lowest indicate which variables are most commonly prominent across these organisations. The results (see table 6.2) indicate that personal skilfulness and approach to innovation are the most prominent variables across all the organisations.

Table 6.2 indicates that if the participating organisations wish to improve their strategic innovation footprint, they need to work hard in improving their:

- communities of knowledge;
- learning environment;
- complexity;
- subject matter expertise and
- leadership

In table 6.2 the researcher suggests some recommendations if the participating organisations wish to improve on the variables listed above. It is believed that by

improving these variables, these organisations will improve their overall strategic innovativeness.

This section discussed the results achieved by the participating organisations per variable. These results were summarised in tables 6.1 and 6.2. A question that may arise is how these organisations rated in terms of the criteria set for a strategically innovative organisation. The next section will attempt to answer this question by discussing the consolidated view across all organisations.

6.3 Discussion of results per organisation across all variables

This section will attempt to rate the participating organisations across all variables.

By rating the organisations the researcher will attempt to illustrate which organisations could be deemed as having the most strategic innovative environments, thus illustrating the value that a measuring instrument could have in the life assurance industry. By combining the scores across all cases the researcher will attempt to establish if life assurance organisations in Southern Africa could be regarded as having a strategically innovative environment.

Table 6.3 gives a summary of the consolidated results per organisation across all variables and is based on the results as depicted in addendum 5. A tick (√) is given per variable where the results indicate that the specific variable was plotted in the strategic innovation quadrant (see addendum 5). A total score is then given out of eight for each organisation, one tick for each variable that was rated in the strategic innovation quadrant. Where the variable was not plotted in the strategic innovation quadrant, no tick is given. The reason for giving no tick is that the researcher wanted to determine which organisations lent themselves to strategic innovativeness across all variables.

6.3.1 Organisation 1

In organisation 1 (see addendum 5) three variables: proficiency, personal skilfulness and approach to innovation, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Two variables: leadership and communities of knowledge, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

The variables leadership and communities of knowledge were rated in the serendipitous breakthroughs quadrant.

Organisation 1's total score: 3/8

6.3.2 Organisation 2

In organisation 2 (see addendums 5 and 6) three variables: proficiency, personal skilfulness and approach to innovation, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Four variables: leadership, subject matter expertise, complexity and communities of knowledge, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

The variable leadership was rated in the serendipitous breakthroughs quadrant.

Organisation 2's total score: 3/8

6.3.3 Organisation 3

In organisation 3 (see addendum 5) five variables: proficiency, personal skilfulness, learning environment, communities of knowledge and approach to innovation, were rated in the strategic innovation quadrant by the participants (see table 6.3).

One variable: subject matter expertise, was rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

Two variables: leadership and complexity were rated in the serendipitous breakthroughs quadrant.

Organisation 3's total score: 5/8

6.3.4 Organisation 4

In organisation 4 (see addendum 5) five variables: proficiency, personal skilfulness, leadership, communities of knowledge and approach to innovation, were rated in the strategic innovation quadrant by the participants (see table 6.3).

One variable: learning environment, was rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

Two variables: subject matter expertise and complexity, were rated in the serendipitous breakthroughs quadrant.

Organisation 4's total score: 5/8

6.3.5 Organisation 5

In organisation 5 (see addendum 5) three variables: proficiency, personal skilfulness and approach to innovation, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Five variables: subject matter expertise, learning environment, complexity, leadership and communities of knowledge, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

No variables were rated in any other quadrant.

Organisation 5's total score: 3/8

6.3.6 Organisation 6

In organisation 6 (see addendum 5) five variables: proficiency, personal skilfulness, approach to innovation, subject matter expertise and complexity, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Three variables: leadership, learning environment and communities of knowledge, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

No variables were rated in any other quadrant.

Organisation 6's total score: 5/8

6.3.7 Organisation 7

In organisation 7 (see addendums 5) six variables: proficiency, personal skilfulness, approach to innovation, complexity, learning environment and communities of knowledge, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Two variables: leadership and subject matter expertise, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

No variables were rated in any other quadrant.

Organisation 7's total score: 6/8

Table 6.3: Summary of results per organisation across all variables[3]

Variable	Organisation 1	Organisation 2	Organisation 3	Organisation 4	Organisation 5	Organisation 6	Organisation 7	Organisation 8	Consolidated result
Proficiency	√	√	√	√	√	√	√		
Personal skilfulness	√	√	√	√	√	√	√	√	
Subject matter expertise						√			
Learning environment			√				√	√	
Complexity						√	√		
Leadership				√					
Communities of knowledge			√	√			√	√	
Approach to innovation	√	√	√	√	√	√	√	√	
Total	**3/8**	**3/8**	**5/8**	**5/8**	**3/8**	**5/8**	**6/8**	**4/8**	**34/64 (53%)**

[3] See also addendum 5

6.3.8 Organisation 8

In organisation 8 (see addendum 5) four variables: personal skilfulness, approach to innovation, learning environment and communities of knowledge, were rated in the strategic innovation quadrant by the participants (see table 6.3).

Three variables: proficiency, complexity and subject matter expertise, were rated borderline between the serendipitous breakthroughs quadrant and the strategic innovation quadrant.

The leadership variable was rated in the serendipitous breakthroughs quadrant.

Organisation 8's total score: 4/8

The results from table 6.3 indicate that organisation 7 could be regarded as the most strategically innovative of the participating organisations.

The total score across all organisations is 34/65 (54%) as indicated in table 6.3.

6.4 Concluding interpretations

This study explored how an instrument could be developed using Burger & Cronje's (2006) matrix on learning theory as a base and then integrating (see table 4.5) this matrix with elements of the knowledge economy (chapter 2), intellectual capital (chapter 3), the corporate curriculum, learning theory and strategic innovation (chapter 4). It was found that these elements are complimentary to one another and a combination of different variables, based on these elements, could promote or inhibit the creation of a strategically innovative environment. By integrating the elements above the author of this thesis attempted to develop a holistic measurement tool (Palmer & Kaplan, 2007) for determining how an organisational environment (Palmer & Kaplan, 2007) could be created that would promote strategic innovation.

This instrument was then applied to eight cases and the results plotted on a matrix (see addendum 5) to demonstrate the value such an instrument could have in determining if an organisation's environment is conducive to strategic innovation.

The purpose of this study was therefore to develop a pilot instrument. With further research this instrument could be refined by applying it to more cases and by adding more constructs to it.

The results from section 6.2 suggest that the participating organisations environments could be viewed as being moderately strategically innovative with a consolidated score of 34/64 (53%) (see table 6.3).

It appears from the results (see table 6.1) that if the participating organisations wish to improve their strategically innovative environment, they need to work hard in improving their:

- subject matter expertise (1/8) and leadership (1/8);
- complexity (2/8);
- learning environment (3/8);
- communities of knowledge (4/8) and
- proficiency (7/8)

The results from the instrument could therefore also help organisations prioritise which areas they would like to improve, as demonstrated above.

This chapter also suggested some recommendations for the organisations in this study (see table 6.2) to improve their operating environments. These recommendations will help SDT to understand its customers' environment and will further assist SDT in customising its products, therefore adapting to its customers' needs.

Chapter 7 concludes this research with a synthesis of the findings and recommendations of the study.

CHAPTER 7: SYNTHESIS AND RECOMMENDATIONS

7.1 Chapter overview

The diagram below gives a brief overview of this chapter:

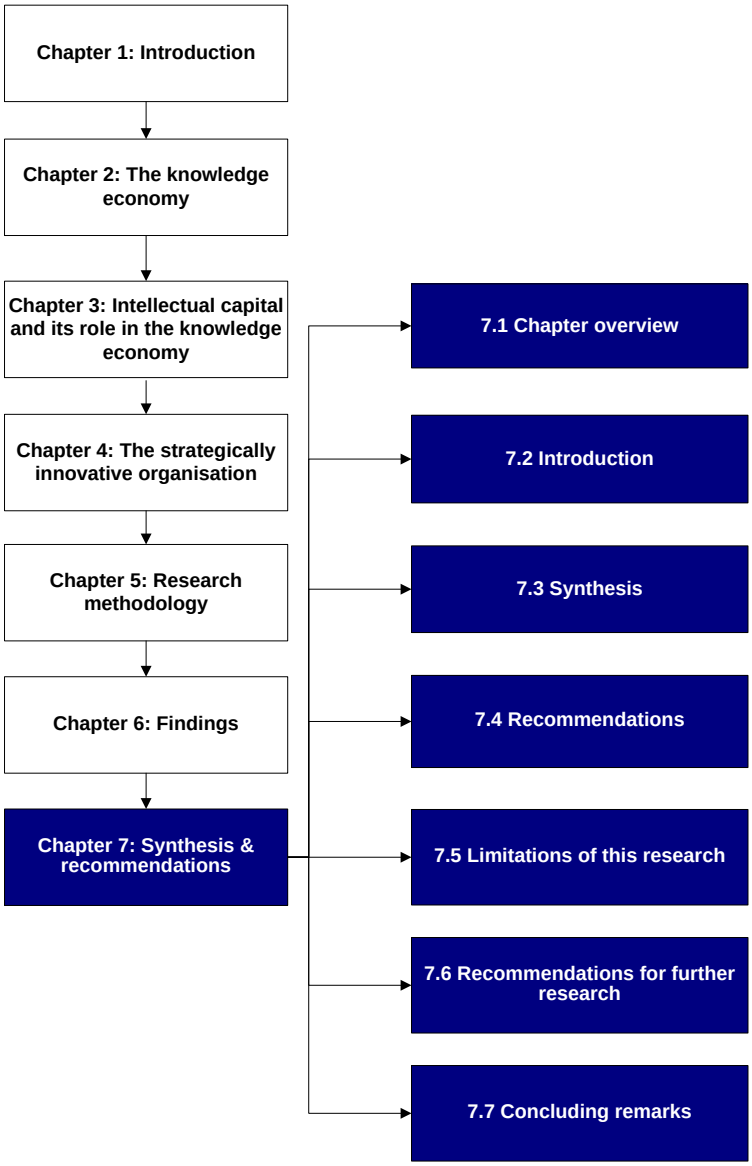


Figure 7.1: Chapter overview

7.2 Introduction

This study defined strategic innovativeness as: *The ability to create and apply knowledge effectively to the benefit of the organisation*.

The motivation for this study arose from preliminary research on literature pertaining the knowledge economy, intellectual capital, the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and strategic innovation (Palmer & Kaplan, 2007).

The preliminary research indicated a need for a more holistic approach (Palmer & Kaplan, 2007) in measuring innovation and especially strategically innovative environments. Furthermore, the preliminary research also indicated a gap in terms of the South African literature regarding measuring strategically innovative environments.

Lastly, the preliminary research indicated that an environment conducive to strategic innovation needs to be created in an organisation if it wishes to stay competitive in the knowledge economy. The preliminary research also revealed a need to understand what this environment looks like, as was raised by Harrison and Kessels (2004). This research also highlighted the importance of continuous learning as a catalyst to develop human capital if organisations wish to create a strategic innovative environment (see chapter 3 and 4).

Based on the preliminary research the first objective for this study was to describe the role intellectual capital, the knowledge economy, the corporate curriculum and learning theory plays in creating a strategically innovative operational environment.

A second objective of this study was to develop an instrument to measure an organisation's operational environment in order to determine if it is conducive to strategic innovation.

A third objective of this study was to assist SDT to understand the innovation environment their customers operate in, in order for this vendor to provide a customised product offering to its customers.

A fourth objective of this study was to provide the participating organisations with insight on how they could build an operational environment conducive to strategic innovation.

In accordance with the objectives listed above a literature study was conducted pertaining to the topic at hand. The findings of the literature study were then empirically tested on eight life assurance organisations in Southern Africa in order to explore how an instrument could be developed to measure strategic innovativeness.

