

KNOWLEDGE MANAGEMENT PRACTICES OF FINANCIAL SERVICES COMPANIES

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ABSTRACT

The study explored the knowledge management landscape within South African financial services organisations by examining their practices with regards to knowledge management and comparing them against practices outlined in contemporary literature.

The literature identified three broad processes, namely that of knowledge identification, knowledge generation and knowledge application which together lead to an increase in organisational learning. It is these broad processes that are the focus of the study.

The perceptions of ten knowledge workers, employed mainly in public companies' listed on the Johannesburg stock exchange, were examined with regards to their organisation's knowledge management practices. Both empirical and non-empirical approaches were followed in this qualitative study. Data was gathered using face-to face interviews and questionnaires which were designed to support the interview results with hard numbers. The data was analysed through a combination of content and frequency distribution analysis.

The study found that financial services organisations are much better at knowledge generation than they are at knowledge application and that they are particularly poor at knowledge evaluation and knowledge identification. Furthermore the study revealed a lack of strategic emphasis in the practice of knowledge management.

The study concluded that knowledge management practices are not in line with contemporary best practices and have reached only half their potential in this regard. For the majority of organisations, current practices are not strategically driven, but merely embedded in processes, procedures and cultures.

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Chapter 1: Orientation

1.1 Introduction

This study aims to explore the knowledge management (KM) landscape within of South African financial services organisations. To achieve this, the study will examine the KM practices of financial services organisations against practices outlined in global contemporary KM literature.

1.2 Orientation and the problem in context

An understanding of the importance of KM, its benefits and its application in the context of a specific industry will reveal the nature of the problem that is the subject of this research.

Knowledge has become the main **competitive tool** for many businesses (Rowley, 1999). Drucker (1993) describes knowledge rather than capital or labour as the only meaningful economic resource in the knowledge society.

According to Professor Sipho Seepe, academic director at Henley Management College, the value of organisations is expressed more in terms of people, knowledge and capabilities and less in terms of tangible assets (Webster, 2005:22).

Prusack (1996:6) stated that "the only thing that gives an organisation a competitive edge is what it knows, how it uses what it knows and how fast it can know something new".

Knowledge is not only important in organisations. Mr Trevor Manuel indicated in his 2007 budget speech that one of the major themes for the G20 in 2007 is the sharing of influence, responsibility and knowledge. He went on to say that South Africa, as host to the G20 in 2007, would use that opportunity to improve and strengthen knowledge within the forum by facilitating a sharing of knowledge with African countries through a series of discussions between the G20 and African finance

ministers. "How well an individual, an organisation, an industry, a country does in acquiring and applying knowledge will become the key competitive factor. There will be no poor countries. There will only be ignorant countries", (Anonymous quote cited in Halawi, Mearthy & Aronson, 2006: 385).

Many organisations worldwide have recognised the role that knowledge and KM can play in contributing towards organisational effectiveness and competitiveness. This can be validated by the following **facts and statistics** (Bose, 2004:459):

- A total of 80 percent of Fortune 500 companies have KM staff.
- From 1997-2000, the Ford Motor Company saved \$914 million, mainly due to effective KM programs. Chevron has saved \$650 million since 1991, while Texas Instruments has saved \$1 billion since it launched KM programs in the mid - 1990's.
- A survey performed on 402 Canadian organisations by Ipsos-Reid for Microsoft Canada Co. highlighted the importance of KM in giving organisations a competitive advantage, improving organisational effectiveness, delivering customer value, improving return on investment and having a positive impact on employee satisfaction.
- Further support for the hypothesis that KM leads to improved competitiveness and profitability can be found in a Cranfield School of Management survey, based on 260 responses, of senior executives in European companies who were asked to rank eleven possible benefits of KM programmes. Competitiveness was ranked way above all other benefits with profitability coming in at second or third in most countries. Revenue growth was consistently ranked last.
- Of CEO's polled at the 2001 World Economic Forum in Davos, Switzerland, 95 percent said that KM was critical to organisational success.

A study by the Delphi Consulting Group Inc (1998) revealed that 28 percent of companies were currently using some form of KM, and a further 70 percent of companies anticipated using it in the next four years. Furthermore, 17.5 percent of the organisations that were implementing KM initiatives were **financial services organisations**. Financial services organisations regard the knowledge of their

employees and technological investments as major keys to generating competitive advantage.

What however is the reason for the shift in focus towards knowledge and KM over the past 10 years? According to Ruggles (2003) six things have changed in our **business environment** forcing companies to focus on knowledge. These are: the pace of change, nature of goods and services, scope of the typical firm and its market, size and attrition rate of employee bases, structure of organisations and the capabilities and costs of information technology.

Furthermore the following **business benefits** have been identified as accruing from KM (Newing, 2000):

- 1) Identification of new markets from high-level intelligence gathering and pooling of knowledge by experts
- 2) Harnessing of external knowledge resulting in more responsiveness to market needs
- 3) Innovation and improvement of existing products by making use of customer knowledge
- 4) Faster time to market
- 5) Better quality products
- 6) Continuous learning and development of best practice
- 7) Improved customer service
- 8) Risk reduction by using wider expertise
- 9) Cost reduction by not having to re-invent the wheel

The application of KM does not follow a “one shoe fits all” approach to all organisations or industries. Therefore it is important that the research problem be seen in the context of a particular industry and its economic features. A brief discussion of the global and local financial services industries and their economic features, follow.

Arthur D Little (2007) paints the **financial services landscape** as being one of increasing customer demands, decreasing customer loyalty, shrinking margins, increased performance pressure, Basle 2 and technological developments. Financial

services organisations main assets are human capital and knowledge. According to Henson and Wilson (2002), these factors have contributed to the waves of merger and acquisition activities in the USA and worldwide. The new global mega-banks are likely to dominate the large corporate and consumer markets due to their significant cost and technology advantages (Henson and Wilson, 2002).

Market-to-book values are well below those of other industries despite overall earnings growth, economies of scale and scope. Traditional ways of doing business have given way to new business models arising out of unprecedented competition and commoditisation of services offered. Commoditisation will continue to depress profit opportunities, making it difficult for companies to differentiate themselves from the competition. The solution is a holistic, strategic approach to the management of knowledge capital where the organisation is transformed from a production-centred entity to a knowledge creating and sharing organisation (Arevuo,2003).

An understanding of an **industry's economic features** will help in understanding the strategic moves that competitors will make (Thompson, Strickland & Gamble, 2005). From a KM point of view, knowledge of an industry's key economic features will assist in understanding the scope of knowledge required in a firm.

The global, diversified financial services industry grew by 12.5 percent in 2004, from 3.1 percent in 2001 to reach a value of \$564.8 billion. This growth was driven primarily by recent worldwide economic growth, low interest rates and declining industry losses on loans. Fluctuations in oil prices, interest rates and geopolitical concerns may adversely affect the growth rate. The majority of the companies in the industry have a wide range of interests across the banking, insurance and capital market fields. In terms of value, the global diversified financial services industry in Europe accounts for 48.7 percent, North America 44.1 percent, the Asia-Pacific region 3.2 percent and the rest of the world 4 percent. The preferred means of growth is through mergers and acquisitions. Consolidation in the industry is driven by the need to create larger businesses, widen geographic scope and customer reach together with a move to offer consumers a one-stop shopping experience. Although the industry is mature in most parts of the world, new markets such as China, India, Russia and Eastern Europe are seen as key growth areas as consumerism trends

show no signs of abating in these countries. Citigroup Inc. is the leading player accounting for 19.2 percent of the global industry's value (Datamonitor, 2005).

Most industry members need strong technological capabilities. Web-based distribution is a permanent feature of a bank's distribution channels. In the USA there are 22 million online banking customers and Europe has 28 million online-customers. The internet has lead to an on-line trading boom (Deloitte Research, 2001).

Financial services products are intangible and difficult to patent making product innovation distinct from those in other industries (Akamavi, 2005). Research used by Costanzo and Ashton (2006) indicates that changes in regulation, increasing competition and rapid technological change has increased the need to continually develop new products and this in turn has lead to the proliferation of new and generally similar financial services products. However first to market products do not retain their dominant position for long and because of this product innovation is incremental, rather than highly innovative. As a result managers regard speed to market and fast adaptation to changing market conditions as critical business imperatives resulting in a more process-orientated rather than product-based form of innovation. Furthermore, their research indicates that the key factor in achieving competitive advantage is the capability to beat competitors with new but similar product offerings, rather than offer a unique product. Product life-cycles are exceptionally short and are easily imitated by competitors. In a commoditised market, first- mover advantage is very important and it is very difficult to sustain competitive advantage through innovation. As a result of this resources are not allocated to research and development. However, the authors contend that truly innovative products could still impact positively on non-financial performance indicators such as building company image, customer loyalty and attracting new customers.

Avlontis (2001) contends that future competitiveness in the industry will depend on a balanced portfolio of innovations. Such a portfolio should include a mix of cheaper, moderately innovative products which provide speed to market, and give the company a cost advantage together with radically innovative products which will ensure future competitiveness.

Financial services organisations in South Africa play a major role in the economy. According to The Economist Intelligence Unit Limited (2006), South Africa's financial services sector is well developed and is one of the largest and most liberalised sectors within emerging markets, accounting for 20 percent of GDP and 220,000 jobs in total in 2004. International rating agencies, Standard & Poor's and Moody's Investors Service, have given South Africa a higher investment grading on the strength of its stable financial services sector.

In South Africa, the four big banks alone operate approximately 105,000 branches, channels and point of sale devices. All these are connected and run by means of technology. Although there is a strong drive towards internet banking in South Africa, analysts believe that the major growth area will be in telephone banking due to the recent boom in mobile phone accessibility. There is also a strong move away from cheques and towards electronic banking. (The Economist Intelligence Unit Limited, 2006).

The merger and acquisition picture painted by Henson and Wilson (2002) is vindicated by the fact that over the past five years more than 40 domestic banks in South Africa have disappeared. Aggressive consolidation has resulted in smaller niche entities seeking the security of the bigger banks. (The Economist Intelligence Unit Limited, 2006).

The distinction between commercial banks, insurance companies, investment firms and other types of financial services companies, has become blurred. Commercial banking now provides a wide range of investment services and access to a wide variety of different financial services and products (Henson and Wilson, 2002). In South Africa, no legal distinction exists between commercial and investment banks and as a result, investment banking is usually conducted by a division of one of the major domestic banks. (The Economist Intelligence Unit Limited, 2006).

The South African banking system is dominated by five large banks, which together account for 89 percent of the total banking sector assets. These banks all have links with other financial groups including the major insurance companies. South Africa's insurance industry is divided into three sectors: life assurance, short-term insurers

and reinsurance companies. Foreign owned banks are allowed to operate in South Africa and generally concentrate on larger corporate customers and individual private banking. Citigroup Inc has the largest market share of foreign banks in South Africa at 2.5 percent.

According to the Financial Services Board (FSB) there were 71 long-term, 87 short-term and 8 re-insurance companies in South Africa at the end of June 2005. Apart from having close links with South Africa's main banks, many of the large players are transforming themselves into more broad-based financial services groups. South African insurers are experiencing intense competition from abroad, resulting in downward pressure on premium rates, and giving rise to fears that revenues could be pushed to below the levels required to cover actual risks. Furthermore, the sector is experiencing declining net investment returns and significant increases in operating expenses. The HIV/ AIDS pandemic is also giving rise to a decrease in premium income and an increase in paid benefits. (The Economist Intelligence Unit Limited, 2006).

In closing, given the acknowledged importance and competitive benefits of KM globally, one would expect South African financial services organisations to be embracing KM strategies or at the very least be making an effort to understand this phenomenon. Industry specific problems as outlined should also encourage financial services organisations in South Africa to implement KM solutions. Given that financial services organisations overseas regard the knowledge of their employees and technological investments as major keys to generating competitive advantage, one would expect their South African counterparts to do the same.

However according to Vermeulen (2005), product innovation in South Africa is hampered by a lack of communication between departments, poor resource support for product teams, senior managers operating without a clear strategy and a weak customer orientation. Furthermore, customer input is not used in new product development. This puzzling comment, would suggest that KM strategies and practices are not being applied or being applied inappropriately within South African financial services organisations.

1.3 Purpose of the research

The aim of this research is to examine the current state of KM practices in South African financial services companies as measured against contemporary literature.

1.4 The research question

The question is whether financial services organisations in South Africa apply appropriate KM strategies or practices. Accordingly the research endeavoured to seek answers to the following three questions:

- 1) Are current KM practices/ processes in line with contemporary best practices?
- 2) Do current practices form part of a "strategic" KM initiative, or are they merely embedded in organisational processes, procedures and cultures?
- 3) How do companies see the future of KM?