7.3 Synthesis

The nature and scope of the research are synthesised in terms of the purpose, the scope and the importance of the study where after the answers to the research questions are discussed.

7.3.1 Purpose of study

The purpose of this study was to develop a pilot instrument to measure strategic innovation in organisations. The purpose of this study was not to develop a refined instrument but rather to explore how such an instrument could be developed. To develop the instrument an attempt was made to highlight the relationship between the knowledge economy, intellectual capital, the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and strategic innovation (Palmer & Kaplan, 2007).

From the literature review and empirical research undertaken the research established that an instrument could be developed to provide a holistic tool (Palmer & Kaplan, 2007) to measure an organisation's strategically innovative environment. This instrument included certain variables identified from analysing the literature and

focussed on the strategic innovative environment and leadership in certain organisations. The instrument for this research however needs refinement in order to improve its accuracy. After reviewing the instrument, the researcher made some recommendations on how this instrument could be refined. These recommendations were discussed in chapter 6 (see table 6.1). A four-quadrant matrix (see figure 4.5) was also developed for this study to plot the results from the instrument on. This matrix illustrated how the presence of a combination of variables could promote or inhibit an organisation's strategic innovativeness (see addendum 5).

When the instrument was applied, it was found that organisations in the life assurance industry of Southern Africa could be regarded as having a moderately strategic innovative environment, therefore demonstrating the value such an instrument could add to organisations wishing to improve their operational environments. It was found that the participating organisations need to place a strong emphasis on developing their leadership and subject matter expertise. The results also indicate that the organisations should find a balance when assigning complex tasks and low complexity tasks to employees. It is suggested that the learning environment in these organisations be more flexible to accommodate different styles of learning and interests of individuals. The results further suggest that the participating organisations should place a stronger focus on developing communities of knowledge as a way to explore different ways of problem solving.

7.3.2 Scope of the study

As mentioned previously, this study consisted of case study research on eight life assurance organisations in Southern Africa.

Some recommendations with regards to the methodology followed to develop the instrument for this study was discussed in chapter 5 (see table 5.1.) These recommendations were based on the work of Yin (2003), Neale *et al.* (2006) as well as Boutellier and Gassman (2008). Recommendations were also made in chapter 6 (see table 6.1) to assist future researchers in refining the instrument. These

recommendations were based on research conducted by Mouton (2003) with reference to developing instrumentation.

Alternative research methods were also discussed in chapter 5, based on the work of Mouton (2003) and the rationale for choosing case study research as a method to conduct this study was explained.

This study focused on the following areas within the participating organisations:

- The level of problem solving techniques used when employees need to solve difficult problems and adapt to change. This is regarded as the organisation's ability to be proficient in dealing with complex issues when adapting to change.
- The manner in which employees apply their knowledge. This study argues that a certain level of personal skilfulness is needed when applying knowledge to ensure that knowledge is applied in ways that will benefit the organisation.
- The level of subject matter expertise that is required for employees to complete their daily tasks.
- What the learning environment is like in these organisations.
- The level of complexity in employees' daily tasks.
- The perceived level of leadership present in these organisations.
- If communities of knowledge exist and are promoted in these organisations.
- The organisation's approach to innovation.

Certain recommendations (see section 7.4) were made to assist the participating organisations to improve their operational environments in order to stimulate strategic innovation. These recommendations imply making organisations aware of the areas where they should improve as well as what approach they should follow if they wish to improve.

7.3.3 Importance of the study

This study makes a contribution in terms of developing and piloting a holistic instrument (Palmer & Kaplan, 2007) to measure operational environments in

organisations to determine if they are conducive to strategic innovation. This pilot instrument could be further refined and can be used as a base for future development. This study further makes a contribution by identifying certain areas that need improvement in the participating organisations. A further contribution is to assist SDT in understanding the unique environment their customers operate in. This will ensure that new products and training are aligned with the specific needs of these organisations in order to assist SDT in providing customised product offering.

These contributions are as follows:

7.3.3.1 Awareness and analysis of factors surrounding the integration of the concepts of knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategic innovation

Chapter 2 noted that the knowledge economy introduces some challenges for organisations if they wish to stay competitive. Price, quality, flexibility and innovation are key if organisations wish to survive in the knowledge economy (van Amelsvoort, 2000).

This study also highlights that intellectual capital is another important cog in surviving in the knowledge economy. Chapter 3 emphasised the importance of human capital development as a key differentiator for being strategically innovative in the knowledge economy. It is important to understand the knowledge economy and intellectual capital as this study argues that these two concepts define the environment in which organisations need to do business in today.

The concept of the corporate curriculum (Harrison & Kessels, 2004) was explored. This curriculum is described in chapter 4 as an organisational framework for learning. Due to the importance of learning in establishing a strategic innovative organisation, this study attempted to integrate learning theory (Cronje & Burger, 2006) and characteristics of strategic innovation (Palmer & Kaplan, 2007) with the corporate curriculum (Harrison & Kessels, 2004) to refine Cronje and Burger's (2006) matrix on learning theory (see figure 4.5, chapter 4). By integrating the

aforementioned concepts certain variables arose that were used to develop the instrument for this study (see chapter 4).

It is argued by Palmer and Kaplan (2007) that innovations in a strategically innovative organisation are not incremental or serendipitous but constant, enabling quantum leap changes. A strategically innovative organisation creates an environment where individuals can grow, create and share knowledge. These individuals also have the skill to apply their knowledge in ways that benefit the organisation as a whole.

Continuous learning was therefore highlighted as a catalyst for strategic innovation. Leadership at all levels of the organisation was also identified as being key to becoming a strategically innovative organisation.

7.3.3.2 Appreciation for the factors affecting organisations wishing to become strategically innovative

This study highlights the factors (i.e. proficiency, personal skilfulness, subject matter expertise, leadership, communities of knowledge, complexity, approach to innovation and learning environment) which should be considered when developing strategic innovativeness in organisations. These factors could assist suppliers in understanding the environment an organisation operates in. An appreciation for these factors will also assist organisations in becoming more strategically innovative by helping them to focus on certain areas for improvement.

7.3.4 Answers to research questions

The answers provided below are not intended to be simplistic or absolute. The multitude of contributing factors implies that the main research question cannot be answered in isolation. Rather, the answer is informed by a series of sub questions and answers. The answers provided below are derived from and informed by the context of this research.

7.3.4.1. What is the "Knowledge Economy" and what impact does it have on a strategic innovative environment?

The literature review in chapter 2 attempted to explain what is meant with the term Knowledge Economy. In the Knowledge Economy knowledge is being used as a new exchange rate to make organisations more competitive i.e. strategic innovative. In section 2.5 of chapter 2, the impact of the Knowledge Economy on today's workplace was explained. This impact was highlighted by the need for organisations to become learning organisations in order to continuously improve. A strong emphasis is therefore placed on learning to thrive and survive in the Knowledge Economy. The importance of Emotional Intelligence as a means to adapt to constant changes was also discussed. Management styles are also changing in the Knowledge Economy, with a strong premium being placed on developing leadership skills.

By creating an environment conducive to learning and by developing individuals personal skilfulness, coupled with strong leadership, organisations will become more strategic innovative.

7.3.4.2. What role does intellectual capital play in the strategic innovative environment?

Intellectual Capital and its role in the Knowledge Economy were explored in chapter 3. What was found is that human capital and its development is at the heart of an organisations success in the Knowledge Economy. It was argued that intellectual capital, but especially human capital, plays a big role in creating an operational environment conducive to strategic innovation.

7.3.4.3. What is a strategic innovative organisation?

In chapter 4 it was argued that in a strategic innovative organisation innovation is driven by the organisation and not by separate individuals. The innovations in a strategic innovative organisation are not incremental or serendipitous but constant, enabling quantum leap changes. A strategic innovative organisation creates an

environment where individuals can grow, create and share knowledge. These individuals also have the skill to apply their knowledge in ways that benefit the organisation as a whole. Leadership is key for a strategic innovative organisation to develop and evolve. A strategic innovative organisation also has a medium to high revenue potential as opposed to any other organisation.

Chapter 4 defined strategic innovation as: *"Creating and applying knowledge to the benefit of the organisation through creating an environment conducive to learning"*.

7.3.4.4. Which variables contribute to the creation of a strategic innovative environment?

By analysing the literature pertaining to the knowledge economy (see chapter 2), intellectual capital (see chapter 3), knowledge production (i.e. the corporate curriculum), learning theory and strategic innovation (see chapter 4) the following variables were identified to contribute to the overall strategic innovativeness of an organisation:

- ***Proficiency:*** The technique(s) organisations use for innovation and to adapt to change.
- ***Personal skilfulness:*** The skilfulness of individuals in applying and creating knowledge.
- ***Subject matter expertise:*** The experience and expertise of individuals.
- ***Learning environment:*** Is the environment conducive to knowledge creation and sharing.
- ***Complexity:*** Is the environment and tasks challenging to individuals?
- ***Leadership:*** Is their strong leadership present at all levels in the organisation.
- ***Communities of knowledge:*** Are individuals encouraged to share and apply knowledge among them self, either in groups or workshops?
- ***Approach to innovation:*** The approach an organisation has to being innovative.

When plotting the results of the instrument on a four quadrant matrix (see addendum 5) it illustrates that a combination of the variables above may influence an organisation's overall strategic innovativeness.

7.3.4.5. How can learning theory contribute to the creation of a strategically innovative environment?

Throughout this thesis (see chapters 2, 3 & 4) it was argued that learning is at the heart of building a strategically innovative environment. The corporate curriculum (Harrison & Kessels, 2004) is explained in chapter 4, section 4.4. In short the corporate curriculum (Harrison & Kessels, 2004) is an organisational plan for learning. This curriculum provides the foundation for organisations to integrate working and learning.

Chapter 4 also argued that if the corporate curriculum (Harrison & Kessels, 2004) is integrated with learning theory (Cronje & Burger, 2006), it could assist in developing an instrument to measure an organisation's operational environment.

7.3.4.6. To what extent can an instrument be developed to measure an organisation's strategically innovative environment?

This was the main question of this research project. Due to the importance of learning in creating a strategic innovative environment, Cronje and Burger's (2006) initial instrument on learning theory was used as basis to develop this new instrument.

The process of developing this instrument was explained in chapters 4 and 5.

This research attempted to develop a holistic measuring tool as referred to by Palmer and Kaplan (2007) by integrating concepts of the knowledge economy (see chapter 2), intellectual capital (see chapter 3), the corporate curriculum, learning theory and elements of strategic innovation (chapter 4). It was found that an instrument could be developed to measure strategic innovativeness in organisations.

The instrument was then applied to eight life assurance organisations in Southern Africa. These organisations were all customers of SDT as explained in chapter 5.The results of the instrument were then plotted on a four quadrant matrix (see addendum 5) to illustrate the effect a combination of variables, which were identified after analysing the literature, could have on an organisation's overall strategic innovativeness.

Although the purpose of this study was not to developed a refined instrument it is believed that this instrument could be used as a basis for further research on measuring strategic innovativeness.

7.3.4.7. To what extend can life assurance organisations in Southern Africa be regarded as being strategically innovative?

The results from this study (see chapter 6) indicated that organisation in the Life Assurance Industry of Southern Africa could be deemed as having a moderately strategic innovative environment. The level of strategic innovativeness depends on the presence and integration of certain variables as was identified in this study.

The results also highlighted the need for leadership development and the development of subject matter expertise in these organisations. The development of these two aforementioned variables will assist the participating organisations in becoming more strategically innovative.

7.4 Recommendations

The first objective of this study was to describe the role of intellectual capital, the knowledge economy, the corporate curriculum and learning theory plays in creating a strategically innovative operational environment. It is recommended that:

- More constructs are added to allow for more integration with other relevant subject fields in order to refine the instrument.

The second objective of this study was to develop an instrument to measure an organisation's operational environment in order to determine if it is conducive to strategic innovation. It needs to be noted that the purpose of this study was not to build a refined instrument but rather to explore how an instrument could be developed by integrating various constructs. By further plotting the results on a matrix the researcher tried to illustrate how certain variables could promote or inhibit an organisation's strategic innovativeness.

After the development and application of the instrument the following problems were identified with the instrument:

7.4.1 Some questions were asked in the negative

Some questions were asked in the negative. These were:

- *"Your working environment leaves **no** room for experimentation. Errors are **not** tolerated."*
- *"You are **not** faced with complex problems on a regular basis."*
- *"Your working environment is **in**flexible."*
- *"In your environment group work is **not** a priority."*
- *"It is **not** a priority to socialise and interact with colleagues."*

From listening to the recordings of the interviews the researcher picked up that some participants tried to remember what they had previously answered on the construction axis, before answering questions on the instruction axis. One participant also joked that he should not be caught "lying" with reference to a previous question.

It is therefore recommended to rather ask open ended questions that are not in the negative.

7.4.2 Pilot or pre-testing of the instrument

For this research only one pilot test of the instrument was done on staff of SDT. By doing more pre-testing the researcher believes the quality of statements could be improved.

7.4.3 Some questions were a combination of two or more questions

The following question could have been constructed differently: “Your interests are valued in the workplace and are used to solve problems”

It is recommended that this question be split in two to avoid confusion, e.g.:

- *“Your interests are valued in the workplace.”*
- *“Your interests are used to find solutions to solving problems.”*

7.4.4 Question sequence

Questions on the construction axis were posed to the participants first, followed by questions on the instruction axis. It is recommended that the questions are scrambled to avoid participant bias towards a certain topic or construct.

Further recommendations include, but are not limited to:

- Add more dimensions to the instrument.
- Follow a mixed model approach to quantify findings and refine instrument.
- Use a wider spectrum of evaluators to evaluate the organisations.

After the above recommendations are implemented it is suggested to reapply the instrument to more cases across different industries, settings, content, etc. to find an instance where both constructivists as well as instructivist elements are high.

It is recommended that if this instrument is used in further studies, attention should be given to the above in order to refine the instrument.

On the positive side, the researcher believes that the following contributed to developing a successful pilot instrument:

1. The statements were not ambiguous or vague and didn't assume too much of the respondents. The reason for this is that the statements were e-mailed prior to conducting the interviews to give participants time to prepare. All participants were comfortable with the questions as indicated by them in the interviews.
2. The constructs were not fictitious to the participants and they were all comfortable with the statements. The reason for this could be that the target audience for conducting interviews were selected carefully in conjunction with SDT in order to improve the accuracy of the data. The statements were forwarded to participants two weeks prior to conducting the interviews. This gave the participants the opportunity to prepare and familiarise themselves with the content.
3. Leading questions were not asked. Instead the researcher used statements to evaluate organisations on which the participants had to agree or disagree with. The participants were also asked to comment on some statements so that the researcher could gain further understanding.
4. The layout of the questions was easy to follow and not confusing as was confirmed by the participants.
5. The instrument wasn't too long and consisted of forty four statements. The telephonic Interviews were also completed in a reasonable time frame.
6. There was no indication that statements were too sensitive or threatening for the participants to answer.
7. More than one statement was put forward to measure a construct, ensuring that the researcher gained the necessary understanding.

The researcher believes that even though some mistakes were made when developing and applying the pilot instrument, and in lieu of the above, it added sufficient value to the topic of measuring an organisation's strategically innovative environment. The researcher also believes that the above recommendations could assist in refining the instrument in further studies on the topic.

A third objective of this study was to assist SDT to understand the innovation environment their customers operate in, in order for this vendor to provide a customised product offering to its customers.

Some recommendations for SDT therefore include, but are not limited to:

- Provide customers with documentation that includes customised training material, process maps and system manuals.
- Use a collaborative approach which relies on customer input to develop products and systems.
- Work with change agents in organisations to understand their drive towards change.
- Continue to invest in building its staff's subject matter expertise.
- Create an environment conducive to learning with constant feedback after implementations to learn from mistakes.
- Build centres of excellence to foster skills transfer within departments.
- Continue to develop leadership at all levels of the organisation.

A fourth objective of this study was to provide the participating organisations with insight on how they could build an operational environment conducive to strategic innovation. With this in mind the following is recommended:

7.4.1 Recommendation 1

At organisational level it is recommended that organisations retain their focus and level of personal skilfulness.

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The empirical study revealed that the participating organisations surveyed, place a high premium on developing staff members' personal skilfulness. This is ascribed to the staff members' willingness to improve and the strong emphasis that is placed on professionalism by these organisations. These organisations are all ruled by financial legislation and financial governing bodies that encourage professional conduct.

An awareness of the need to develop soft skills will be beneficial to organisations wishing to improve their staff's personal skilfulness. The researcher suggests that

soft skills training such as conflict handling and negotiation skills form part of staff members' development plans.

7.4.2 Recommendation 2

It is recommended that organisations appoint change agents to improve overall proficiency.

The participating organisations were deemed to be proficient in their approach to problem solving and adapting to change. Strategically innovative organisations are characterised by the fact that they adapt easily to changing circumstances and they are able to reinvent themselves to exploit new opportunities. This ability to change requires individuals to be highly adaptable and requires a high level of proficiency in dealing with these changes.

The empirical research conducted indicated that all the organisations, except one, were rated as being very proficient by the participants. It is recommended that organisations familiarise staff with new ideas and engage in formal change management procedures in order to improve individuals' proficiency. Change agents can be appointed to drive and manage change in these organisations. This will ensure buy-in at all levels in the organisation and will lessen the resistance to changing to a strategically innovative environment.

7.4.3 Recommendation 3

It is recommended that organisations encourage continuous development in staff in order to improve the overall subject matter expertise.

The literature study highlighted the importance of subject matter expertise in strategically innovative organisations. Employees need someone to look up to, a mentor to guide and coach them. Mentoring is important for individuals to gain the necessary knowledge and skills to excel in their daily tasks. Organisations need to

get the balance right between Mode I (scientific) and Mode II (applied) knowledge (Gibbons *et al.*,1994) for individuals to grow.

Results from the empirical research revealed that only one out of the eight of the participating organisations demonstrated a high level of subject matter expertise. This result implies that organisations in the life assurance industry of Southern Africa are for the most part uninformed regarding the importance of subject matter expertise.

Results from the empirical research suggested that the participating organisations need to work hard to improve the overall subject matter expertise. It is important that training initiatives be aligned with business outcomes.

7.4.4 Recommendation 4

It is recommended that a flexible learning environment be created with documented processes, procedures and tutorials to follow.

The findings of the research suggest that the documentation of processes, procedures and tutorials did not exist or was very limited in the participating organisations. This finding implies that these organisations relied too much on knowledge that resides in people's heads. The impact is that if a knowledgeable employee leaves the department or organisation, all their knowledge leaves with them. The lack of documented processes, procedures and tutorials also makes it very difficult for new employees to get up to speed quickly.

Results from the empirical study revealed that only three out of the eight organisations were perceived to have a flexible learning environment by the participants. This finding implies that creating a flexible learning environment was not a priority for all participating organisations.

Results from the empirical study also suggested that participants felt that their learning environments could be more flexible, allowing for individual interests to contribute to the overall learning experience.

7.4.5 Recommendation 5

It is recommended that the level of complexity in employees' daily tasks be balanced between highly complex and not so complex tasks.

The literature study and the empirical component of this research indicated that employees should constantly be challenged in their daily tasks; otherwise they might become complacent and bored. The literature study suggested that employees should be given special projects or even be moved around to different departments for them to learn new skills.

7.4.6 Recommendation 6

It is recommended that leadership development at all levels of the organisation be a priority.

The literature study and the empirical research revealed a lack of strong leadership in the participating organisations. Only one out of the eight organisations indicated that a high level of leadership existed within that organisation. This implies that leadership development is not a priority for life assurance organisations in Southern Africa.

The presence of strong leadership at all levels of an organisation is critical if organisations wish to develop and improve their strategic innovativeness.

7.4.7 Recommendation 7

It is recommended that organisations establish communities of knowledge with departments to share knowledge and ideas.

The empirical research suggested that not all of the participating organisations regarded the establishment of communities of knowledge, e.g. focus group discussions, as a priority.

The literature review highlighted that the establishment of informal communities of knowledge to share knowledge and ideas is very important if organisations wish to develop and improve their strategic innovativeness.

7.4.8 Recommendation 8

It is recommended that organisations continue to challenge their approach to innovation and make necessary changes where required.

The results from the empirical research further suggested that all eight organisations placed a high priority on their approach to innovation and would change their approach if needed.

The above recommendations (7.4.1 – 7.4.8) are fully motivated in table 6.3.

7.5 Limitations of this research

In this section some limitations regarding the design of the instrument is discussed where after some limitations regarding the methodology followed to conduct this study is summarised in table 7.1.

The first limitation is that the design of the instrument was based on integrating the corporate curriculum (Harrison & Kessels, 2004), learning theory (Cronje & Burger, 2006) and elements of strategic innovation (Palmer & Kaplan, 2007) only. Literature pertaining to the knowledge economy (chapter 2) and intellectual capital (chapter 3) was analysed to describe the climate in which organisations need to operate in. The second limitation is that the assessment of strategic innovation was based the strategic innovation framework of Palmer & Kaplan (2007). The third limitation was that the purpose was not to develop a refined instrument but rather to provide the

foundation for further research into the topic of developing a holistic tool (Palmer & Kaplan, 2006) for measuring the strategically innovative environment of organisations.

Limitations pertaining to the methodology followed to conduct this research are summarised below:

Table 7.1: Limitations of this research and the impact on this study

Limitation	What happened in this study?
This research was a qualitative explorative study only.	Concepts such as the knowledge economy, intellectual capital, the corporate curriculum, learning theory and strategic innovation were explored. • The objective was to understand, rather than to explain. • It was a naturalistic observation rather than a controlled measurement. • The focus was on implementation rather than on quantifiable outcomes. • The study is a subjective exploration of an insider's perspective rather than that of an outsider. • To aim was to enhance further improvement and self-determination.
This study was based only on a select number of cases in the life assurance industry.	Other industries were excluded from this study which might have impacted on the overall results.
Only the knowledge economy, intellectual capital, knowledge production and strategic innovation were explored.	Adding more constructs to the study might improve the overall validity and reliability of the results.
The primary objective of this study was to explore how strategic innovativeness could be measured and not necessarily to present a refined instrument.	The process of developing an instrument by integrating various constructs through exploration was the focus of this study and not necessarily to develop a quantifiable instrument.
Only eight organisations participated, as this was an exploratory study only.	Gathering and analysing data from more cases might improve the reliability and validity of the results.

Table 7.1 above summarises some of the limitations regarding the methodology followed for conducting this research.

7.6 Recommendations for further research

Related aspects regarding the topic of study that could require further research are as follows:

- A model could be developed to improve strategically innovative environments at a macro level across various industries.
- A strategically innovative benchmark could be established for organisations to measure themselves.
- Further research is needed to refine the instrument as noted in section 7.4.

The implementation of all these recommendations would result in a more refined instrument.

7.7 Concluding remarks

7.7.1 Relation to objectives

The first objective of this study is to describe the role intellectual capital, the knowledge economy, the corporate curriculum and learning theory plays in creating a strategically innovative operational environment. To meet this objective literature pertaining to the topic at hand was analysed and reanalysed in order to establish relationships between these constructs. Certain variables were then identified which formed the basis of a Likert-based instrument (see Addendum 1) to evaluate participating organisations.

The second objective of this study was to explore how an instrument could be developed to measure the strategic innovativeness of life assurance organisations in Southern Africa. Prior to this study a lot of debate existed on how to measure innovation in organisations. This study hoped to add to this debate by suggesting a phased approach to developing such an instrument based on a holistic approach as noted by Palmer and Kaplan (2007). This study argued that it is critical for organisations to create an environment conducive to strategic innovation if these organisations wish to survive in the knowledge economy. By developing the pilot instrument it is hoped that this study could be used as a base for further research in order to refine the instrument.