1.5 Reflection of objectives

In order to resolve the issues postulated in the question statement, a number of objectives were identified, namely to:

- 1) Determine the perception of KM in the organisations.
- 2) Establish the current state of engagement with regards to the implementation of KM.
- 3) Establish whether the organisations consider themselves to be learning organisations.
- 4) Establish the role of the KM leadership in the organisations.
- 5) Establish how KM strategies have been implemented in the organisations.
- 6) Determine whether the organisational culture is conducive to the implementation of KM in the organisations.
- 7) Identify the barriers to the application of KM in the organisations.
- 8) Identify the technologies contributing towards the KM initiative in the organisations.
- 9) Identify the techniques used to support the KM initiative in the organisations.
- 10) Establish the extent to which KM is measured in the organisations.
- 11) Determine the strengths and weaknesses of the organisations with regards to applying knowledge, sharing of knowledge, assessing of knowledge, storing of knowledge and sustaining of knowledge.

1.6 Scope of the study

The study focused on the current state of KM implementation within financial services organisations in South Africa.

The organisations which were the subject of the study included primarily large companies listed under the Financials Sector of the Johannesburg Stock Exchange (JSE), including commercial and investment banks, life assurance and short-term insurance companies as well as a financing organisation and a diversified financial services company.

1.7 Importance of the study

The study aims to add to the existing body of knowledge in relation to the KM practices of financial services organisations in South Africa. In so doing, it could assist financial services organisations in understanding what is required to implement a KM initiative as well as how the implementation of a KM initiative can create a sustainable competitive advantage and consequently, improved profitability. This in turn would benefit the consumer, as well as the country.

1.8 Outline of the research report

Having set the context for the research report in this chapter, chapter 2 discusses the theoretical aspects underlying KM. The literature review in chapter 3 discusses contemporary literature relating to KM practices. As such it is an application of the theory dealing with the "how" of KM. The research methodology follows in chapter 4 and includes details on the research method employed, the sampling population, the sampling method, data collection and data analysis. Chapter 5 outlines the results of the research which is then followed in chapter 6 by a discussion of the results as well as the researcher's conclusions and recommendations.

1.9 Summary

Rather than capital or labour, knowledge is described as the new economic resource the leveraging of which is giving organisations a competitive advantage, improving organisational effectiveness, delivering customer value, improving returns on investment and having a positive impact on employee satisfaction. As a result KM is

being implemented by organisations worldwide including a large percentage of financial services organisations. As KM is applied in the context of a specific industry, a brief analysis of the financial services industry was sketched from both a global as well as a South African point of view. The industry is characterised as being one of increasing customer demands, decreasing customer loyalty, shrinking margins, increased performance pressure, technological developments, commoditisation, the HIV/AIDS pandemic, growth through mergers and acquisitions to create larger businesses and globalisation. KM is the ideal tool to deal with the aforementioned challenges which together with the advantages of KM should lead to financial services organisations embracing KM as a strategy. This is the point of departure for this study which seeks answers to the question as to whether financial organisations in South Africa apply appropriate KM strategies and practices.

The theoretical foundation of the most significant concepts used in KM follows in the next chapter. The areas discussed concentrate mainly on the theory of knowledge creation and the elements of organisational performance, namely: strategy, structure, systems and culture.

Chapter 2: Theoretical foundation of this study

2.1 Introduction

KM is exercised within the framework and context of the organisation. An understanding of some organisational theory will lead to a greater understanding of how KM is relevant in assisting organisations to achieve their goals. For this reason, KM theory is discussed together with organisational theory, establishing the link between the two disciplines.

2.2 Building blocks: Data, information and knowledge

Confusion exists between the terms data, information and knowledge. An understanding of what data and information are, will assist in differentiating knowledge from the other two concepts.

Data are raw facts or observations that are considered to have little or no value until they have been processed and transformed into information. Information is data that has been contextualised in terms of being meaningful, purposeful and being understood (Bocij, 2006). Value is added to data when such data are contextualised, categorised, calculated, corrected and condensed (Davenport and Prusack, 1998).

Knowledge is derived from information. Knowledge is less context dependent than information. Information relates to the what, who, when and where. Knowledge relates to the how (Bellinger, 2004). According to Davenport and Prusack (1998), knowledge is a "mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information... Knowledge is also embedded not only in repositories, but also in organisational routines, processes, practices, and norms". Knowledge is therefore richer and more meaningful than information and can be seen as information which is applied. Knowledge therefore requires understanding gained through experience or study and results from making comparisons, identifying consequences and making connections (The Nelh Specialist Library, 2007).

Information and knowledge are closely associated in the sense that information facilitates the development of new knowledge and knowledge in turn facilitates the creation of new information (Swan, 2000).

Theorists have identified two types of knowledge, namely **explicit knowledge** and **tacit knowledge**. Explicit knowledge is knowledge that can be codified, such as procedural manuals and databases. Skyrme and Amidon (1997) define explicit knowledge as formal, systematic and objective, and it is generally codified in words or numbers. Tacit knowledge resides in the heads of people (Bocij, *et al.*, 2006). Polanyi cited in Kalpic and Bernus (2006: 44), defines tacit knowledge as knowledge, which is implied, but is not actually documented, nevertheless the individual “knows” it from experience, from other people or from a number of sources.

2.3 The management process

The section above discussed discusses the definition of knowledge. Knowledge on its own is of little use to organisations if it is not managed. In as much as the principles of management apply to fields such as Information Systems management, Human Resources management, Financial Management, so too should they apply to the field of Knowledge “management”.

Management decides what should be done, how it should be done, when it should be done and whether the tasks have been carried out.

Figure 2.1: Management tasks (Cronje, 1990)

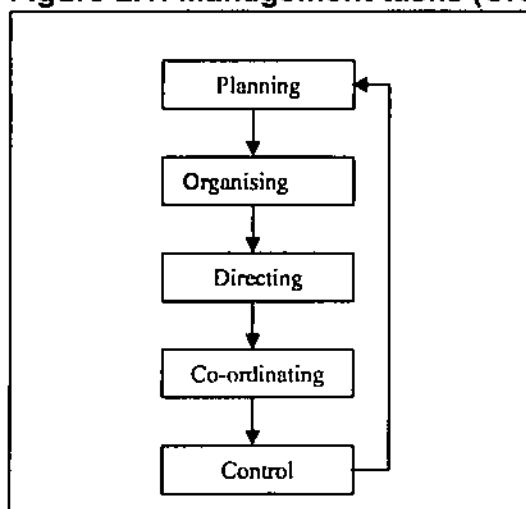


Figure 2.1 shows the fundamental management tasks as a process. **Planning** involves selecting objectives and strategies, policies, programmes and procedures for achieving objectives. **Organising** is the way in which tasks and resources are distributed among individuals. **Directing** involves giving instructions to subordinates to carry out tasks. **Co-ordinating** harmonises or pulls together the activities of individuals and groups within the organisation. **Control** measures the activities of individuals and groups in accordance with laid down plans. Deviations from the plan are identified and corrected.

To be effective, any KM initiative should be managed in terms of the above process.

2.4 Organisational learning

Organisational learning involves acquiring and using new knowledge which can either be created internally or from the outside. Internally generated knowledge is often the responsibility of a research and development department in an organisation but is not necessarily limited to such. Individuals are likely to contribute to organisational learning provided that the culture is such that they do not have to be concerned about appearing foolish or incompetent. External acquisition is often obtained through benchmarking or best practices. Other means include purchasing patents or hiring people with relevant skills. Acquired knowledge needs to be applied by creating easy access to the stored information by means of information systems, special purpose conferences and seminars and workshops. The term *learning organisation* is used to describe organisations that learn rapidly and use their knowledge to become more effective. KM facilitates learning and the learning organisation (Yukl, 2006).

Graham and Englund (2004) identified two levels of learning in an organisation. The first level of learning is adaptive learning, which arises from examining both successful and unsuccessful practices. It is about reacting to changes in the environment. The second level is generative learning which results in new practices not previously considered and has the effect of expanding one's capabilities.

2.5 Knowledge categories

A number of theoretical KM models exist describing how knowledge is categorised and created. KM models can be classified into three categories, namely knowledge category models, intellectual capital models and socially constructed models. These models are not exhaustive but cover a range of views.(McAdam and McCreedy, 1999).

Knowledge category models are based on the dynamic interaction and context between explicit and tacit knowledge, which form the basic building blocks of knowledge creation. For organisations to succeed they must find ways to make explicit and share the wealth of the tacit knowledge that is locked up in the heads of individuals.

Table 2.1 illustrates Nonaka's famous knowledge conversion matrix (Nonaka and Takeuchi, 1995). The transfer of tacit knowledge to explicit knowledge and vice versa results in what Nonaka and Takeuchi (1995) refer to as the knowledge spiral. It is sustained by using dialog to move from socialisation to externalisation; by linking explicit knowledge to move from externalisation to combination; learning by doing to move from combination to internalisation; and field building to move from internalisation back to socialisation. Notice how knowledge moves full circle from socialisation back to socialisation and in the process it moves back and forth between explicit and tacit as well as increasing its level from individual to team to organisation.

Table 2.1: Nonaka's knowledge conversion matrix (Nonaka and Takeuchi, 1995)

From/To	Tacit Knowledge	Explicit Knowledge
Tacit Knowledge	1. Socialisation Sharing experiences to create tacit knowledge. (Everyday comradeship)	2. Externalisation Articulation and systematisation of tacit into explicit knowledge using metaphors to communicate tacit concepts. (Formalising a body of knowledge)
Explicit Knowledge	4. Internalisation Instructions and principles are converted into intuition and routines. (Translating theory into practice)	3. Combination New explicit knowledge is created through the combination of other explicit knowledge. (Combining existing theories)

According to Nonaka and Takeuchi (1995) organisations can promote the knowledge spiral by creating the following conditions:

- 1) Intention: goal aspirations, fostering commitment by engaging employees in fundamental questions.
- 2) Autonomy: letting people act independently as far as possible.
- 3) Redundancy: the existence of information that goes beyond the immediate operational requirements of organisational members.
- 4) Requisite variety: The organisation's variety must exceed that of its environment. This requires equal, fast access to information.

Other knowledge category models included in research by McAdam and McCreedy (1999) include the Hedlund and Nonaka model (Hedlund and Nonaka, 1993) in their article entitled "Models of knowledge management in the West and Japan" and Boisot's model (Boisot, 1987) in his book entitled " Information and Organisations: The manager as anthropologist". These are briefly discussed.

Table 2.2: Hedlund and Nonaka KM model (In McAdam and McCreedy , 1999)

	Individual	Group	Organisation	Inter-organisational domain
Articulated Knowledge	Knowing calculus	Quality circles documented analysis of its performance	Organisation chart	Suppliers' patents and documented practices
Tacit Knowledge	Cross-cultural negotiation skills	Team co-ordination in complex work	Corporate culture	Customers' attitudes to products and expectations.

This model is an adaptation of Nonaka's knowledge conversion matrix model and assumes four different carriers of knowledge in organisations and relates these to the types of knowledge. Lastly Boisot's knowledge category model (table 2.3) relates the types of knowledge, to knowledge that is readily shared and not readily shared.

Table 2.3: Boisot's knowledge category model

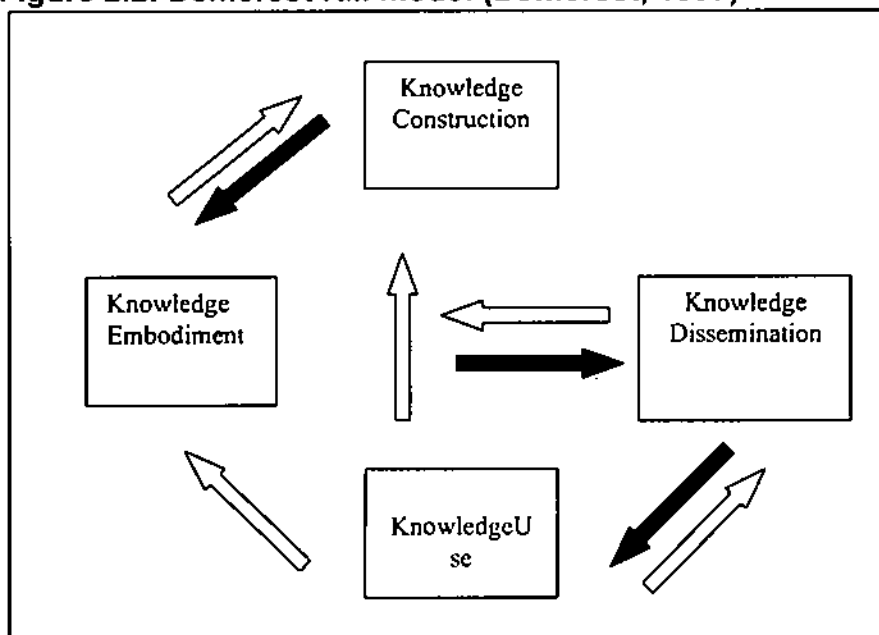
(In McAdam and McCreedy, 1999)

Codified (Explicit)	Proprietary knowledge	Public knowledge
Un-codified (Tacit)	Personal knowledge	Common sense
	Un-diffused (Not readily shared)	Diffused (Readily shared)

The above models have been criticised by McAdam and McCreedy (1999) as being useful but too mechanistic with too little emphasis being given to the socio-political aspects of KM.