To meet this objective the following were undertaken:

- Constructs such as the knowledge economy, intellectual capital and its role in the knowledge economy, the corporate curriculum, learning theory and elements of strategic innovation were explored.
- The nature and characteristics of these constructs were discussed to determine their conceptual boundaries.
- These constructs were described to create a high level of understanding of the nature and implications of probable relationships.
- There are numerous touch points between these constructs and some unique drivers to each. An overview of these touch points and drivers highlighted the need for a more holistic approach to measuring strategic innovation in organisations.
- By identifying the touch points and drivers certain variables emerged that could promote or inhibit an organisation's strategic innovativeness.

A third objective of this study was to assist SDT in understanding the environment its customers operate in. It was believed that by understanding its customers' environment SDT could customise its product offering to meet their customers' ever changing needs. To meet this objective the following were undertaken:

- A pilot instrument was developed and applied to eight life assurance organisations in Southern Africa. These organisations were all customers of SDT.
- The results from the instrument were plotted on a four-quadrant matrix for each participating organisation in order to illustrate to SDT which variables affected an organisation's strategic innovativeness.
- Recommendations were put forward to SDT on how it could optimise its product offering and operations, based on the results from the matrix.

A fourth objective of this study was to provide the participating organisations with some recommendations on how they could improve their overall strategic innovativeness.

7.7.2 Hypothesis testing

The original hypothesis was that organisations need to become strategically innovative to survive in the knowledge economy. A holistic instrument to identify an organisation's strategically innovative environment could therefore assist organisations in improving their operational environment, thus becoming strategically innovative. This hypothesis was neither proven nor disproven in the Southern African context specifically, with reference to both the performance and importance of issues identified.

7.7.3 Expected results from chapter 1

The researcher was of the opinion that the research would identify that organisations need to become strategic innovative if they wish to survive in the knowledge economy. The researcher was further of the opinion that constructs such as the knowledge economy, intellectual capital, the corporate curriculum, learning theory and elements of strategic innovation are related, with the importance of continuous learning to develop human capital as the cohesive force that link these constructs. By integrating these constructs the researcher hoped to identify certain variables that could promote or inhibit the strategically innovative environment. It was further expected that life assurance organisations in Southern Africa would be strategic innovative due to the nature of the industry the find themselves in.

Confirmed results as expected in chapter 1 (see section 1.7) are listed below:

- An instrument could be developed based on the constructs above.
- Due to the importance of learning in creating a strategically innovative environment, Cronje & Burger's (2006) model on learning theory could be adapted to illustrate the results.
- An improved learning environment, subject matter expertise and leadership emerged as the areas which need improvement if organisations wish to improve their strategic innovativeness.
- Participating organisations could be regarded as having a moderately strategically innovative environment.

Expected results from chapter 1(see section 1.7) that were not confirmed, include:

- Organisations need to become strategically innovative to survive in the knowledge economy.
- The instrument assisted organisations in identifying which variables affect their strategic innovativeness.
- The instrument allowed organisations to prioritise which areas they wish to improve to enhance their strategic innovativeness.
- The instrument assisted SDT in understanding its customers' environment to enable SDT to customise its product offering.

7.7.4 Application of the pilot instrument

The application of the pilot instrument was successful in this environment according to the researcher. The instrument together with the matrix provided a useful representation of the results in order for the participants to make effective business decisions.

Participants were allowed to comment on each statement which allowed them to provide their own opinions and to elaborate on certain issues.
Probably of most value was that the instrument provided the participants with valuable insight into areas that need improvement.

7.7.5 Conclusion

The researcher came to the conclusion that the concept of strategic innovation is fairly new, especially in the Southern African context. Although a lot has been written about measuring innovation a holistic approach that integrates various concepts could be beneficial in developing an instrument to measure strategic innovation.

The instrument developed for this study could be further refined as stated previously. The researcher believes that this research added to the debate of measuring strategic innovation by opening up other avenues in exploring how tools could be

developed to measure the intangible human factor that drives strategic innovation as referred to by Prentice (2009).

This research established that an environment conducive to learning is of critical importance to develop strategic innovation in an organisation together with other variables that have been identified in this study.

Although this study could not confirm or deny that organisations need to be strategically innovative to survive in the knowledge economy it is believed that by measuring strategic innovativeness could assist organisations in making effective business decisions. Measuring strategic innovation could also assist organisations in developing a strategic innovative culture amongst its employees.

To conclude it needs to be noted that the path to becoming strategic innovative differs from organisation to organisation and could be described as evolutionary.

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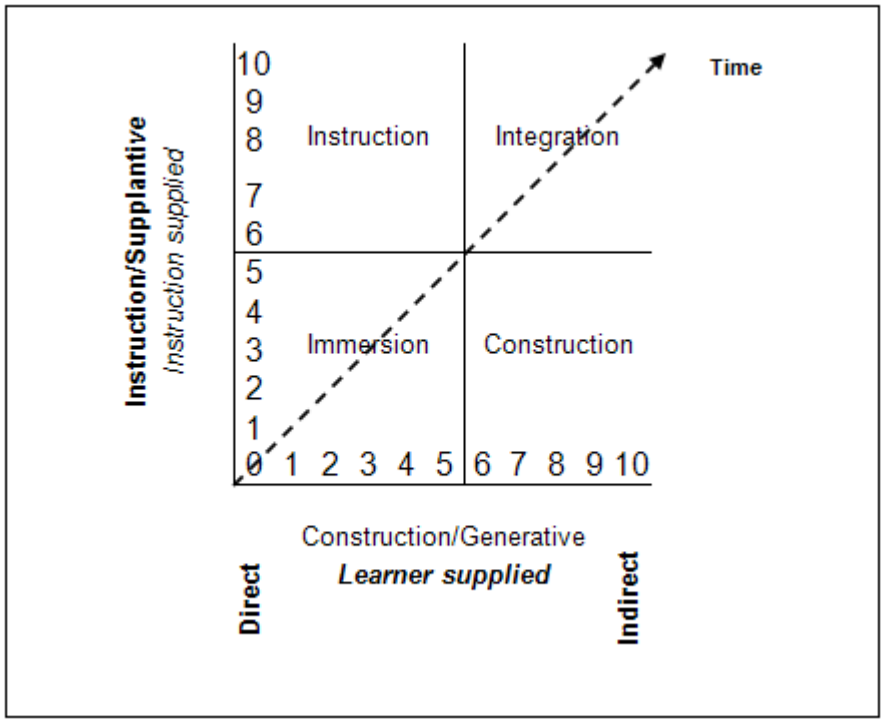
ADDENDUM 1: Adapted Likert questionnaire

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Comments
In solving problems you are allowed to gain your own understanding (sometimes by "trial and error") first before someone tells you what to do					
You are encouraged to experiment when faced with finding solutions to difficult problems in order for you to improve your understanding					
Your past life and working experiences are key to adding value to you current employer					
Your organisation values your past experiences					
Your intentions and experience are central in creating and applying new knowledge in your environment					
Your environement requires you to be an expert in your field					
You regularly engage in "lessons learnt" sessions to gain new insight into problems					
You work in a flexible environment					
Your work environment is constantly changing					
You adapt easily to these changes					
Your interests are valued in the workplace and are used to solve problems					
Your manager is a guide, coach and mentor, without telling you how to do your job					
You are encouraged to work in groups to solve difficult problems					
Your work environment encourages socialising with one another					
You always start with the end in mind when dealing with complex issues					
You are encouraged to challenge the "norm"					
Your organisation integrates existing processes with creative new ideas					
When facing a difficult problem you are encouraged to seek input from unconventional sources					
Your organisation continuously seek customer delight					
Your organisation is inspired by what the consumer wants					
Your organisation experiments with entrepreneurial ventures and organisational structures					
Your organisation continuously seek for breakthrough improvements					

ADDENDUM 1 (Cont.)

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Comments
Your business outcomes are repeatable and predictable					
Your working environment leaves no room for experimentation. Errors are not tolerated					
You are encouraged to focus on the task at hand					
You've got clear cut business objectives to meet					
Your focus must be on "doing" and not neccessaraly "understanding"					
You don't neccessaraly need to be an expert in your field to be succesful in your job					
Tutorials and manuals exist with documented processes to follow					
Your working environment is inflexible					
You are faced with routine tasks on a daily basis					
You are not faced with complex problems on a regular basis					
Your manager is the sole provider of knowledge in your environment					
Your manager instructs you on what to do and how to do it					
In your environment group work not a priority					
It is not a priority to socialise and interact with colleagues					
Your organisation focuses on understanding the present before improving the future					
You are expected to follow clear cut rules					
Your organisation continually seeks customer approval					
You're a technology driven organisation					
Your organisation adopts a "one size fits all" organisational model					
Your organisation focuses on gradual improvements					
Your organisation responds to "known" customer needs					
When facing a difficult problem you are encouraged to seek input from obvious sources only					

ADDENDUM 2: Cronje and Burger's initial instrument on learning



(Source: Cronje & Burger, 2006:218-236)

ADDENDUM 3: Construction and instruction explained

Construction

Construction	
This is based on the fact that we all construct our own perspective or meaning of the world, according to individual experiences and internal knowledge structure. Learning is based on how an individual interprets and creates the meaning of his/her own experiences. The employee constructs knowledge and because everyone has a different set of experiences, learning is unique and different for each employee. Learning may occur through interaction with others. This theory is used to focus on preparing the employee to adjust his/her mental model to incorporate new experiences and solve difficult situations.	
Manager's role	Instruction should be designed so that the employee has opportunities to solve realistic and meaningful problems The employee needs to experience real-world applications and construct knowledge The manager should provide group learning activities to allow employees to interact and solve problems The manager helps by guiding and coaching
Instructional methods	Case studies or problem-based learning Presenting multiple perspectives or guided reflection Mentoring or learnerships Collaborative learning Discovery learning Simulations
When to use	Manager will step in as an interactive process When the employee needs to incorporate current knowledge to gain insight into and understanding of new situations When there is adequate time for the employee to discover and process knowledge
Skills that could be learned	Inventing a faster computer processor Building a bridge over a wide, rapid river Researching cures for a disease
Weaknesses	Employees need a significant knowledge base Outcomes of instruction are not always predictable because employees are conducting their own knowledge Does not work when the results always need to be the same

(Adapted from: Cronje & Burger, 2006:218-236)

ADDENDUM 3: (Cont.)

Instruction

Instruction	
This views the employee as a blank slate where the manager must provide the experience. A stimulus from the environment is presented and the employee reacts to this stimulus with some type of response. The desired behaviour from the employee is reinforced. The new behavioural pattern is repeated until it becomes automatic. The behaviour of the employee signifies that learning has occurred.	
Manager's role	Instructor-centred environment Reinforced behaviour Learning objectives are stated and employees are "rewarded" for reaching these desired objectives
Instructional methods	Direct instruction or presentations Drill and practice or repetition Instructional games
When to use	When the employee is inexperienced with little or no prior knowledge of the subject When recall of basic facts or automatic responses is/are required When task completion requires little to no deviation from standard practice When the employee needs to gain mastery through successive reinforcement of desired behaviour When there is a need for accuracy and speed When there is a short period of time available for learning
Skills that could be learned	Basic keyboarding or data entry Basic lab tests or procedures Changing the oil in a car Spelling or learning multiplication tables
Weaknesses	Does not prepare the employee for problem solving or creative thinking Employees do not take initiative to change or improve things and merely do as they are told The employee is only prepared for recall of basic facts, automatic responses or performing tasks with well-defined procedures

(Adapted from: Cronje & Burger, 2006:218-236)

ADDENDUM 4: Overview of cases selected to participate in this study

Organisation 1

Profile

Organisation 1 is a Lesotho-based insurance company, whose services are focused on the provision of short-term commercial and personal insurance, funeral cover, life assurance and provident and pension funds.