Socially constructed models view knowledge as being intrinsically linked to the social and learning processes within the organisation. These models have much in common with those models representing learning organisations (McAdam and McCreedy, 1999). One such model is the Demerest model (Demerest, 1997).

Figure 2.2: Demerest KM model (Demerest, 1997)



Intellectual capital models view KM as being essentially intellectual capital which can be treated as assets similar to other assets. However this view, as with the knowledge category models, ignores the political and social aspects of KM and assumes KM can be decomposed into tightly controlled objective elements. This

approach however, results in attempts to fit objective measures to subjective elements. (McAdam and McCreedy, 1999).

The above model emphasises the construction of knowledge and includes both scientific and social inputs. This constructed knowledge is embodied within the organisation by means of explicit programmes as well as a process of social interchange. This knowledge is then disseminated throughout the organisation and is seen as having economic use with regards to organisational outputs.

McAdam and McCreedy (1999) regard socially constructed models as giving a more balanced approach between the scientific and social approaches to KM.

Tacit knowledge can be broken down further into **meta-knowledge**. Mining tacit knowledge is the mantra of modern KM. Two types of tacit knowledge exist, namely conscious tacit knowledge and unconscious tacit knowledge. Unconscious knowledge needs to be made conscious before it can be used. Tacit knowledge must become explicit before it can be used. Conscious tacit knowledge is found in two states, namely conscious competence (knowing that you know) and conscious incompetence (knowing that you do not know). Unconscious tacit knowledge is also found in two states namely, unconscious competence (not knowing that you know) and unconscious incompetence (not knowing that you do not know - ignorance). The transitions between explicit and tacit knowledge and between unconscious and conscious tacit knowledge are enabled with meta-knowledge as illustrated in table 2.4. Meta-learning occurs when we use our learned knowledge of learning to help learn, making learning richer and more personalised (Hannabuss, 2000).

Table 2.4: Meta-knowledge (Hannabuss, 2000)

Knowledge type	Patency	Meta-knowledge
Explicit	Conscious	Transition
Tacit	Conscious	Transition
Tacit	Unconscious	

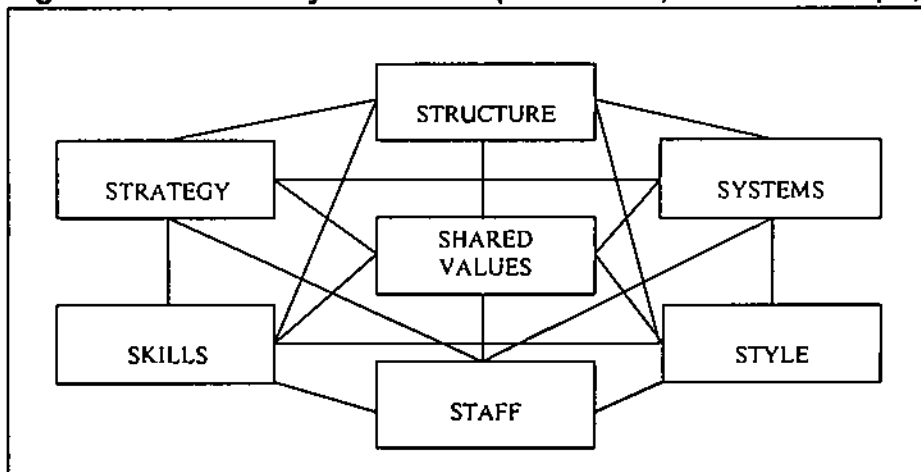
2.6 Organisational performance

An understanding of what knowledge is and how it is created is quite irrelevant if it is not linked to or is unable to improve organisational performance.

Organising is the achievement of certain pre-determined goals such as profitability, competitive advantage, knowledge creation, turnover optimisation etc. An organisation is a collection of people who have come together to achieve these goals. An organisation's goals and subsequent performance can be measured by its effectiveness (doing the right things), efficiency (doing things right), economy (financial aspects), elegance (doing things the right way) and ethicality (social responsibilities) (CIMA, 2006).

The McKinsey 7S model (Waterman, Peters & Philips, 1980) provides a useful model for describing the elements that are required for a company to perform, either well or badly.

Figure 2.3: McKinsey 7-S model (Waterman, Peters & Philips, 1980)



An optimal mix of the above elements will ensure an optimal management process. These elements can be described briefly as follows:

- 1) Strategy: a company's strategy consists of the competitive moves and business approaches that managers employ to attract and please customers, compete successfully, grow the business, conduct operations and achieve targeted objectives (Thompson, et al., 2005: 3). As opposed to "mission" which

answers where we are now, and "vision" which answers where we want to go, strategy deals with how we are going to get there.

- 2) Structure: this is how work is divided into separate tasks and how these tasks are co-ordinated, both horizontally and vertically (Beijerse, 2000).
- 3) Systems: the systems are defined as rules, guidelines and instruments which facilitate the daily functioning of people. They include management control systems, performance measurement and reward systems, planning, budgeting, resource allocation systems and management information systems (Beijerse, 2000), (Kaplan, 2005).
- 4) Staff: the people in the organisation, their background and competencies; the human resources management function including recruiting, selection, training, socialising, career management, and promotions (Kaplan, 2005).
- 5) Skills: refers to those things that the organisation does well (distinctive competencies) (Kaplan, 2005).
- 6) Style (Culture): refers to the way things are done in an organisation (Kaplan, 2005).
- 7) Shared values: these are the guiding beliefs of people in organisations embodied in the mission, vision and values statements (Kaplan, 2005).

Structure, strategy and systems are "hard" elements which are fact or rule driven and are easily quantifiable. Shared values, staff, styles and skills are "soft" elements. An effective organisation will require all elements to be pulling in the same direction (Waterman, Peters & Philips, 1980).

To be effective, KM needs to address all the above elements and, in particular strategy, structure, culture and systems. The organisation's goals are thus achieved by making the "factor" knowledge productive (Beijerse, 2000).

Extensive research, as referred to in the previous chapter, highlighted the fact that organisations believe that the major benefit of KM is competitive advantage and its consequent improved profitability.

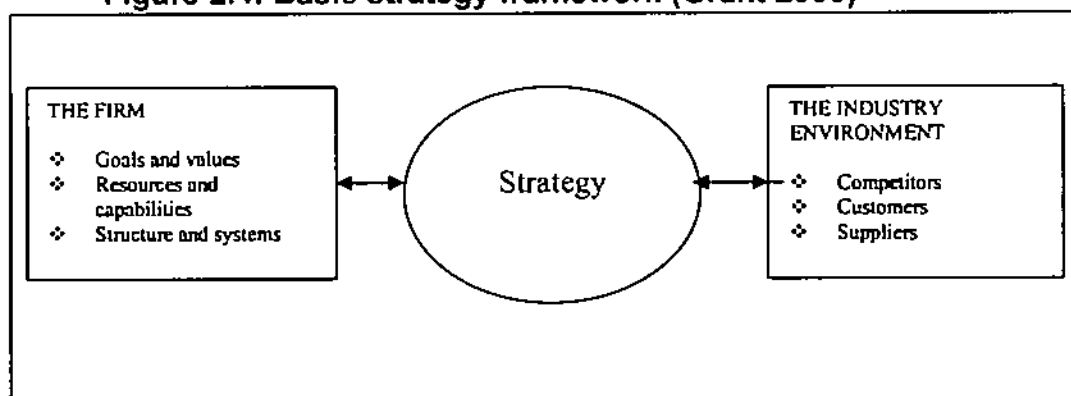
An understanding as to how KM could give organisations a competitive advantage requires a theoretical understanding of basic company strategy and its application.

2.7 Strategy models

A strategy is defined as a course of action, including the specification of resources required to achieve a specific objective (CIMA, 1996). Strategy is not about: "Where are we now"? or "Where do we want to go"? It is about "how will we get there"? (Thompson, *et al.*, 2005: 3)

Grant (2005) views strategy as forming a link between the firm and its external environment. This can be illustrated as follows:

Figure 2.4: Basic strategy framework (Grant 2005)



It should be observed that all the elements relating to organisational effectiveness are included in this model.

The organisation's goals and values, resources and capabilities, structures and systems represent the firm's internal environment. The external environment or industry environment as represented by a firm's competitors, customers and suppliers must be consistent with the internal environment for a strategy to be successful. This is known as a strategic fit. A "SWOT" framework can be applied to

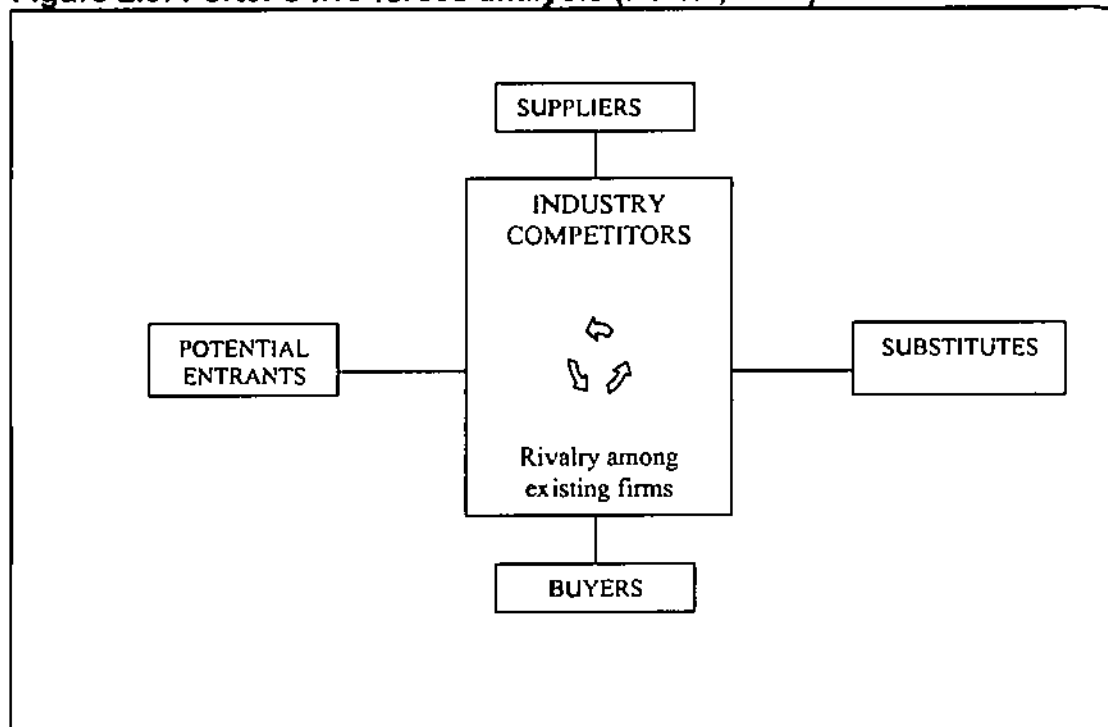
the above model by relating an organisation's strengths and weaknesses to its internal environment and its opportunities and threats to its external environment.

The goal of strategy is to make money for the firm, and it does so by requiring that a firm earns a return on capital that exceeds the cost of its capital. This is illustrated as follows:

A firm can earn a superior return in two ways, either by locating in an attractive industry (corporate strategy) or by establishing a competitive advantage (business strategy) over its rivals. According to Grant (2005) a firm's industry environment is a relatively minor determinant of a firm's profitability with competitive advantage being the more important of the two.

2.7.1 The industry environment – Porter's five forces model

Figure 2.5: Porter's five forces analysis (Porter, 1979)



According to Porter (1979), the nature and degree of competition depend on five forces: the threat of new entrants, the bargaining power of suppliers, the threat of substitute products or services and the rivalry among existing firms.

Porter's five forces model focuses on the external side of strategy and assist in helping organisations to analyse the forces in an industry that give rise to opportunities and threats. The framework is also useful for predicting industry profitability and for identifying how a firm can improve industry profitability by influencing industry structure (Grant, 2005).

From an internal environment point of view, organisations can use their internal strengths to exploit environmental opportunities and can neutralise environmental threats by avoiding internal weaknesses in order to gain competitive advantage.

Knowledge of the underlying sources of competitive pressure provides the groundwork for a strategic agenda of action (Halawi, *et al*, 2006).

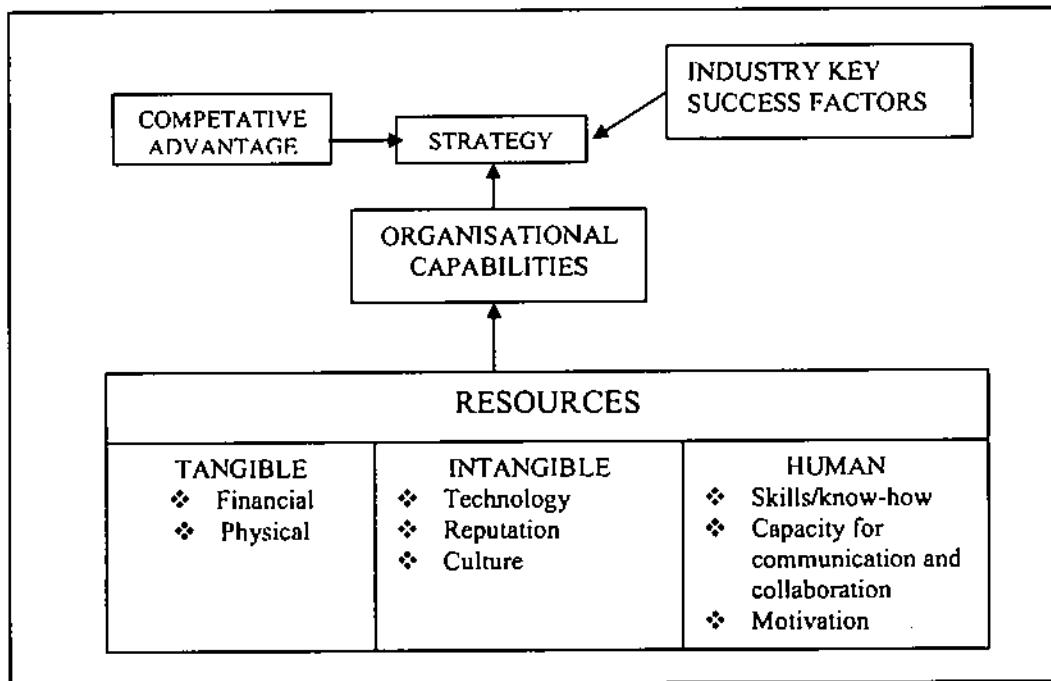
2.7.2 The firm (internal) environment - Resource- based view of the firm.

The internal environment consisting of goals and values, resources and capabilities and structures and systems is geared to meeting the opportunities and threats posed by the external environment.

As opposed to seeking competitive advantage through the shelter of industry structure, firms can also achieve superiority over their rivals through the development and deployment of resources and capabilities. These resources and capabilities are considered to be a much greater source of profitability than that derived from the industry environment and are thus considered to be more important. Industry attractiveness is ultimately derived from the ownership of resources such as patents, brands and learning. The resources based view is all about developing a strategy that rival firms will find difficult to replicate (Grant, 2005).

The relationship between resources, organisational capabilities and competitive advantage is illustrated in figure 2.6 (Grant, 2005).

Figure 2.6: Source of competitive advantage (Grant, 2005)



Resources are the productive assets owned by a firm and organisational capabilities relate to the firm's capacity in using resources to undertake a particular productive activity (Grant, 2005).

These capabilities are organisational routines which arise from the combination and co-ordination of different resources. Capabilities are knowledge bases whose main source is organisational learning. The main differences between resources and capabilities are that resources are independent, simple and static, as opposed to capabilities that are collective complex and dynamic. Rent generation arises mainly from capabilities (Martin-de-Castro, Navas Lopez, Lopez-Saez & Alama-Salazar, 2005)

According to research conducted by Martin-de-Castro, *et al.*, (2005), for resources and capabilities to generate competitive advantage they must fulfil the following basic criteria:

- 1) In-imitatability, which is the difficulty that competitors experience copying resources and capabilities.
- 2) Value, is the utility of the resource for successful competition in a particular industry

- 3) Appropriability is the ability of the company to take control of the rents generated by the resources and capabilities which it owns.
- 4) Durability, relates to the life expectancy of the resources and capabilities that are a source of competitive advantage.
- 5) In-substitutability represents the situation in which alternatives to replace a resource or capability with a similar resource or capability, do not exist.
- 6) Non-transferability is the difficulty in freely buying or selling the assets in the market.

Resources consist of tangible resources and intangible resources. Tangible resources include financial resources and physical resources such as a firm's plant, cash reserves, borrowing capacity, raw material reserves and size, location and technical sophistication of plant and equipment (Grant, 2005). The focus of this study is on the intangible resources and human resources to create a sustainable competitive advantage.

2.8 Structure

It is considered by some experts that structure could influence KM processes within an organisation. A basic understanding of structure will assist in understanding the application of KM to structure dealt with in the next chapter.

Once a strategy is chosen, the existing structure must be modified to fit that strategy

An **organisation is defined** as a social arrangement for the controlled performance of collective goals. Central to the concept of organisation is the notion that activities of different people need to be co-ordinated. In order to achieve co-ordination, communication of information is necessary. Communication may be vertical (up and down the scalar chain), horizontal (between people of the same rank) and diagonal (inter-departmental communication) (CIMA, 1996).

Mintzberg (1979) discerns five mechanisms for co-ordination:

- 1) *Mutual adjustment* co-ordinates work using informal communication;
- 2) *Direct supervision* by having one person responsible for the work of others;
- 3) *Standardisation of work processes* is basically instructions given to perform a task;
- 4) *Standardisation of output* implies a set of fixed results irrespective of how they were attained;
- 5) *Standardisation of skills and knowledge* specifies the kind of training needed to perform the work.

The fundamental source of efficiency in production is the **division of labour** into separate tasks (division of labour). However, specialisation is costly. The more specialists, the greater is the cost of co-ordination. The more unstable the external environment, the greater will be the number of decisions that need to be made and therefore the higher will be the co-ordination costs. The basic need for co-ordination and specialisation is addressed by creating a hierarchy which is the formal arrangement of authority in a firm (Grant, 2005).

According to Mintzberg (1979), a generic organisation is composed of five parts:

- 1) Strategic apex: full time top managers
- 2) Operating core: people who do the basic work
- 3) Middle line: middle management linking the apex to the core
- 4) Techno – structure: analysts who design and plan work, and train staff. Do not do the work themselves.
- 5) Support staff: composed of specialised units providing indirect support to the operating core.

Mintzberg (1979) further described five configurations characterised by the way in which one of the five parts of the organisation plays a key role and in which one of the five co-ordinating mechanisms is central as summarised in table 2.5.

Table 2.5: Mintzberg's organisation configurations (Mintzberg, 1999)

Configuration	Co-ordinating mechanism	Key organisational role	Decision making
Simple structure	Direct supervision	Strategic apex	Vertical and horizontal centralisation
Machine bureaucracy	Standardisation of work processes	Techno-structure	Limited horizontal decentralisation
Professional organisation	Standardisation of skills	Operating core	Vertical and horizontal decentralisation
Division organisation	Standardisation of output	Middle line	Limited vertical decentralisation
Ad-hocracy	Mutual adjustment	Support	Selective decentralisation

The authority structure defines that part, which each member is expected to perform, and the relationship between members so that their concerted efforts should be effective in achieving the goals of the organisation. The formal arrangement is known as the **scalar chain** where formal authority is top down and communication is up and down. Managers at various levels are all linked in a chain of command where the length of such a chain is a function of organisation size, type and complexity of products, diversity of products, geographical spread etc. Shorter chains of command speed up decision making and help develop managers faster. **Span of control** refers to the number of sub-ordinates working for a manager. A narrow span offers a manager tighter control and supervision, more time to plan and think, reduction in delegation and better communication with subordinates. A wider span of control offers greater decision making authority for sub-ordinates, fewer supervisory costs and less control. However greater motivation is achieved through employee job satisfaction (CIMA,1996).

Span of control has implications for the shape of an organisation. Tall organisations have a relatively large number of management levels and a smaller span of control, with flatter organisations having a smaller number of hierarchical levels and a wider span of control. Flatter organisations empower the workforce to make their own decisions. However, a flatter organisation structure offers few avenues for promotion, is dependent on senior managers being interested in operational issues, is impractical in large organisations such as banks and could also result in wide discrepancies in decision making. Taller organisational structures on the other hand, result in increased overhead costs, create extra communication problems, slow down decision-making, result in duplication of effort, make planning more difficult and block initiative and motivation (CIMA, 1996).

Hierarchy as a device for exercising control is known as an administrative hierarchy or bureaucracy and is characterised by high levels of specialisation, strong emphasis on rules and procedures and separation of jobs and people. This "mechanistic" model offers substantial efficiency advantages in an environment where change is slow and predictable. However where organisational flexibility is required in an environment which is constantly changing, less formalised structures or "organic forms" are better suited. Such structures are based on less narrowly defined jobs, reliance on mutual adjustment for co-ordination and flexible and multidirectional patterns of interaction (Grant, 2005).

2.9 Culture

Culture is the most important enabler for the successful implementation of KM programs and for this reason a theoretical understanding of the topic is important.

The behaviour and motivation of organisational members can be influenced by top management by changing the culture of an organisation (Yukl, 2006).

Schein (1992) defines the culture of a group or organisation as shared assumptions and beliefs about the world and their place in it, the nature of time and space, human nature and human relationships.

At a micro level culture can be influenced or shaped primarily through role modelling, reward allocations, recruitment and dismissal policies and reaction to crises. Other mechanisms such as the design of systems and procedures, design of organisational structure, design of facilities as well as stories, legends and myths can also be influential in shaping culture (Schein, 1992).

Many models of culture exist, each with their own emphasis. Some models place emphasis on firm's approaches to strategy, others on organisation, structure and systems whilst others describe actual cultures or ideal cultures (CIMA, 1996). It is rare for organisations to have a single uniform culture (Debowski, 2006).

A comprehensive value perspective model of culture is provided by Denison and Mishra (1995) as discussed in Kayworth (2004). They identified four underlying sub-types of organisational culture (adaptability, mission, involvement, and consistency) and examined their relationships to organisational effectiveness. Adaptable cultures have a high capacity to change internally in response to external conditions. Mission cultures exist in environments that are relatively stable. Involvement cultures foster a high sense of psychological ownership and voluntary commitment to a firm's goals. The premise behind involvement cultures is that the satisfaction of employees' needs is a necessary pre-condition for optimum performance. Consistency cultures exist in a stable and structured environment where management is pre-occupied with efficiency. While consistent culture may achieve high levels of internal integration (through coordination and control) they may be among those most resistant to change and adaptation.

Denison and Mishra (1995) argued that the focus of organisations to varying degrees either internally or externally and in terms of structure preferences have trade-offs between stability and control versus flexibility and change. The relationship between the two is best illustrated as follows:

Table 2.6: Organisational sub-types (Denison and Mishra 1995)

Environmental Responses Required		Internal orientation	External orientation
	Stability and direction	Consistency	Mission
	Change and flexibility	Involvement	Adaptability

Another way of looking at culture is from a behavioural perspective which focuses on culture as defined by actual work practices. The behavioural dimensions isolated by Kayworth and Leidner (2004) were:

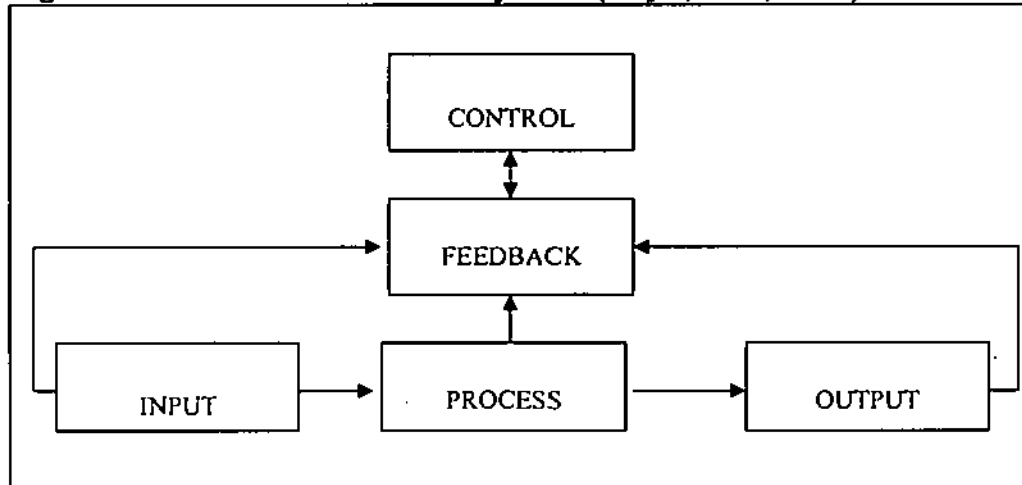
- 1) Process vs Results orientated: This dimension refers to a focus on improving the means by which organisational goals are achieved as opposed to focusing on the attainment of goals.
- 2) Employee vs job orientated: Employee orientation suggests a concern for people, whereas job orientation refers to a concern for performing tasks effectively.
- 3) Parochial vs Professional: A parochial orientation suggests that individuals are loyal to the organisation whereas a professional orientation suggests that people are loyal to their professions.
- 4) Open vs Closed System: In open cultures, the organisation considers itself open to outsiders with little time needed for employees to feel at home. Closed cultures are secretive and wary of outsiders as well as insiders.
- 5) Loose vs Tight Control: The control dimensions reflect the degree of internal structuring with loose organisations having few written or unwritten codes of behaviour and tight organisations having strict unwritten and written policies.
- 6) Normative vs Pragmatic: Pragmatic companies are market driven and customer orientated. Normative companies are product orientated.