Organisation 1 had its origins in 1993, when a group of predominantly local businessmen acquired the licence of one of only two short-term insurers in Lesotho at that time.

The company started out with just five employees – and has become a highly respected organisation in the financial sector. The company has grown its staff complement to 33 and at the same time increased its turnover more than tenfold. It runs a well-balanced social responsibility programme.

Organisation 1 began primarily as a provider of short-term insurance in Lesotho, but in the last few years has started actively increasing its market share in the life assurance sector. The life division offers pension and provident funds, individual life assurance, funeral policies and the Rebasotho savings plan – one of its kind in Lesotho.

Products and services

Organisation 1's product range focuses on two areas:

a) ***Short-term insurance:*** This is vehicle insurance that assures to reinstate a vehicle to the state it was in before the accident plus the costs of third parties. Another short-term vehicle insurance product is insurance against political violence. This product offers protection of financial interests against damage or loss due to political disturbances.

b) Long-term insurance: The long-term insurance products offered by this organisation are as follows:

- Credit life
    - This is currently offered in conjunction with licensed lending institutions. Insurance is offered for the borrower against any claims the lender might have against their estates as a result of the borrower either dying, suffering from a disability and hence not being able to earn any income, or being retrenched. This cover protects the borrower by settling their outstanding loan balance.

- Group life assurance
    - This is life cover that is offered to company employees as part of the organisation's employee benefit solutions. It can be customised to their needs and risk profile, and if any employee dies, the organisation will pay out the insured sum, which is normally a multiple of the employee's annual salary at the time of death.

- Group funeral schemes
    - This is also part of organisation 1's employee benefit solutions, although it can be offered to any homogeneous group, like associations. The group funeral policy offers funeral cover to members of the affected group who have been insured under this scheme, as well as their immediate family members, with the option of including their extended family for a small additional premium. At the death of an insured life, the company pays the sum assured to their nominated beneficiaries within 48 hours to cover their funeral expenses.

- Provident funds
    - Organisation 1 currently offers and administers group provident fund schemes as part of its employee benefit solutions. This is a voluntary contributory scheme, where employee and employer contribute every month, with their contributions accruing at a competitive interest rate linked to the market performance of their invested assets. On

retirement a member can use their proceeds from the fund in order to procure a pension which will pay them a monthly annuity. Their share can also be claimed on withdrawal from the scheme or at death before they withdraw from the scheme.

- Capital disability
    - Organisation 1 offers capital disability benefit, under its employee benefit solutions. If an assured life is temporarily or permanently disabled and is no longer able to earn an income, organisation 1 will pay the insured amount as a lump sum so that the assured life can support their families.

- Investments
    - Organisation 1 currently offers the Rebasotho Investment Product, which is a savings product with some risk benefits. The client chooses their monthly contribution which will be invested in their investment account and earn a competitive interest rate. The product can be used to supplement their retirement provision, or provide for their children's education, with the flexibility of the product allowing them to take out loans against their policies in cases of emergencies. The risk benefits under the product also offer the client payout apart from their accumulated investment account in cases of accidental death, and a waiver of premiums in cases of disability.

- Individual funeral cover
    - Organisation 1 currently offers a number of individual funeral policies which offer a payout to cover for funeral expenses in the event of the death of an assured life. The cover extends to family members of the policyholders with the option of extending cover to extended family members under their policies for a small additional premium. These products offer cover up to M 15 000, and include Alliance Funeral cover and the Matlama/Linare family funeral cover products, which also support local soccer with some of their proceeds. These products are

available to the general public with varied payment modes to accommodate each client's preferences.

Also under the individual funeral products organisation 1 offers the Matseliso funeral product, which is a bank assurance product offered in conjunction with Standard Lesotho Bank. Clients who have accounts with the bank and can be afforded the convenience of paying via a debit order. The product is available to all Standard Lesotho Bank clients and those willing to open accounts with the bank.

- Loan schemes
    - Organisation 1 currently administers group loan schemes which are designed as a savings vehicle for the group members while also enabling easy access to loans from the scheme, in case of pressing financial problems. These loans are normally processed within a week.

Shareholding

90% of organisation 1's shareholding is held by Lesotho nationals. Of the 90%, organisation 1's staff members have ownership of 10%.

Organisation 2

Very limited information was available about organisation 2. Organisation 2 is part of a credit bank in Midrand, South Africa. This holdings company services approximately 1,5 million clients through its 550 branches and 3 000 staff members and currently has an advances book totalling R11 billion.

Organisation 3

Profile

Organisation 3 primarily targets the lower and middle-income markets in Southern Africa and it is the largest financial services group to do so. Organisation 3's competitors include four large financial services conglomerates and a few smaller, niche life assurance businesses. Organisation 3 is among the top three life assurance groups in Southern Africa in terms of numbers of clients.

Organisation 3's group comprises six independent operating businesses, each with clearly defined areas of focus, performance and profit objectives, i.e. retail, corporate, asset management, international, health and card operations.

Products and services

The products offered by organisation 3 range from assurance of individuals, retirement annuities, medical aid products, unit trusts and investment products, credit life benefits and employee benefit packages for both large and small companies.

Organisation 3's humble origins date back to the closing years of the 1800s. Back then it was known by another name and the nature of its business (which was to assist in the building of homes) was very different from what it is today.

Today, organisation 3 (now 109 years old) is a well-established, truly African-based business providing aspirational individuals, and the people who represent them, with customised financial services packages that protect and enhance their assets. The majority of existing policyholders (in excess of 80%) are black. Subsidiaries have full operational autonomy, giving them the necessary freedom and flexibility to respond proactively to opportunities and challenges in the marketplace.

Shareholding

Organisation 3's shareholder, customer, staff and staff share ownership profiles are amongst the most representative in the financial services sector in South Africa.

Organisation 3 has a direct empowerment shareholding of 17.8%. Indirect empowerment shareholdings (including staff) have not been taken into account.

Other facts about organisation 3

- Organisation 3 is the fourth largest listed life assurer in terms of market capitalisation.

- It has a market capitalisation of R6 billion.
- Organisation 3 is a JSE Limited Top 100 company.
- It assures the lives of some 4,3 million South Africans.
- It provides employment to approximately 8 000 people and its head office is situated in Bellville, Cape Town, South Africa.
- Organisation 3 deals with approximately 1 500 brokers.
- The company has 72 offices throughout South Africa, Namibia, Botswana, Kenya, Ghana, Nigeria and Lesotho.
- Organisation 3 has the third most recognised brand in the insurance industry.

Organisation 4

Profile

Organisation 4 is based in Johannesburg, South Africa, and specialises in offering insurance services through telephone marketing and service delivery. It is a “referral only” insurer, and its success depends exclusively on referrals from their clients. Organisation 4 believes that it is this selection that enables it to cater for everyone’s specific needs.

Organisation 4 does not take any risks which can be considered unduly large and which could be significant relative to the business as a whole.

Products and services

Organisation 4 sells its policies telephonically. In this way, it eliminates the high commission fees that brokers charge for selling policies. Products include:

- female cancer policy;
- male cancer upgrade;
- accidental funeral benefit;
- accidental disability policy and
- accidental death upgrade

Shareholding

No information available.

Organisation 5

Profile

Organisation 5 is based in East London, South Africa. Some key facts about organisation 5 are as follows:

- It was established in 2001.
- Organisation 5 is registered with the National Credit Regulator: NCRCP103.
- It is a registered financial services provider.
- Its insurance licence was obtained in December 2005.
- It is a member of the Life Offices' Association of Southern Africa (LOA).
- Organisation 5 operates in South Africa, Lesotho, Swaziland, Kenya, Tanzania and Malawi.
- It has over 140 branches.
- It has more than 1 500 employees.
- The business operates in the following areas:
    - Outsourced credit management solutions
    - Retail financial services
    - In-store credit
    - Distressed debt
    - Housing solutions

Products and services

In essence the core business of organisation 5 means that it acts as a conduit for providers of capital (both equity and debt) to access exposure to asset classes, which are generally considered to have higher risk and return profiles. By reducing the impact of the risk associated with these asset classes, the group can

consequently deliver risk-adjusted return on investment to its stakeholders. The asset classes in which the group currently invests are the following:

- Unsecured personal credit to middle- and low-income earners throughout sub-Saharan Africa
- Distressed debt in South Africa
- Residential property situated in middle- to lower-income areas in South Africa

In conducting its main business the group has also naturally diversified into other areas of business, which are complementary and value adding to its main business. These include the cellular, assurance and education divisions.

It follows a philosophy of "*controlled diversification*" in terms of which the following principles are adhered to:

- Limiting diversification to the executive capacity available to manage the various divisions
- Taking advantage of long-term trends in the various markets in which the group operates
- Developing businesses that act as a "natural hedge" to each other during different macro-economic cycles (an example of this is the contrarian cyclical growth experienced in the unsecured personal credit and distressed debt businesses in South Africa)

Shareholding

No information available.

Organisation 6

Profile

In 1989, organisation 6 was integrated into Namibian society with various marketing and administrative activities of its parent group.

Over the years there has been a pertinent drive to “Namibianise” activities. In view of this the company has local risk underwriting, an independent product IT platform, homegrown product portfolio, marketing activities, all supported by an in-house corporate actuary. Furthermore there has been massive skills transfer in the field of asset management, and the Namibianisation of the back office for portfolio administration and investment accounting.

Apart from these operationally focused areas, organisation 6 offered up to 35% equity participation to Namibians as early as 2004. As far as asset management is concerned, this equity participation to broad-based black empowerment groups (already in 2004) was also up to 35%. In 2004 a partial consolidation of the Namibian life assurance industry was heralded by the establishment of Consolidated Financial Services Holdings (Pty) Ltd (CFS). Via this transaction Namibianisation was taken even further, in that Nam-mic, the investment arm of the National Union of Namibian Workers (NUNW), became shareholders in the holding company. Nam-mic now effectively owns 8,6% of organisation 6 and, through the shareholder agreement, has the opportunity to increase its effective stake in organisation 6.

Products and services

Organisation 6 offers two products: personal portfolios and unit trusts. Organisation 6’s personal portfolios (SP²) are an important role player in the Namibian market and the SP² Namibia range of products has assisted individuals in achieving their investment goals for over 10 years. SP² offers investments in linked products, giving investors exposure to both the Namibian and South African markets, as well as other investment products such as wrap funds.

By investing in an SP² investment, the client has the option to choose, customise and manage their own unique investment portfolio. The client can also change and adapt their portfolio as needs and circumstances change.

To help clients choose unit trusts and money market funds for their portfolio, the SP² research team has compiled a list of recommended funds from various management companies in Namibia and South Africa that have the potential to provide good

returns. This "shopping list" is updated regularly as market conditions change. The shopping list also advises how to structure a client's unit trust portfolio according to their risk profile so that they can gain appropriate exposure to the various asset classes.

Shareholding

No information available.

Organisation 7

Profile

Organisation 7 is based in Swaziland and was established in 1973 by a King's Order-in-Council in terms of founding legislation No. 32/1973 in Swaziland. The objective of organisation 7 is to provide adequate and proper insurance business of all classes including both short and long term insurance, in accordance with the conditions appropriate in the normal and proper conduct of insurance business.

Organisation 7 has grown and improved over the years to be a solid and reputable insurer. This status is confirmed by a solid balance sheet, proper operational infrastructure, well-trained staff and committed shareholders. The establishment of organisation 7 has succeeded in contributing to a stable domestic insurance environment that has benefited the Swaziland economy to a large extent as evidenced by the large and serious claims it has had to pay over the years. Since inception, organisation 7 has been involved in providing insurance cover to individuals, small and large industries, which have been the stronghold of the Swaziland economy.

There is a good intermediary service in the Swazi insurance market, providing good outreach for the organisation's products. Brokers do not operate a monopoly in Swaziland and there are at least four major brokers. A good network of agents also exists, particularly on the life assurance side. This network of intermediaries has ensured that the transfer of risk to the insurer is readily accessible.

Ongoing training of staff ensures skilful and knowledgeable personnel. Service delivery is key to the corporation's operations.

Products and services

Organisation 7 has numerous life, domestic and commercial products. These include:

- Insika comprehensive life police;
- Rest In Peace funeral policy;
- Lilunga pure endowment;
- Lilunga asset builder;
- Lilunga pension provider;
- Lilunga graduate plan;
- retirement funds and
- motor, home owners, personal liability and personal accident

Shareholding

Prior to the establishment of organisation 7 in 1973, there were several totally foreign insurance companies operating branches in Swaziland. Unlike in many countries in Africa where nationalisation of insurance companies meant sole ownership by the government, the process in Swaziland was different. The government of Swaziland entered into a joint venture with the companies enumerated below. While the corporation was operating alone, the association with and shareholding of these companies ensured continued transfer of skills and upholding of modern practices in managing the corporation.

The shareholding comprises the following:

- Swaziland government – 41%
- Munich-Reinsurance Company of Africa Limited – 16%
- Mutual and Federal Insurance Company Limited – 16%
- Swiss Reinsurance Africa Limited - 11%
- Zurich Insurance Company SA Limited - 9%

- South African Mutual life assurance – 5%
- Swiss-Reinsurance - Life and Health – 2%

Other than the Swaziland government, this shareholding testifies to a solid backing and progressive infusion of more current insurance practices. Some of these shareholders have provided reinsurance support for the corporation over the years and continue to do so.

Organisation 8

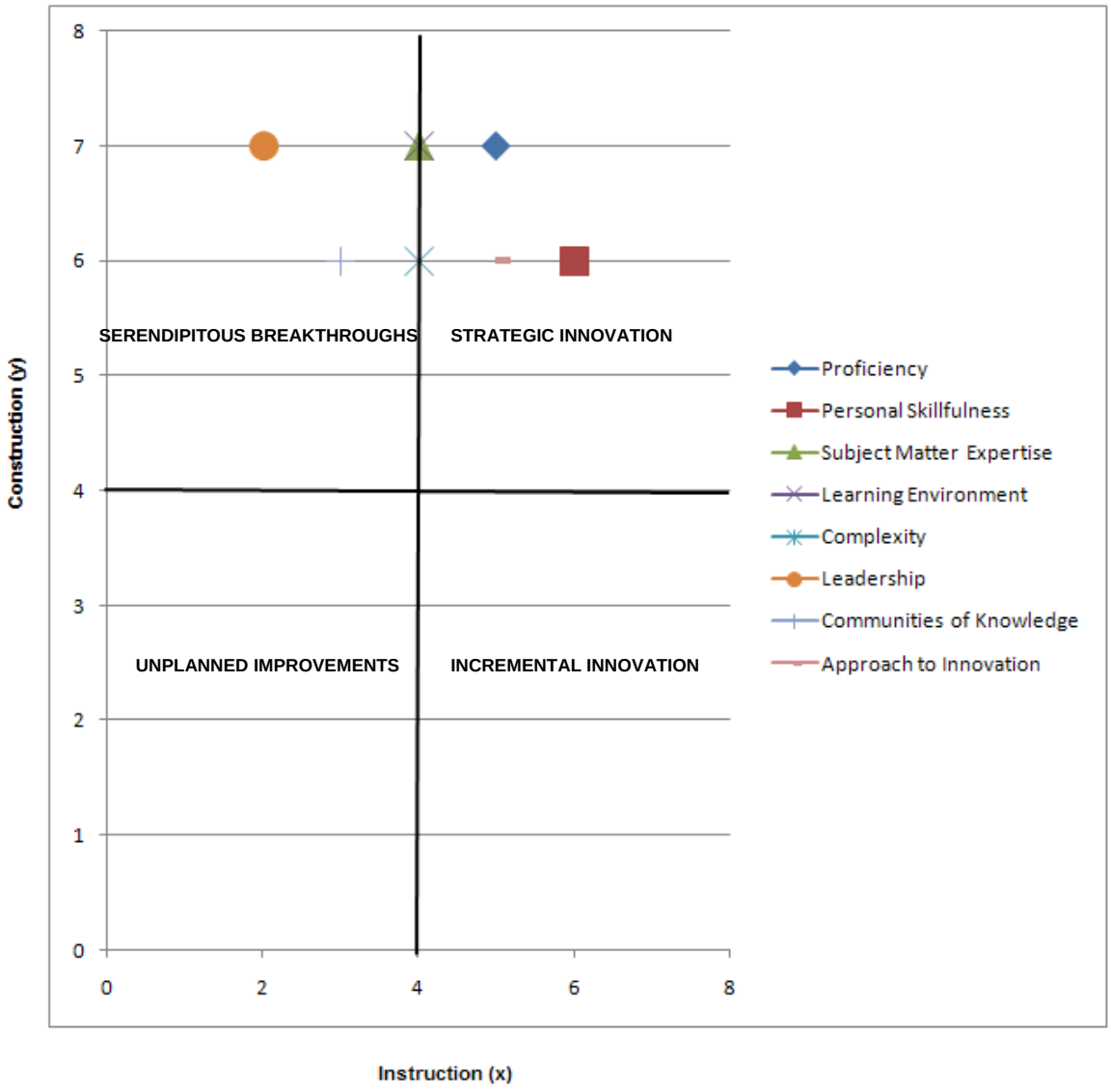
According to limited information available on organisation 8 this organisation is part of a holding company in South Africa. This holding company is a diversified multinational industrial services and retail group with activities spanning logistics, car rental and vehicle retailing. While capitalising on the synergies between our business entities, their decentralised management structure actively encourages entrepreneurship, innovation and industry-specific best practices.

The group operates through five divisions: Logistics in Southern Africa and Europe, Car Rental and Tourism, Vehicle Distributorships, Vehicle Dealerships and Insurance. The activities of group associates include financial services through Imperial Bank. Imperial is active in South Africa, selected parts of Africa, Europe, Scandinavia and Australia.

Organisation 8 is located in Lesotho where its head office resides. The group's niche insurance operations are focused on a range of short-, medium- and long-term insurance and assurance products. These are predominantly associated with the automotive market and covers life assurance as well.

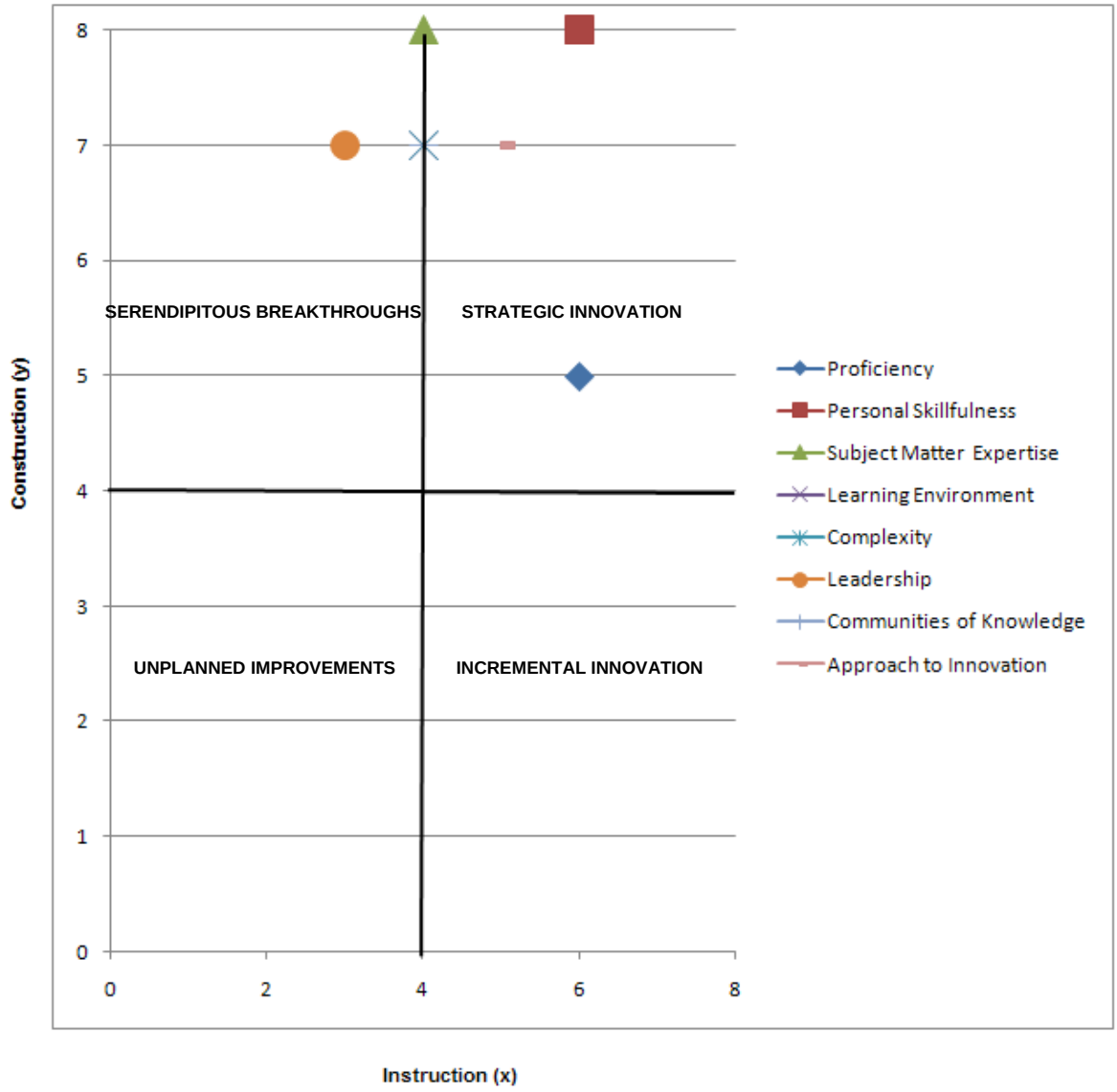
ADDENDUM 5: Consolidated results per participating case