At a macro level, culture is influenced by national identity. The Hofstede model which was developed in 1980 by Professor Geert Hofstede attempts to explain national differences by identifying the key cultural dimensions of power distance, individualism, masculinity and uncertainty avoidance (Hill, 2005). This could have important implications for multi-national companies practicing KM but is beyond the scope of this paper.

2.10 Systems/ Technologies

A system is defined as a collection of inter-related components that work together towards a collective goal. The function of a system is to receive inputs and transform these into outputs. Systems usually include a feedback and control mechanism.

Figure 2.7: Generic model of a system (Bojic, et al, 2006)



According to the system view, a business process can be operationally defined as an abstract entity that represents the transformation of inputs into outputs with the aim of adding value to the customers of the business process. The inputs and outputs of the business process can consist of goods, services or data (Kock, 2005). Practically speaking, systems are rules, guidelines and instruments which facilitate the daily functioning of people (Beijerse, 2000).

Information systems are generally divided into two broad categories namely systems that support an organisation's business activities and systems that support managerial decision making. Systems that support business activities include transaction processing systems, process control systems and office automation systems. Management information systems consist of decision support systems, information reporting systems and executive information systems (Bojic, et al,2006).

A range of technologies support KM in four broad areas of activity. These are summarised in table 2.7.

Table 2.7: Four broad areas of KM systems (Debowski, 2006)

	Purpose	Technical components	Typical activities
Business process management	Enable access to business knowledge. Links system to corporate policy on knowledge access and priorities.	Organisation processes Organisational records Contributor knowledge	Decision making Corporate communication Discussion boards
Content management	Ensures that valued knowledge sources are indexed, retrievable, logically arranged and securely protected.	Metadata Indexes Quality control	Knowledge repository Document management Libraries
Web content management	Provides accessible and secure platform on which the KMS can operate. Protection and help for knowledge users while accessing knowledge sources.	Server management File sharing Portal development Security	Portals Browser Human-computer interface Systems integration
Knowledge applications management	Help users with knowledge creation and workflow management	Desktop packages Specialised tools	Workflow management Document management

2.11 Summary

Data, information and knowledge form the building blocks of KM. Two types of knowledge have been identified, namely explicit knowledge and tacit knowledge. Explicit knowledge is codified knowledge and tacit knowledge is found in the heads of people.

To be useful to organisations, knowledge must be managed in much the same way as other activities in the organisation are managed. This entails planning, organising, directing, co-ordinating and control in relation to all KM activities.

KM facilitates learning and the learning organisation through the acquisition and application of new knowledge. Two levels of learning were identified, namely adaptive and generative learning.

KM models can be classified into knowledge category models, intellectual capital models and socially constructed models.

Organisational performance was discussed with reference to the McKinsey 7-S model. To be effective KM needs to address the elements of strategy, structure, culture and systems by making the factor knowledge productive.

One of the major benefits of KM is that it gives organisations competitive advantage. This was explained using a basic strategy framework leading to the resources based view of the firm.

Finally the chapter ended off with a brief theoretical overview of each of the remaining organisational performance elements of structure, culture and systems.

Chapter 3 is an application of KM to the theory outlined and is based on relevant KM literature.

Chapter 3: Literature review

3.1 Introduction

The previous chapter laid the theoretical foundation upon which KM rests. The literature review is an application of the theory in the context of KM. The literature review focuses on KM processes (practice) which serve as the basis for this research by allowing for comparisons to be made between the practices of KM globally and those of South African financial services organisations.

3.2 Knowledge management

A plethora of KM definitions can be found in literature. According to Nonaka & Takeuchi, cited in McAdam and McCreedy (1999:93), "... the wide range of definitions reflect the fact that people working in the field of KM come from a wide range of disciplines..." Definitions assist in clarifying the scope and depth of a subject. However definitions in the field of management can be very subjective and simplistic. These issues become magnified in a field that is relatively new such as KM.

Nonaka & Takeuchi (1995) define KM as the capability of an organisation to create new knowledge, disseminate it throughout the organisation, and embody it in products, services and systems. A distinction is drawn here between knowledge generation and knowledge application. This definition according to the literature forms the basis of KM processes in most organisations.

A broader definition is that of Beijerse (2000:165) who states that KM is "The management of information within an organisation by steering the strategy, structure, culture and systems and the capacities and attitudes of people with regard to their knowledge". This implies the achievement of organisational goals by embedding KM within the overall business performance management model such as the McKinsey 7s model described in chapter 2.

It is clear from the definitions that the aim of KM is not to manage all knowledge, but only that knowledge which is important to helping the organisation achieve its goals.

The definitions imply that a KM program involves linking people with people as well as people with information. A careful study of the above and other definitions will reveal that the definitions are not predicated on information technology alone. Technology is seen as a useful enabler, rather than a central tenet of KM. Rather, people and learning issues are central to KM. The majority of existing literature covers these two related issues (McAdam and McCreedy, 1999).

3.3 Knowledge based view of the firm

For a firm to prosper, it must establish a competitive advantage. Resources and capabilities are seen as a major source of competitive advantage.

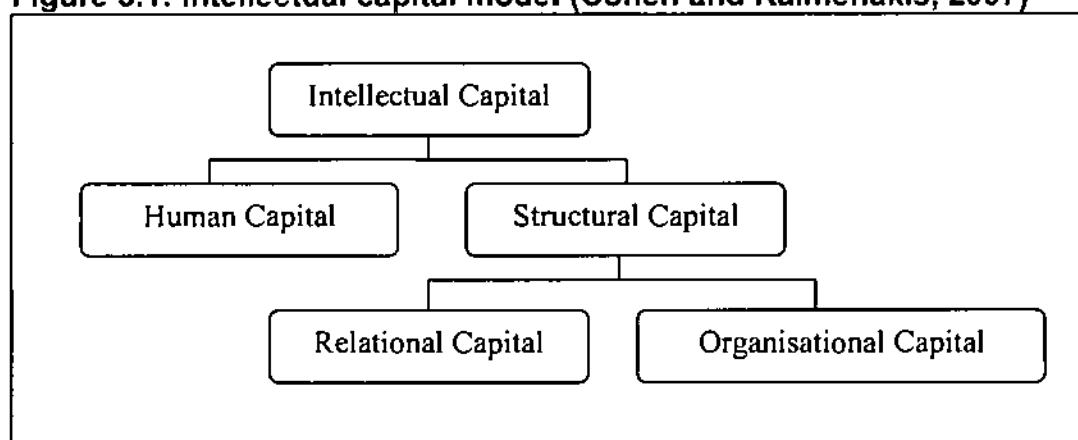
The resource-based view of the firm argues that sustainable competitive advantage is gained through the use of the organisation's internal resources and capabilities. An extension of this theory is a knowledge based view of the firm, which states that the sources of sustainable competitive advantage are not all the firm's internal resources, but just the intangible or knowledge-related assets of the organisation and its capability to integrate knowledge (Merono-Sedan, Lopez-Nicolas & Sabater-Sanchez, 2007).

Denning (2006) cautions however that although knowledge is an important source of sustainable competitive advantage, it is not the only one, a view espoused by Peter Drucker (1993). Other sources include focus, values, imagination and a capacity to innovate. Furthermore, Denning argues that high value knowledge is very "leaky" and tends to fly out of the door at the speed of light, thereby undermining the sustainability of competitive advantage. On the other hand, low value knowledge is often "sticky", and cannot be easily imitated by competitors.

Cohen and Kaimenakis (2007), define intangible resources, otherwise known as Intellectual Capital (IC), as the combination of knowledge-bearing intangible resources that the firm has at its disposal and whose effective management can provide the firm with a sustainable competitive advantage. This definition implies that IC contains knowledge, that it is the combination of IC resources that create value

and not quantity that firms do not control all these resources and that positive results will not occur without effective management.

Figure 3.1: Intellectual capital model (Cohen and Kaimenakis, 2007)



IC is analysed into human capital and structural capital.

Among the organisation's resources, human capital is the most important and critical for competitive advantage because it is the most difficult to imitate (Jackson, Hitt, & De Nisi, 2003). Human capital can be further analysed into three dimensions, namely capability and potential, motivation and commitment and innovation and learning (Cohen and Kaimenakis, 2007).

Structural capital is the infrastructure firms use to commercialise their IC and includes relational capital and organisational capital. Organisational capital contains databases, organisation charts, strategies, manuals etc. and as such is described as what is left in the organisation when people go home. The transformation of human capital to organisational capital should be the main objective of management. This transfer of tacit knowledge to explicit knowledge should occur because a firm has no property rights on the knowledge and skills of employees. The sub-domains of organisational capital include knowledge management, corporate culture and organisational process efficiency (Cohen and Kaimenakis, 2007). Relational capital consists of extraneous intangible assets comprising knowledge embedded in customers, suppliers, the government, or related industry associations and includes customer contracts, relationships, loyalty, market share, brands, distribution networks

and marketing channels. Because of its nature, relational capital cannot be developed or codified easily. Value is attained through interaction with human capital and organisational capital (Cohen and Kaimenakis, 2007).

Knowledge is regarded as the most important productive resource as the value of people and machines lies in the fact that they embody knowledge (Grant, 2005). Based on the above theory it should be apparent that knowledge, and more importantly the management of this knowledge, can play an important role in the development of superior organisational capabilities which result in a sustained competitive advantage.

Penrose, as cited in Zack (1999) stated that companies having superior knowledge are able to co-ordinate and design their traditional resources and capabilities in new and distinctive ways, providing more value for customers than can their competitors

3.4 Learning organisation

Bose (2004) identified two broad objectives of KM in organisations: creating knowledge or promoting innovation and applying knowledge with the aim of increasing collaboration leading to an increase in organisational learning.

Further the ability to apply information and the ability to innovate in management, rely on the learning ability of the organisation. To enhance organisational learning ability is to practice KM. The major work of KM is to establish a good learning environment in which the employees are able to conduct all sorts of learning activities and exchange or share knowledge with colleagues, clients and other industries (Hong and Kuo, 1999:214).

3.5 Knowledge management processes and enablers.

Davenport and Prusack (1998) identify four knowledge processes: knowledge generation (creation and knowledge acquisition), knowledge codification (storing), knowledge transfer (sharing), and knowledge application (replication, integration, measurement and identification). This implies that two categories of knowledge processes can be identified, namely knowledge generation and knowledge

application. This is very similar to the Nonaka & Takeuchi (1995) definition of KM as discussed in the previous paragraph.

Beijerse (2000) suggests that an organisation will first determine what knowledge is necessary for the organisation to achieve its goals. This once again emphasises the fact that the aim of KM is not to manage all knowledge, but only knowledge that is important. Having determined what knowledge is necessary, it makes sense then to determine what knowledge an organisation has available and based on this, a knowledge gap is determined. These three processes are strategically driven activities. The knowledge gap is closed by either creating knowledge or, if this is not possible, then by acquiring knowledge. Knowledge that has been acquired or created is then stored. This available knowledge is then shared in order to ensure that the correct knowledge gets to the right person or part of the organisation at the right time. Knowledge that has been shared must then be used through knowledge integration or knowledge replication.

However for an organisation to successfully implement the aforementioned processes, requires **four enablers** (performance elements), namely culture, infrastructure, technology, and measurement. These enabling elements, when applied to the relevant processes, will collectively contribute to the development of organisational learning and the ultimate increase in value to the organisation. Failure to pay attention to all four enablers collectively will result in the failure of a KM initiative. Each enabler is essential and is insufficient without the others (Bose, 2004).

Of all the components of KM, the most important is **culture**. Kayworth and Leidner (2004) view culture as a resource that facilitates KM processes. Knowledge use, creation and sharing are done by people. One of the criticisms against KM is that knowledge sharing is unnatural (Wilson, 2003).

The people aspect of KM tends to be a challenge because organisational cultures get in the way. Culture plays an important role in the success of a KM initiative. Research has shown that irrespective of the strength of commitment towards KM, culture is always stronger. For this reason companies that successfully implement KM do not try to change their culture to fit their KM. They build their KM approach to fit their

culture. Consequently there is no "one shoe fits all" approach to encourage people to share, but many different ways depending on the values and style of the organisation (McDermott and O'Dell, 2001).

Organisational culture is strongly influenced by national culture on the basis of the cultural dimensions identified by Hofstede (1983). Finestone and Snyman (2005) consider South Africa to be one of the most culture-rich countries in the world with South Africans aiming to create a unified culture, rather than a culture of co-existence as is evident from most other culturally diverse countries, implying the merging of Western and African cultures. According to research findings by Prime (1999) as cited in Finestone and Snyman (2005:133), "... the style of management in South African companies is dominantly Eurocentric: autocratic (man in charge), hierarchical and authoritarian (disciplinary procedures), and individualistic (competition orientated)". However, the focus on competition has led the researchers to identify a crucial advantage of multiculturalism, namely that of diversity in ideas, influence and culture leading to new and innovative thinking (Finestone and Snyman, 2005).

Infrastructure includes leadership, strategy, structure and systems.

Leadership according to Yukl (2006:8) "... is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives".

KM as with any other management functions will not happen by itself and requires strong leadership. According to Chauke and Snyman (2003) as cited in Squier and Snyman (2004), KM requires a manager with specific knowledge and skills to champion the concept of KM. Such skills would include a clear understanding of KM concepts, familiarity with knowledge orientated organisations and technologies and a strong grounding in the primary processes of the business (Jones, Herschel and Moesel, 2003).

Davenport and Prusack (1998), recommend the appointment of a Chief Knowledge Officer (CKO) in order to advocate knowledge discovery and use, design and

implement an organisation's knowledge infrastructure, manage relationships with external providers of information and knowledge, design and implement an organisation's knowledge codification process and to measure and manage the value of knowledge, manage other professional knowledge managers and to lead the development of knowledge strategy.

Strategy is about determining how to achieve the organisation's objectives. The goal of KM at the strategic level is to align the organisation's knowledge strategy with the overall business strategy. This calls for a continual assessment of existing intellectual capital and a comparison with future needs. Assessing the success of the strategy requires the development of metrics in order to determine the growth of the organisation's knowledge base and its potential investment benefit (Bukowitz and Williams, 2000).

Structure in an organisation must fit or reflect the strategy (Thompson, *et al*, 2005). Strategy is the art of out-competing rivals on the basis of superior resource strengths and capabilities and in particular capabilities based on intellectual capital. In order to effectively manage organisations' capabilities, organisations of the future will require fewer barriers between vertical ranks, functions and disciplines, geographical locations, suppliers and customers. Furthermore, future organisations will require a capacity for change and rapid learning as well as collaborative efforts between people from different geographical locations and functional areas. To this end, organisational structures should reflect these requirements (Thompson, *et al*, 2005).

Traditional structures are top-down and can be classified as functional, divisional and matrix structures. Functional structures group individuals by skill and specialised knowledge. These structures are efficient but have a low potential for both scope and flexibility of knowledge absorption because the organisation is carved up into narrow, specialised knowledge domains. Divisional structures group individuals by products, services or clients. Because these structures focus on specific and defined targets, they tend to have a low potential for knowledge absorption flexibility. Matrix structures are a combination of the aforementioned structures. They are less efficient due to multiple lines of authority, but because of increased lines of communication, have a

higher potential for both scope and flexibility of knowledge absorption (Van den Bosch, 1999).

Other disadvantages of top-down structures are that the collection and distribution of information is cumbersome and slow and information has the potential of being misused by people at the top. Top-down knowledge loss also occurs in situations where tacit knowledge is converted to explicit knowledge without preserving the tacit understanding behind the explicit rule or instruction. Such understanding can only be preserved through continuous informal social interactions (Fiol, 2003).

The distinction between tacit and explicit knowledge has implications for the distribution of decision-making authority within a company. Explicit knowledge, which can be easily transferred and assembled in one area, lends itself more readily to centralised decision making. Tacit knowledge, which cannot be readily transferred, necessitates decision making to be located among the people where knowledge resides, thus necessitating decentralised decision-making authority. By recognising specific features of various knowledge processes it is possible to recognise the type of organisational structure and systems needed to support knowledge processes (Grant, 2005).

Systems refer to the activities or initiatives that are put in place to enable and facilitate the creation, sharing and use of knowledge for the benefit of the organisation (Beijerse, 2000). The KM enabling tools fall under this category.

Technology is an important enabler of KM initiatives as it firstly provides a means for people to organise, store and access explicit knowledge and information and secondly, connects people with people so they can share tacit knowledge (NeLH Specialist Library, 2005).

An organisation's KM system is the collection of information technologies used to collect, organise, transfer and distribute knowledge among employees (Offsey, 1997:115).

According to Debowski (2006), a range of technologies support KM in four broad areas of activity, namely business process management, content management, web content management and knowledge applications management.

Having briefly discussed KM processes and enablers, the focus now shifts to a discussion of each of the KM processes. Appendix 4 summarises the relationship between KM processes, KM enabling elements and the KM enabling tools.

3.6 Knowledge identification

An important first, strategically driven step in the KM process is knowledge identification. This process attempts to establish what knowledge is required by identifying the knowledge that will assist in achieving the strategic goals and comparing that with knowledge already available in the organisation.

Zack (1999) introduced a knowledge taxonomy orientated towards strategy, reflecting the competitive uniqueness of each organisation. He advocates that knowledge can also be classified according to whether it is core, advanced or innovative. Core knowledge is the minimum knowledge required to "play the game". This level of knowledge does not assure the long term competitiveness of the firm but is a basic entry barrier. Advanced knowledge makes a firm competitive. Knowledge levels will be the same as that of competitors in terms of scope or quality, but specific knowledge content will vary, enabling knowledge differentiation. Innovative knowledge enables a firm to differentiate itself from its competitors. It is apparent that every firm's strategic knowledge can be categorised by its ability to support a competitive position.

Zack (1999) proposes that the traditional SWOT framework provides a basis for describing a **knowledge strategy**. He advocates performing a knowledge-based SWOT analysis. The organisation's knowledge resources and capabilities are then mapped against opportunities and threats in order to better understand their knowledge strengths and weaknesses. Knowledge resources and capabilities are then balanced against the knowledge required to produce products and services in ways superior to those of competitors. In short, an organisation must articulate its

strategic intent, identify the knowledge required to execute its intended strategy, and compare that to its actual knowledge, revealing its strategic gaps. Every strategic position of a company is linked to a set of knowledge resources and capabilities. The knowledge, skills and core competencies required to compete and excel in an industry, are influenced by strategic choices that companies make regarding products, services, technologies etc.

Thus an organisation's strategic position creates a knowledge requirement. This view is supported by the Gartner Group, cited in Schwikkard and Du Toit (2004), who advise that a KM initiative must be based on knowledge strategies that directly support business objectives.

The gap between what an organisation must do to compete and what it is actually doing is known as a strategic gap. Underlying this gap is a potential knowledge gap. An organisation unable to execute its intended strategies should align its strategy with its capabilities or acquire capabilities to execute its strategy. From this an organization can determine which knowledge should be developed or acquired. A firms KM initiatives should be directed at closing the strategic knowledge gap (Zack, 1999).

The KM tool commonly used to identify knowledge within the organisation is the **Knowledge Audit**. The knowledge audit is a systematic and scientific examination and evaluation of the explicit and tacit knowledge resources in a company (Hylton 2002).

Most literature on the topic indicates that a knowledge audit is the first step in initiating a KM program. According to Stewart, as cited in Hylton (2002:2), companies waste billions on KM because they fail to figure out what knowledge they need, and how to manage it.

According to Schwikkard and DuToit (2004), the objective of a knowledge audit is to identify and describe the current and future knowledge requirements of the enterprise, and on this basis, to clarify the KM strategy of the enterprise. They believe that the audit itself consists of a process of identifying the knowledge that leadership

considers to be critical to the success of the business and then studying the target audience to ensure that any gaps or overlaps in knowledge types have been identified.

Capshaw as cited in Schwikkard and Du Toit (2004:106), believes that a knowledge audit should be able to assess the current levels of knowledge usage and interchange, identify and analyse the KM opportunities, isolate potential problem areas and evaluate the perceived value of knowledge within an enterprise.

Not much literature exists on the actual methodology of conducting a knowledge audit. However, most knowledge audits would involve the following according to Schwikkard and Du Toit (2004):

- 1) Identifying knowledge needs through surveys, interviews and group discussions.
- 2) Drawing up a knowledge inventory of both tacit and explicit knowledge.
- 3) Analysing knowledge flows.
- 4) Creation of a knowledge map, which is a visual representation of an organisation's knowledge. This can be done through social network analysis and is elaborated upon further.

According to Valdis Krebs (2002) as cited in the NeLH Specialist Library (2005), **social network analysis (SNA)** is the mapping and measuring of relationships and flows between people, groups, organisations, computers or other information/knowledge processing entities. In contrast to an organisation chart, which shows the formal responsibility relationships of who works where, and who reports to whom, a social network analysis chart shows informal relationships such as who knows whom, and who shares information and knowledge with whom.

Informal relationships among employees are far more reflective of the way work actually happens in organisations than relationships established by position within the formal structure. The understanding of these invisible relationships is made more difficult with the increasing occurrence of organisational de-layering, virtual work and globalisation (Cross, Borgatti & Parker, 2002).

An SNA analysis makes invisible networks visible. The results can then be used to identify teams and individuals playing central roles, detecting information bottlenecks, spotting opportunities for knowledge flow improvements, accelerating the flow of knowledge and information across functional and organisational boundaries and targeting opportunities where increased knowledge flow would have the most impact. The process involves the use of questionnaires or interviews to gather information about relationships, which is then mapped using software tools designed for this purpose (Cross, *et al*, 2002).

A much simpler tool which could assist in determining the whereabouts of knowledge in the organisation are **white pages**. White pages are an organisational (electronic) tool used to help people find others in their organisation who have the knowledge and expertise they need for a particular task or project. White Pages normally include the name of a person, job title, department, an uploaded CV, areas of knowledge and expertise, areas of interest, memberships of Communities of Practice (CoP), a personal profile, a photograph and contact information (NeLH Specialist Library, 2005).

3.7 Knowledge generation

Having determined the knowledge gap the next step would be to fill this gap by generating new knowledge. This new knowledge can either be created, or acquired. This has the effect of increasing the stocks of knowledge within an organisation.

3.7.1 Knowledge creation

Knowledge creation can be done via research and development or education and training. However these are not KM tools per se. An **after-action review** is a KM system that can either enable knowledge sharing or knowledge creation.

An after-action review (AAR) is a discussion of a business event or action that enables the individuals involved to better learn from their daily business experiences. This enables the individuals involved to learn for themselves what happened, why it happened and how it happened (Gurteen, 2000).

The AAR methodology was first developed by the US Army in the 1970's and is firmly embedded in its culture in that an AAR event takes place after every training event. AAR's were only adopted by business in the late 1990's. Organisations that have adopted AAR's as part of their culture include BP-Amco, Steelcase, Motorola and General Electric (Gurteen, 2000).

Lessons learned are tacitly shared on the spot, but can be explicitly documented and shared with a wider audience. In particular, AAR's can be used successfully when introducing new procedures as well as during and after the completion of a project or assignment (NeLH Specialist Library, 2007).

For AAR's to be successful, a culture of openness and learning should prevail. Cultures characterised by high degrees of change and flexibility will have a more positive effect on knowledge creation, than will cultures characterised by high degrees of stability and control (Kayworth and Leidner, 2004).

Knowledge applications management tools also include knowledge creation technologies which generate information and knowledge from data. Data mining tools analyse data in very large databases and look for trends and patterns which can be used to improve organisational processes. Information visualisation tools are computer supported interactive visual representations of abstract data to improve understanding. Decision trees display and evaluate alternative decisions. Root-cause analysis is a method employed to find out why a particular problem exists and correcting those causes (Debowski, 2006).

3.7.2 Knowledge acquisition

Knowledge acquisition occurs if creating knowledge is not possible. Knowledge can be acquired through the purchase of licences or patents, by recruiting qualified personnel, purchasing of market research or strategic reconnaissance (Beijerse, 2000).

KM systems which enable knowledge acquisition include exit interviews, benchmarking, knowledge centres and knowledge harvesting.

Exit interviews are widely used tools for gathering employee feedback. This concept has been expanded into a KM tool with a view to retaining knowledge from leavers. According to Skyrme (2001), there is no reason why exit interviews should not be part of a KM strategy and have knowledge capture as their focus. Furthermore he recommends that an organisation maintain contact with the employee even after they leave. He suggests that organisations start to plan the handover as soon as notice has been given that someone is leaving. This planning should include the capture of explicit and tacit knowledge.

The essence of **benchmarking** is the process of identifying the highest standards of excellence for products, services or processes, and then making the improvements necessary to reach those standards – commonly called “best practices”(Bhutta and Huq, 1999: 254).

According to Bhutta and Huq (1999), internal benchmarking (comparisons made between departments or divisions of the same company or organisation) and the transfer of best practices is one of the most tangible manifestations of KM as well as the learning organisation.

Sharing of practices is usually one of the first things carried out in a KM initiative and often begins with practices such as instruction manuals. As most of the knowledge relating to best practice is tacit, the best way of sharing best practice knowledge is through CoP's, quality circles, visits to other departments or organisations and learning events. Explicit knowledge can be shared through a best practices database. The essence of identifying and sharing best practices is to learn from others and to re-use their knowledge. This will help organisations to identify and replace poor practices, avoid duplication of effort, induce cost savings through improved productivity and efficiency and deliver improved services to clients (NeLH Specialist Library, 2005).

According to Brown and Duguid (2000), identifying a company's best practices is not easy for two reasons. Firstly, a gap exists between what the procedure manual says a task looks like and what it looks like in reality. Secondly, there is a gap between what people think they do and what they really do. This is because work practices are

filled with tacit improvisations that employees find difficult to articulate. Both of the aforementioned gaps would need to be bridged in order to understand a company's best practices.