Organisation 1



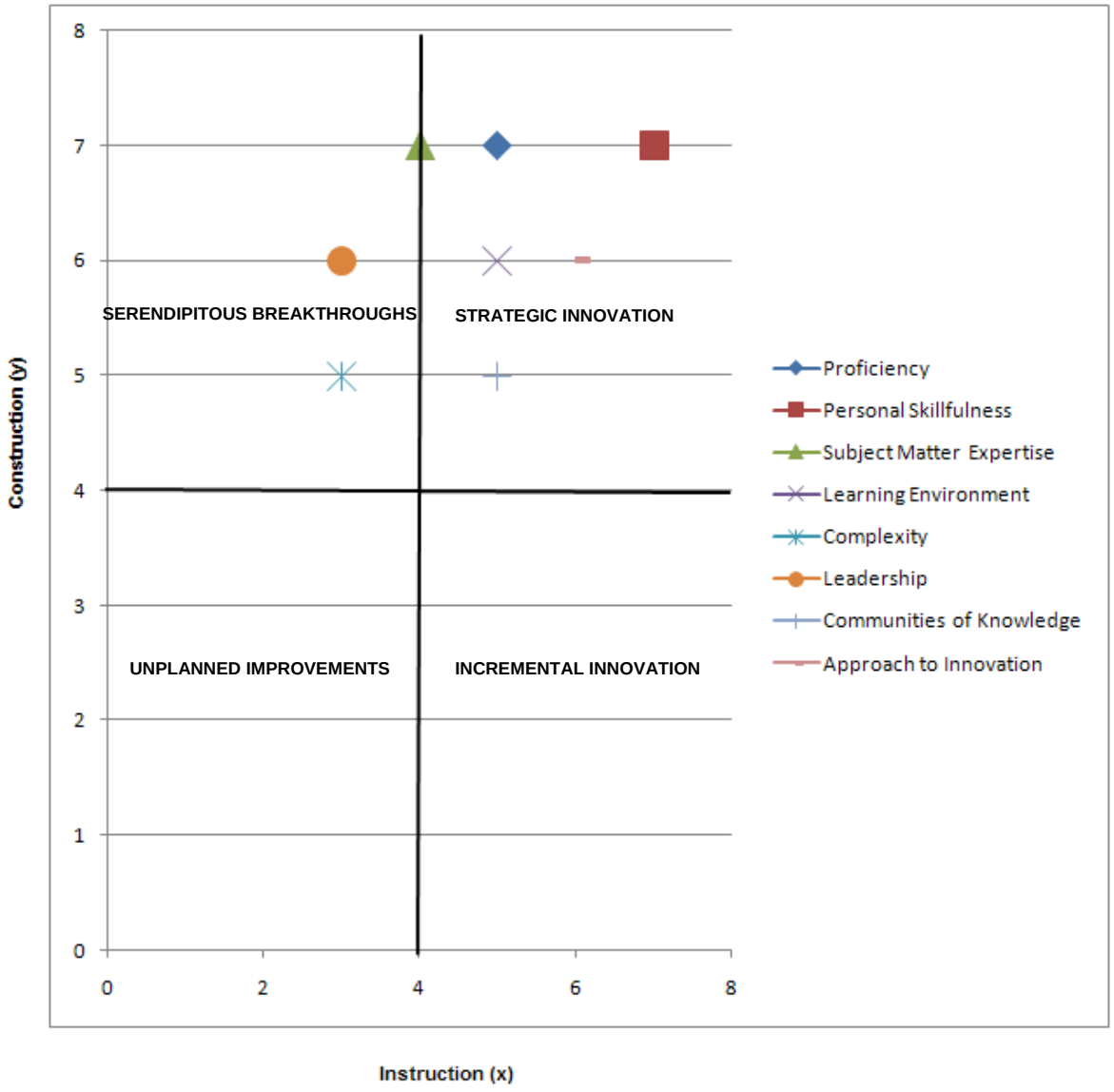
Organisation 1		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	5	7
Personal Skilfulness	6	6
Subject Matter Expertise	4	7
Learning Environment	4	7
Complexity	4	6
Leadership	2	7
Communities of Knowledge	3	6
Approach to Innovation	5	6

Organisation 2



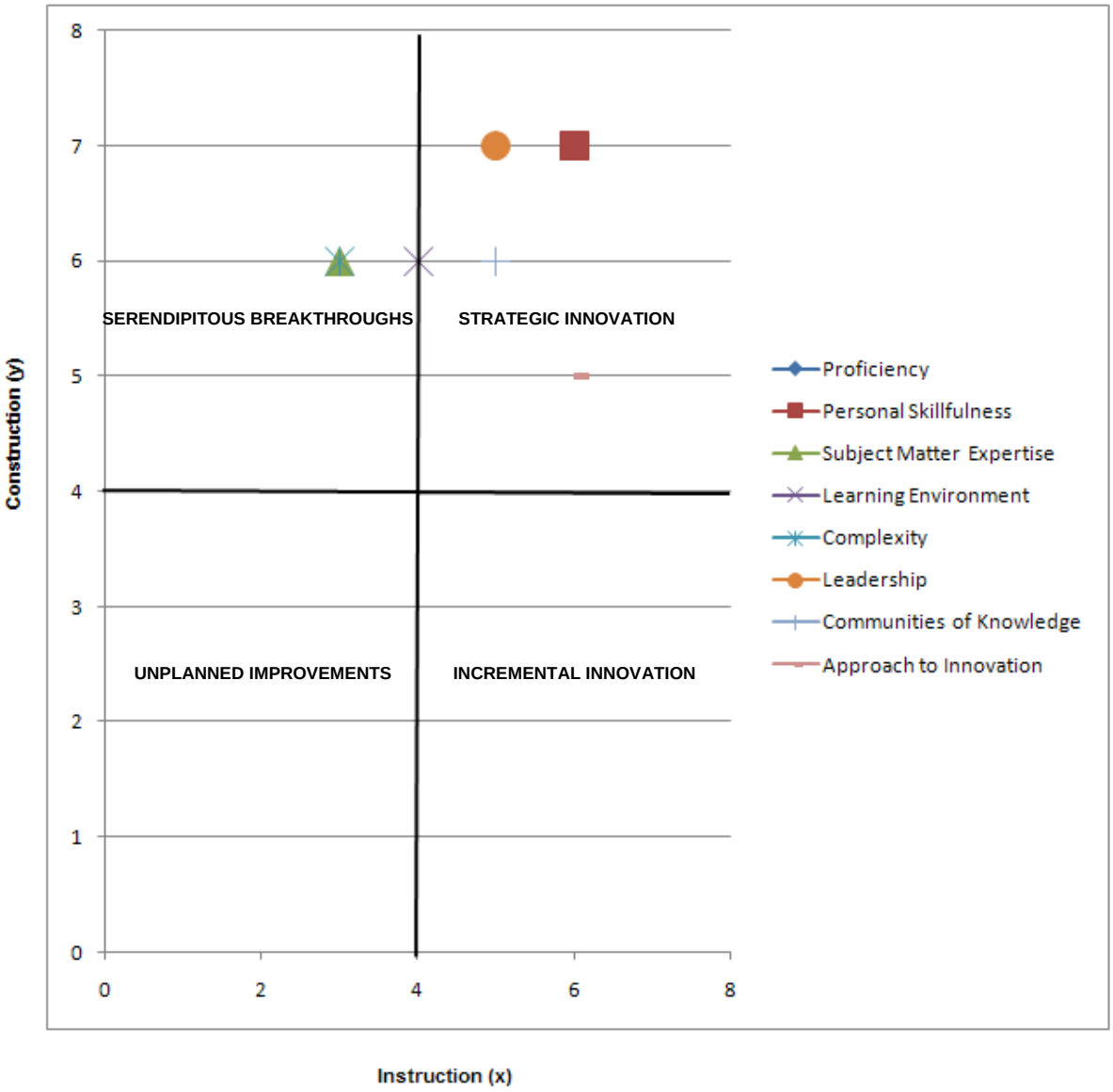
Organisation 2		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	6	5
Personal Skilfulness	6	8
Subject Matter Expertise	4	8
Learning Environment	4	7
Complexity	4	7
Leadership	3	7
Communities of Knowledge	4	7
Approach to Innovation	5	7

Organisation 3



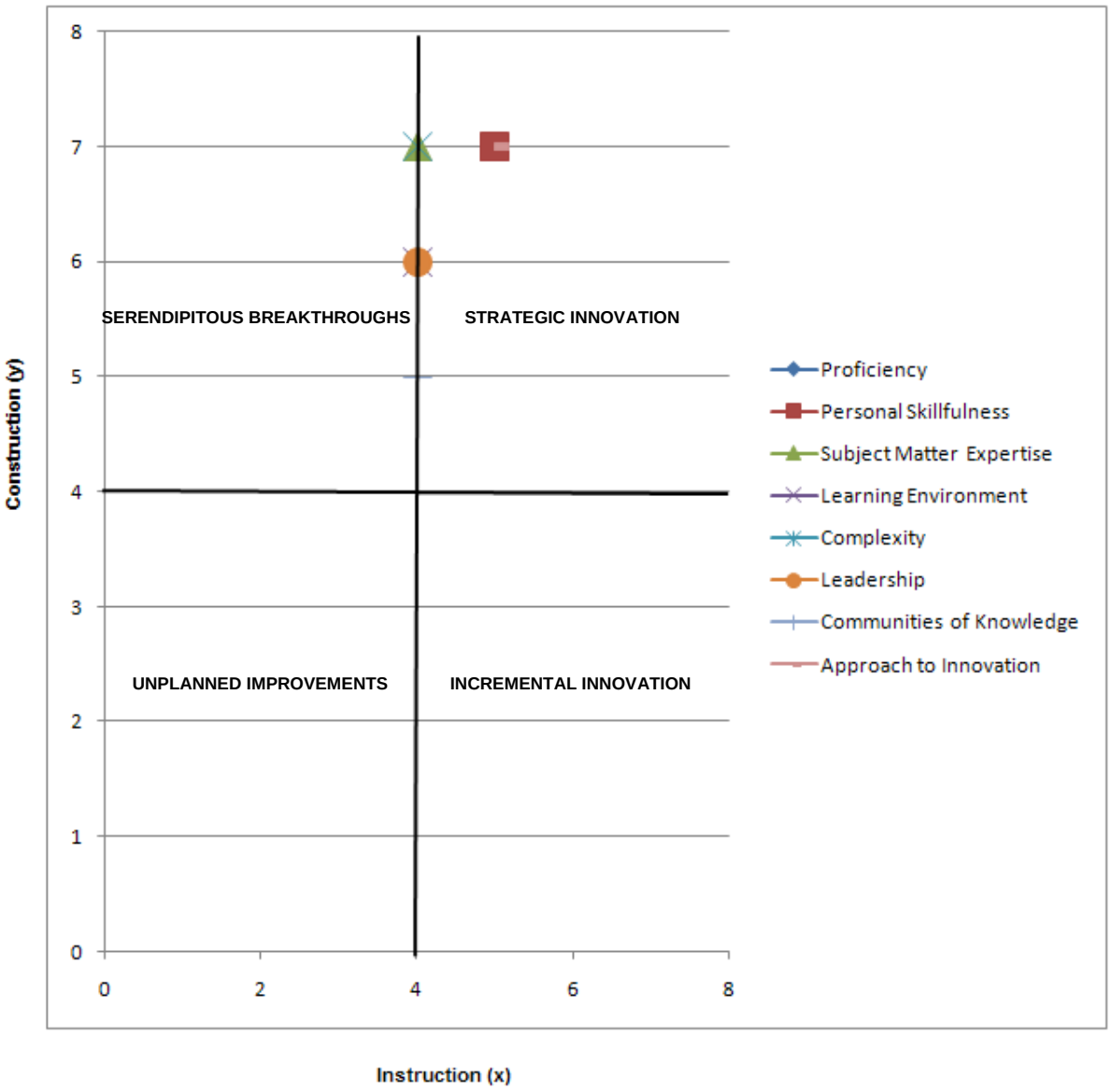
Organisation 3		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	5	7
Personal Skilfulness	7	7
Subject Matter Expertise	4	7
Learning Environment	5	6
Complexity	3	5
Leadership	3	6
Communities of Knowledge	5	5
Approach to Innovation	6	6

Organisation 4



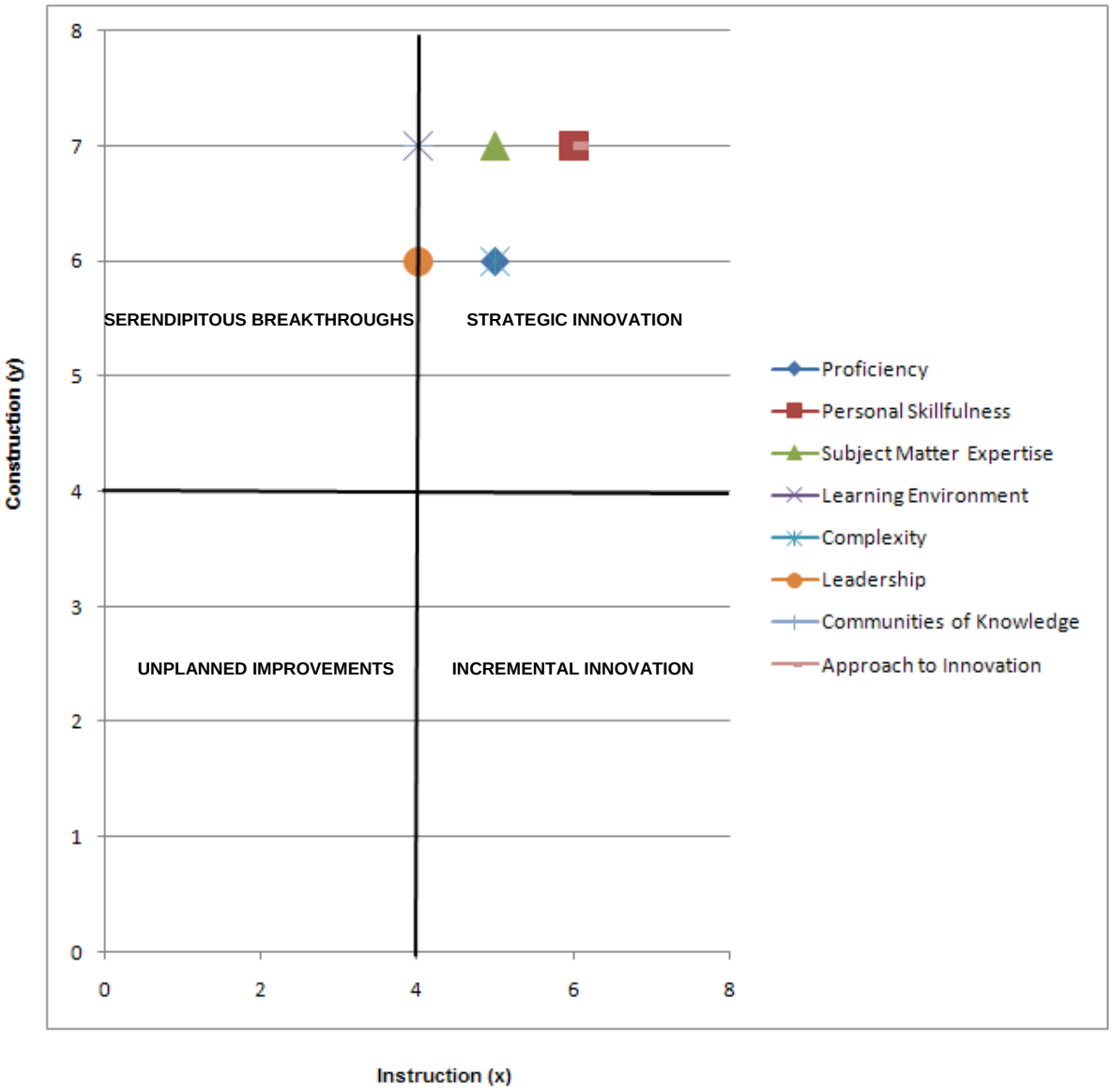
Organisation 4		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	5	7
Personal Skilfulness	6	7
Subject Matter Expertise	3	6
Learning Environment	4	6
Complexity	3	6
Leadership	5	7
Communities of Knowledge	5	6
Approach to Innovation	6	5

Organisation 5



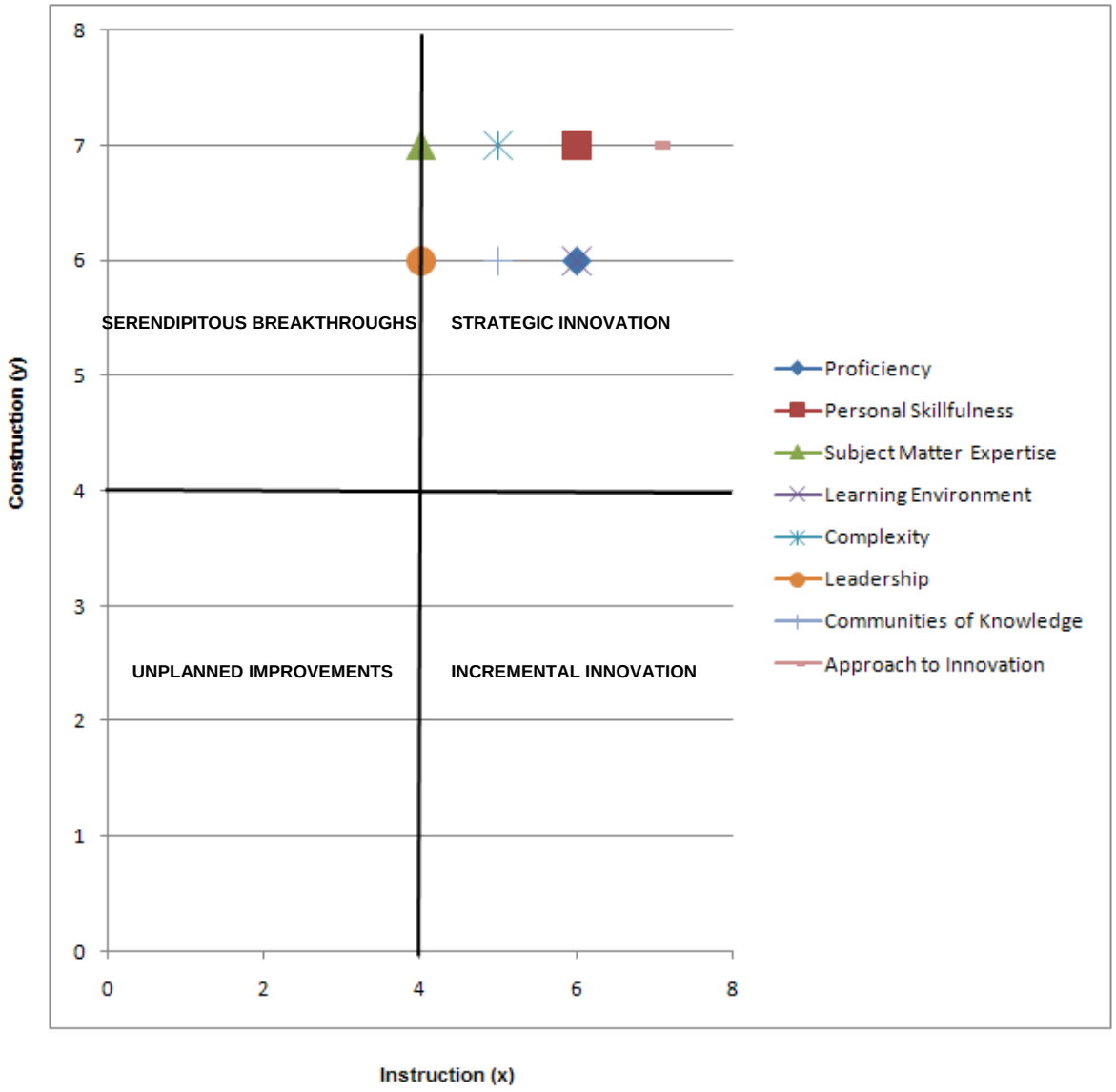
Organisation 5		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	5	7
Personal Skilfulness	5	7
Subject Matter Expertise	4	7
Learning Environment	4	6
Complexity	4	7
Leadership	4	6
Communities of Knowledge	4	5
Approach to Innovation	5	7

Organisation 6



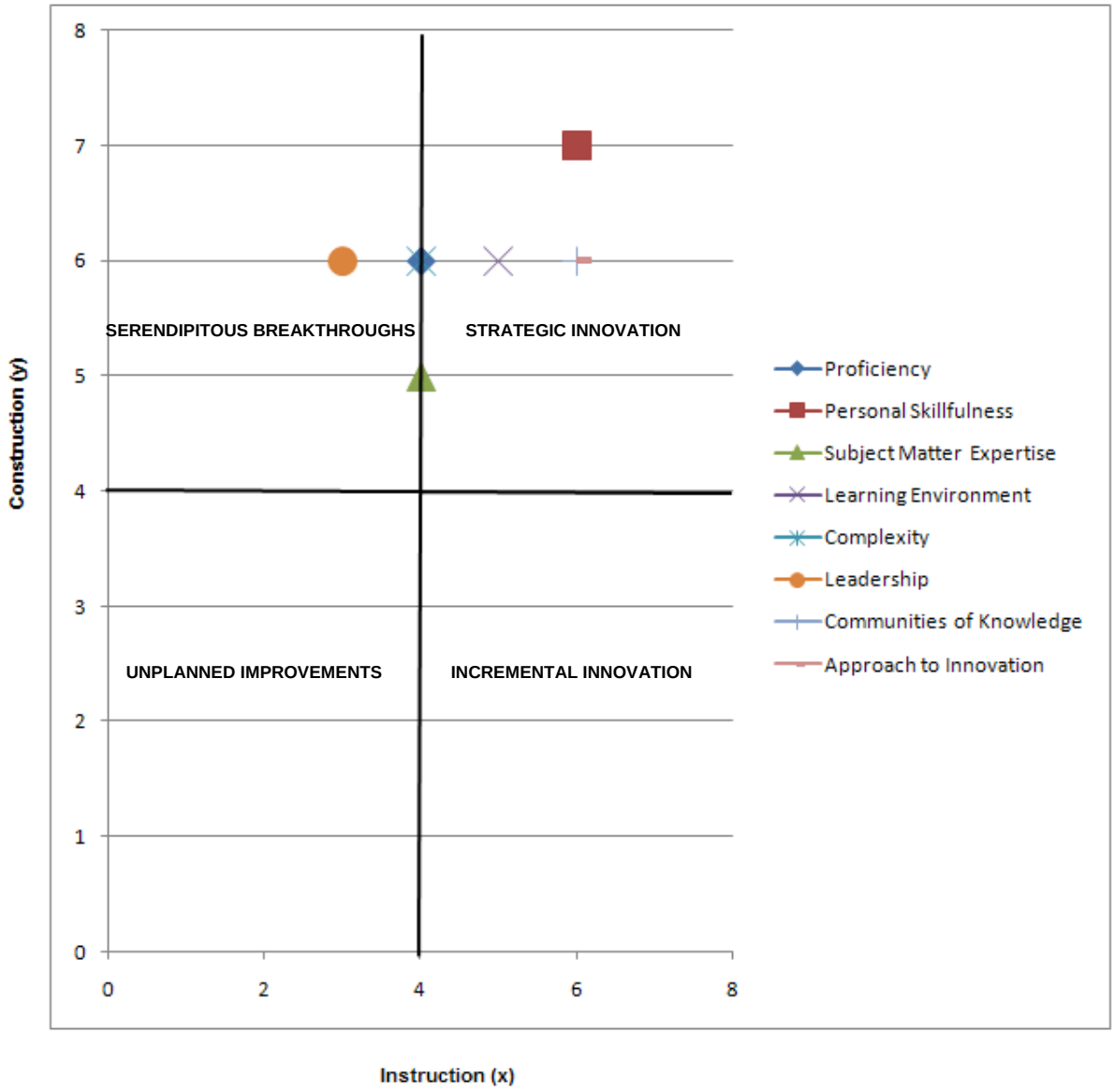
Organisation 6		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	5	6
Personal Skilfulness	6	7
Subject Matter Expertise	5	7
Learning Environment	4	7
Complexity	5	6
Leadership	4	6
Communities of Knowledge	4	7
Approach to Innovation	6	7

Organisation 7



Organisation 7		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	6	6
Personal Skilfulness	6	7
Subject Matter Expertise	4	7
Learning Environment	6	6
Complexity	5	7
Leadership	4	6
Communities of Knowledge	5	6
Approach to Innovation	7	7

Organisation 8



Organisation 8		
Variable	**Score: Instruction (x-axis)**	**Score: Construction (y-axis)**
Proficiency	4	6
Personal Skilfulness	6	7
Subject Matter Expertise	4	5
Learning Environment	5	6
Complexity	4	6
Leadership	3	6
Communities of Knowledge	6	6
Approach to Innovation	6	6