Knowledge centres are similar to libraries but focus on collecting, organising and disseminating both knowledge and information and hence a strong emphasis on connecting people with people and people with each other. It has the effect of centralising KM activities and responsibilities under one umbrella, benefiting the organisation by achieving economies of scale through avoiding duplication of effort and resources and the pooling of expertise. Services include knowledge repositories such as intranets or databases, providing pointers and information, co-ordinating the capture of knowledge from projects and assignments and incorporating it into databases of best practices and case studies, identifying and forming links with both internal and external sources of knowledge, cataloguing and indexing for electronic knowledge repositories and providing a one-stop-shop for multiple knowledge and information needs (NeLH Specialist Library, 2005).

Knowledge harvesting is a process of collecting what someone knows by capturing and documenting the know-how of experts and top performers in an organisation. The aim is to capture an expert's decision making processes with enough clarity that someone else could repeat the same process and get the same results. It is particularly useful in situations where an organisation wants to 'know what it knows', when knowledge and information are needed for a specific purpose, to capture the knowledge of employees who are leaving the organisation or department, to facilitate new product development and as part of a wider KM strategy (Eisenhart, 2001).

For knowledge harvesting to be successful, requires an organisational culture that fosters or encourages the practice of sharing. According to Eisenhart (2001), knowledge gathering and sharing cannot take place in an adversarial or competition orientated environment where people feel that by giving knowledge, they will jeopardise their status or job security.

According to the NeLH Specialist Library (2005) the practice of knowledge harvesting ensures that knowledge is not lost to the organisation when people leave, that the

learning curve of new people joining the organisation is shortened, productivity is improved by eliminating trial-and-error experiences and that the knowledge of a few individuals is made available to others who need it.

A practical example of the above was the decommissioning of the Concorde which resulted in Rolls-Royce having to lay off its Olympus engine engineers. One part of Rolls-Royce's KM strategy was to document the expertise of its engineers before they left or retired (Gubbins, 2003).

Specific knowledge can also be acquired through **content management systems**. Content management systems (including web content management) allow users to easily and quickly find the information they need whilst using the internet or any other form of groupware to network or share documents, applications or collaborative tools across organisations. Examples include knowledge repositories, document management systems and libraries. Essentially these systems link people with information. Three critical areas of managing content include the collection, organising and retrieving of the content. These functions are best performed by people with backgrounds in librarianship and information management (Debowski, 2006).

3.8 Knowledge application

Knowledge application consists of knowledge storage, knowledge sharing (including knowledge replication) knowledge utilisation and knowledge evaluation (Grant, 2005). Cultures that foster knowledge application are characterised as being open, parochial and employee orientated (Kayworth and Leidner, 2004).

3.8.1 Knowledge storage

Once knowledge has been generated, it needs to be stored and made available for use. **Technology** plays a major role in knowledge storage. The key contribution of information technology has been the creation of databases and knowledge repositories (content management systems) which facilitate the transfer of and access to knowledge (Grant, 2005).

Cultures characterised by high degrees of stability and direction will have a more positive effect on knowledge storage capabilities than will cultures characterised by high degrees of change and flexibility (Kayworth and Leidner, 2004).

3.8.2 Knowledge sharing and replication

This is the most important process in KM. Knowledge sharing involves the transfer of knowledge from one part of the organisation to another part. **Technological systems** play a very important role in facilitating such transfers (Grant, 2005).

According to Dubowski (2006), Knowledge applications management systems provide users with easy and effective tools which facilitate knowledge creation, collaboration and communication. These systems effectively link people with people. Collaborative tools allow people to work together in teams over a network irrespective of location or time. Common collaborative tools include:

- 1) E-mail – electronic version of written mail
- 2) Discussion boards – otherwise known as message boards, bulletin boards or chat rooms. These allow people to post and reply to a message in a common electronic area.
- 3) Video-conferencing – using specialised facilities or from desktops using special software. An alternative is audio conferencing which works best when participants know each other.
- 4) Project support tools – these enable work groups and project teams to share documents and exchange messages across different locations in real time.
- 5) Workflow tools – these model typical processes that take place in organisations. The core process knowledge is embedded in the design of the software. These tools facilitate learning, speed up the process and provide information on what stage the process is in at any given time.
- 6) E-Learning tools – sometimes known as computer based training (CBT), it uses information technology to deliver training to people at their desktops.
- 7) Virtual learning tools – this allows knowledge and expertise of a person in one location to be applied in another location in real time. For example, two surgeons operating from one country on a patient in another country using joysticks and voice commands to direct robotic arms.

According to Kleiner, cited in Moreno (2001:296), most critical know-how in any given company is not stored in its computer system or in the institution's rule book or manual, but in its casual conversations.

Culture plays a vital role in enabling knowledge sharing. Cultures characterised as "open" will have a greater tendency to share or transfer knowledge than will firms with "closed cultures". Furthermore organisations with "parochial cultures" will have a greater tendency to share or transfer knowledge among members than will firms with "professional cultures". Finally "employee orientated cultures" will have a greater tendency to transfer or share knowledge than would "job oriented cultures" (Kayworth and Leidner, 2004).

KM sharing systems include Communities of Practice (CoP's), storytelling and peer assist, of which CoP's are considered by the literature in general to be the most important.

Ettiene Wenger (2000) first coined the phrase **Community of Practice**. He defined CoP's as being groups of people who come together to share and to learn face-to-face and virtually. They are held together by a common interest in a body of knowledge and are driven by a desire and need to share problems, experiences, insights, templates, tools and best practices. Community members deepen their knowledge by interacting on an ongoing basis and over time develop a set of shared practices.

CoP's have been adopted by a number of multi-national corporations, namely Hewlett-Packard, British Petroleum (BP), Chevron, Ford, Xerox, IBM and Shell (Ardichvili, 2003).

CoP's are an attempt to make tacit knowledge more accessible to the organisation at large. There is growing acknowledgement that the operational success of institutions will be dependant on their ability to leverage collective institutional knowledge. The findings of research conducted by Moreno (2001) in one financial institution revealed that although CoP's are largely self sufficient, they would, however benefit from resources that would strengthen their networking activities. Furthermore, to be

successful, networks require a small group of champions who are willing to provide intellectual leadership. Transparency was also found to be an issue as CoP's often remain unknown to an organisation. Although technology is a key enabler, the implementation of technology alone to facilitate knowledge exchange will not lead to widespread sharing. What is more important is a change in culture. Finally there was a general belief among participants that fostering the CoP's would result in rapid organisational learning, more effective decision making using lessons learned and more rapid and effective problem solving.

All the best KM tools in the world will not work unless employees are motivated to share or contribute towards the knowledge flows within the company. Research conducted by Ardichvili (2003) looked into the motivation as well as the barriers of employee contributions to knowledge in a virtual environment. A sense of moral obligation and community interest, a need by employees to establish themselves as experts as well as a need by employees to give back to their company were factors motivating employees to share. However, factors resulting in a reluctance to share or contribute to knowledge included a sense of self-intimidation, inferiority, self-imposed censorship, time considerations and surprisingly only a small percentage due to information hoarding.

The solution forwarded by Ardichvili (2003) to mitigate against barriers, is for the company to create a supportive environment by promoting knowledge sharing as a norm in the organisation. The organisation should encourage face-to-face CoP's which could later evolve into virtual communities. Norms and standards should be clearly communicated for the sharing of knowledge which would reduce the anxiety about what constitutes acceptable postings or violates corporate security rules.

Storytelling in its most basic form is simply the use of stories as a communication tool, to share knowledge in organisations in a way that inspires people. Stories are told using everyday language that people can relate to and find interesting and fun. It has existed for thousands of years as a means of exchanging information and generating understanding and has always existed in organisations, but better known as 'the grapevine'. It has only recently been accepted as a deliberate tool for the sharing of knowledge (NeLH Specialist Library, 2005).

Not only is it a knowledge sharing tool, but storytelling also has a number of other uses. The organisation's culture can be characterised through corporate myths and histories. Complex themes are simplified in order to understand them more easily and draw meaning from history. Stories are the images we use to communicate our views and imaginations to one another ranging from office gossip to boardroom legends. Three types of stories can be applied to any organisation, namely the anecdotal or biographical story, creative characterisation of problems or challenges in the work place and metaphorical stories for any situation or process (Collison and Mackenzie, 1999).

Storytelling can also be used to ignite organisational change. According to Denning (2001), storytelling is a highly effective change agent even in change resistant organisations. It stimulates people to think actively about the implications of change and to project themselves into visions of the future. This enables them to better understand what it will be like doing things in a different way, rather than being given vague, abstract concepts about it. Denning argues that while hard-nosed, rigorous analysis drives business thinking, its strength is also its weakness in that analysis might excite the mind, while the route to motivating people is via the heart.

Storytelling allows people to capture and share tacit knowledge in rich and meaningful ways, rather than being forced to articulate in a more structured way that can detract from its value. Technically, the way that this happens is that unconscious, tacit knowledge is converted into conscious, tacit knowledge by means of meta-knowledge as an enabling mechanism (Hannabuss, 2000).

Other uses of storytelling include communication of corporate values and ideals, exploring and development of leadership styles, orienting and socialising new organisational members, preparing a group for planning, implementation plans and decision making in line with shared purposes, co-creating vision and strategy, development of communication and presentation skills, encouraging innovation and knowledge creation by moving away from linear thinking towards a more multi-dimensional view and the fostering of CoP's by bringing people together (Denning, 2001), (Collison and Mackenzie, 1999), (NeLH Specialist Library, 2005), (Boyce, 1996).

The elements incorporated into a childhood story; the characters, adventure, overcoming danger and the satisfactory resolution of issues, are the same elements used in corporate stories. Stories can teach new skills, motivate people through the power of parable and analogy, serve as reminders of the past (both good and bad) and excite the imagination to think in ways that have not been thought before (Bishop, 2005:26).

According to Wilkins (1984), as summarised by Zemke (1990) as cited in Morgan and Dennehy (1997), good organisational stories that have a powerful impact and are remembered, must be concrete and tell about real people and describe real events and actions, be set in a time and place with which the listener can identify and should be connected to the organisation's philosophy and culture. The stories must also be common knowledge. To be effective in conveying culture, people must not only know the story, but must know that others know it as well. The story must have credibility, in that it must be believed to be true of the organisation. Finally the story should describe the social contract, how things are done or not done in the organisation. This should allow the listener to learn about organisation norms, rewards and punishment without the trial-and-error experience.

At Xerox, much of the knowledge that exists within working groups (CoP's) comes from war stories. The constant storytelling about disasters and triumphs, problems and solutions over breakfast, lunch and coffee helps these groups to understand what happened and why it happened (Brown and Duguid, 2000).

The term **peer assist** was pioneered by British Petroleum (BP) and refers to a process whereby a team of people who are working on a project call a meeting or a workshop to seek knowledge and insights from people in other teams. Peer assists allow for the gathering of knowledge before embarking on a project and re-using existing knowledge rather than re-inventing the wheel (NeLH Specialist Library, 2005).

Structure is considered by some to have an important impact on knowledge sharing. For reasons cited in chapter 3.5, organisations are flattening their structures. Flatter

organisations draw on the core competencies of employees, thus increasing access to valuable knowledge. Relationships are often temporary and focused ensuring flexibility of new knowledge creation and destruction of knowledge that is no longer needed. A freer flow of knowledge occurs because boundaries are more permeable (Fiol, 2003). Furthermore, communication lines between employees and between employees and management are short (Beijerse, 2000).

However, not all experts are of the opinion that flatter structures are necessarily better than top-down structures or whether in fact structure matters at all. According to Sbarcea (1999) smart companies recognize that knowledge is transferred in informal and unstructured ways, mainly through conversations between employees. Even in flat organisations, the suppression of conversations will not enhance knowledge work and by contrast the encouragement of conversations in top-down structures, will promote knowledge work. Flatter structures seem more likely to allow for informal and unstructured relationships than top-down structures, but the structures themselves do not produce the relationships.

Structures are therefore not the primary drivers of knowledge work and cannot of themselves produce mindful and meaningful communication. However, they can serve as enablers for building CoP's within organisations (Fiol, 2003).

3.8.3 Measurement

Measuring KM is the least developed aspect of KM because of the difficulty in measuring something that cannot be seen, such as knowledge. The problem is that unless KM can demonstrate its value to the organisation it will not receive the support of executive management, resulting in failure (Bose, 2004).

According to Desouza (2006), the top three barriers to effective KM measurement are; firstly the failure by KM executives to collect metrics both in terms of the current state of affairs and how interventions have changed the baseline; secondly, the failure by business executives to appreciate how to account for secondary impacts as opposed to direct impacts that affect the bottom line immediately; lastly a lack of standard definitions of what constitutes KM. Accordingly the definition of KM should clearly articulate the components of KM, the activities that need to be executed under

each component and the drivers, resources and intricacies of each activity. Without definitions, measurement becomes impossible.

Given that the point of KM is to improve organisational performance by helping it to achieve its objectives, and that the impact of KM on an organisation's performance is strongly tied to the ability of an organisation to identify where KM will be of most value, the best and most logical approach is to link the measurement of KM with the organisation's performance measurement systems (Bose, 2004). However, a limitation of this approach according to O'Dell and Grayson (1998) cited in NeLH Specialist Library, (2005), is that if KM practices are made an integral part of work one cannot be sure of the relative contribution of those KM practices to the success of a project or process as compared to other factors. To mitigate against this, the authors suggest a two pronged approach that seeks to measure both outcomes and activities. Measuring **outcomes** focuses on the extent to which a project or process achieves its stated objectives with such success serving as a proxy measure for the success of the KM practices embedded in it. Measuring **activities** shifts the focus onto the specific KM practice that was applied to the project or process and includes metrics such as how often users are accessing, contributing to or using knowledge resources and practices that have been set up.

One of the metrics that many organisations use in measuring performance is return on investments (ROI). Most initiatives such as KM initiatives will be expected to show what financial benefits were obtained in order to justify the costs. ROI's on costs associated with information technology are relatively easy to identify, but costs associated with changing an organisation's culture for instance, are not that simple. It is also very difficult to measure the benefits of intangibles like increased knowledge sharing, faster learning or better decision making. It should however be remembered that KM is a business discipline that supports important business processes and the ROI occurs not from the knowledge processes, but from how knowledge processes improve the business processes they support (Gartner Research, 2003).

Bose (2004) describes three popular methods used by organisations for measuring the performance of KM strategies. The **balanced scorecard (BSC)** is an approach to measuring organisational performance and is also being widely adopted in KM as it

directly links learning to process performance, which in turn is linked to overall organisational performance. Developed by Kaplan and Norton, the BSC focuses on linking an organisation's strategy and objectives to measures from four key perspectives: financial, customers, internal processes and learning and growth. The **KM performance scorecard** is an adaptation of the BSC in that the last three non-financial measures roughly equate to the three components of intellectual capital as discussed earlier in this chapter, namely customer capital (customer relationships), structural capital (knowledge inherent in an organisation's processes and systems), and human capital (knowledge and skills of people). This model is highly attractive because of its capacity to embrace the knowledge characteristics of an organisation's business. A relatively new scale of measuring corporate performance is **Economic Value Added (EVA)**. This is the after-tax cash-flow generated by a business, minus the cost of capital it has deployed to generate that cash-flow. EVA helps managers make better investment decisions such as investments in KM systems, identify opportunities for improvement and consider short-term as well as long-term benefits to the company. It is also considered an effective measure of the quality of managerial decisions as well as a reliable indicator of an organisation's value growth in the future. The **Skandia Navigator** was developed by the Swedish financial services company Skandia. This is a tool for evaluating the soft assets of the organisation, as well as a management reporting system that helps managers visualise and develop measures that reflect intangible assets and guide them into the future.

3.9 Summary

KM and in particular the knowledge-based view of the firm is strategically significant in that sustainable competitive advantage is gained through the use of the organisation's internal resources and capabilities. These internal resources and capabilities consist of human capital which is difficult to imitate, and structural capital consisting of relational and organisational capital.

The essence of KM is identifying what knowledge an organisation has, generating new knowledge and applying all the stocks of knowledge that have been identified and generated, and in so doing creating a learning organisation. In order to achieve

organisational goals it is necessary to embed KM within the overall business performance management model. The successful implementation of a KM initiative is dependent on four enablers, namely culture, infrastructure, technology and measurement.

The entire KM process will not be effective without leadership and executive support by people knowledgeable in the field.

Knowledge identification entails determining the gap between necessary knowledge and available knowledge by means of a knowledge audit, utilising tools such as knowledge maps, SNA's and white pages. The knowledge gap forms the basis of a knowledge strategy in which an organisation's strategic position determines its knowledge requirements.

Knowledge generation can be achieved through both knowledge creation and knowledge acquisition, utilising appropriate enablers such as knowledge creating technologies and KM systems.

The application of knowledge involves the storing, sharing, utilisation and the evaluation of knowledge. Storing, sharing and utilisation of knowledge are very dependent on culture. People must desire to share and store information and knowledge. Technology, systems and structure are also important enablers. The most important technological enablers are collaboration software and content management software. CoP's are most effective in promoting knowledge sharing. The types of organisational structure viz. hierarchical versus flat, divisional versus functional and centralised versus decentralised may have an influence on knowledge storing and knowledge sharing.

Lastly, the measurement of KM is deemed critical, not as a particular KM tool but in order to justify the investment in any KM initiative to executive management. Although KM is very difficult to measure it should be remembered that ROI occurs not from the knowledge processes themselves, but from how knowledge processes improve the business processes they support.

Having reviewed the literature with regards to KM processes and enablers it is appropriate to use the literature review as a yardstick against which we can measure the practices of financial services organisations in South Africa. To this end an exploratory study was conducted using a combination of interviews and questionnaires as measuring instruments, the results of which follow in the next chapter.

Chapter 4: Research methodology

4.1 Introduction

This chapter sets out the research methods that were used in this study.

4.2 Research method

This research was **exploratory** in nature as the phenomenon of KM as a business practice is relatively un-charted and new, and in the context of a financial services setting has not been documented extensively in South Africa.

The aim of the research is to report on the current state of KM implementation in South African financial services organisations.

The question is whether financial services organisations in South Africa apply appropriate KM strategies or practices. Accordingly the research endeavoured to seek answers to the following three questions:

- 1) Are current KM practices/ processes in line with contemporary best practices?
- 2) Do current practices form part of a "strategic" KM initiative, or are they merely embedded in other organisational processes, procedures and cultures?
- 3) How do companies see the future of KM?

Both empirical and non-empirical approaches were followed in this **qualitative study**.

Henning (2004:3) submits that when "...we want to find out not only what happens but also how it happens and, importantly, why it happens the way it does ..." qualitative research is the most appropriate research method as it is designed "...to understand, and also explain in argument, by using evidence from data and from the literature, what the phenomenon or phenomena that we are studying is about. We do not want to place this understanding within the boundaries of an instrument beforehand because this will limit the data to those very boundaries" (Henning, 2004:3)

Marshall and Rossman, cited in Lee (1999:41) submit that qualitative designs are the best choice when it is important for the researcher to understand the in-depth processes that operate within the organisation or industry and the research issues involve poorly understood organizational phenomena and systems.

According to Peshkin, cited in Leedy and Ormrod (2005:134), qualitative research studies typically serve one or more of the following purposes:

- 1) They can reveal the nature of certain situations, settings, processes, relationships, systems or people.
- 2) They enable a researcher to gain new insights about a particular phenomenon, develop new concepts or theoretical perspectives about the phenomenon, and discover problems that exist within the phenomenon.
- 3) They allow the researcher to test the validity of certain assumptions, claims, theories or generalisations within real-world contexts.
- 4) They provide a means through which a researcher can judge the effectiveness of particular policies, practices or innovations.

4.3 Measuring instruments

Three types of **data collection methods** were used , namely a literature review, in-depth interviews (using a semi-structured questionnaire) and a questionnaire (using an ordinal five-point Likert scale) in order to support the interview results with some hard numbers.

The **literature review** which forms the theoretical basis of the research was based on business research and expert opinions globally and served as a comparative tool when examining the South African corporate environment.

The **interviews** conducted were semi-structured. Semi-structured interviews consist of standard questions combined with individually tailored questions to obtain clarification or probe a person's reasoning (Leedy and Ormrod, 2005). Interviews can yield a great deal of information such as facts, beliefs and perspectives, feelings, motives, present and past behaviours (Silverman, 1993) as cited in Leedy and

Ormrod (2005). This approach is also supported by Henning (2004:52) since the aim of interview data is "...to bring to our attention what individuals think, feel and do and what they have to say about it in an interview, giving us their subjective reality in a 'formatted' discussion."

Each interview commenced with a discussion guided by the interview schedule and was concluded with the completion of the questionnaire which was immediately returned to the researcher. The collected data was analysed through a combination of content analysis and frequency distribution analysis.

According to Patton (2002:14) "...absolute allegiance to a particular methodology is not ideal however and a combination of qualitative and quantitative methods can contribute to methodological rigor..." This study accordingly also made use of a **questionnaire** (Appendix 2), which had the added advantage of measuring the reactions of a group of people to a limited set of statements "...thus facilitating comparison and statistical aggregation of data.." (Patton, 2002:14).

4.4 Sampling

The purposive sampling method was used with the aim of selecting those individuals or units that will yield the most information about the topic under investigation. In this method, people or units are chosen for a particular purpose (Leedy and Ormrod, 2005).

The population for this research consisted of a cross section of 10 large organisations of which 8 are listed in the financials sector of the Johannesburg Stock Exchange (JSE). Organisations included were commercial and investment banks, life assurance and short-term insurance companies as well as a financing organisation and a diversified financial services company. Activities conducted by the aforementioned organisations act as a proxy for activities conducted by asset management firms, private equity houses, leasing companies and credit card companies and as such it was not deemed necessary that these organisations be included in the sample population. Senior officials with experience in knowledge management or knowledgeable in this field were targeted for interviews.

4.5 The Pilot Study

A pilot study was conducted to pre-test the interview schedule and the questionnaire. For this purpose, a knowledge worker in the financial services industry, who was not going to take part in the study, was selected.

The purpose of the pilot study was to establish whether the interview schedule was appropriately structured to obtain data that would address the research questions and whether the study to be undertaken was feasible. (Leedy and Ormrod, 2005)

4.6 Data analysis

Information obtained from interviews and questionnaires was analysed using a combination of content and frequency distribution analysis described below.

According to Leedy and Ormrod (2005:142) "...**content analysis** is a detailed and systematic examination of the contents of a particular body of material for the purpose of identifying patterns, themes or biases. Under the content analysis method, data analysis would include the tabulation of the frequency of each characteristic..."

Content analysis is regarded as an appropriate tool for the analysis of responses to open-ended questions (Welman and Kruger, 2001). Content analysis involves the reduction of qualitative data, whilst articulating the data's most important themes and characteristics through the identification of core consistencies and meanings. Themes identified in the literature review assisted in the identification and clustering of common characteristics under each distinctive theme. The resulting themes are discussed in the results section.

The use of a Likert-type scale of evaluation in the questionnaires enabled the data to be analysed using a **frequency analysis**. Responses were captured onto a Microsoft Excel 2003 spreadsheet that was used to generate figures that would help to identify patterns and trends in the data and to make comparisons between the responses from different organisations.

The study utilises a KM diagnostic tool (KMD) designed by Bukowitz and Williams (2000), and adapted for the purposes of this research. The KMD is divided into six sections (one for each KM process) containing a list of 12 statements each. Each statement was evaluated on the basis of a five point rating scale, between strongly descriptive of my organisation and not descriptive of my organisation. These responses were in turn awarded nominal values between 1 (not descriptive) and 4 (strongly descriptive) to enable the data to be subjected to a frequency distribution analysis. Neutral answers were not awarded any values. Scoring however for the purposes of the KMD is not based on individual statement scores but on the collective average scores of the 12 statements for each of the six sections. A total score is then obtained for each KM process as well as for the overall KM process. The KMD tool has been field tested with the average score for the overall KM process being 55 percent.

4.7 Potential research limitations

Face-to-face interviews with individuals are prone to reveal the subjective views of the relevant interviewee and may not necessarily represent the view of the particular organisation. This is particularly true of large organisations that employ thousands of employees.

In so far as factual information is revealed, the approach adopted by the participating organisations with regards to KM practices will not necessarily be representative of the entire sector of the JSE.

Chapter 5: Results

5.1 Introduction

This chapter presents the results from the 10 respondents' open-ended questions appearing in the interview schedule (Appendix 1) and the questionnaire (Appendix 2).

The results are analysed in two parts. The first part analyses the results arising from the responses to the interview schedule, and supported by responses to the questionnaire where appropriate, with the primary aim of eliciting responses relating to KM processes and enabling mechanisms. The second part analyses responses to the questionnaire only, using a KM diagnostic tool (KMD) where the aim is to identify relevant strengths and weaknesses of KM processes.

5.2 Profile of respondents

The profile of participants in the study, in terms of their titles and tenure, are summarized in tables 5.1 and 5.2.

Table 5.1: Breakdown of respondents according to tenure

TENURE	FREQUENCY	PERCENTAGE OF SAMPLE
2-4 Years	1	10
4-6 Years	3	30
6-8 Years	1	10
8-10 Years	4	40
>10 Years	1	10
Total	10	100

In the general literature, KM leadership or expertise, where it exists, is mainly assigned but not necessarily restricted to knowledge managers, information system managers or human resources managers. The findings of this paper concur with

literature as is reflected in table 5.2 which shows the spread across the sample in terms of position held by the respondent.

Table 5.2: Breakdown of sample according to position held

POSITION	FREQUENCY	PERCENTAGE OF SAMPLE
Knowledge Manager	3	30
Information Systems Manager	4	40
Other	3	30
Total	10	100

5.3 Analysis of results - part 1

This section outlines responses to individual questions gleaned through dyadic interviews and the questionnaires.

5.3.1 Knowledge management

As there is no single definition of KM in the literature, it was important to gauge the perceptions of the respondents' attitudes towards KM in broad terms. This assisted in further understanding the responses to questions that were to follow.

KM was confused with information management by 20 percent of the respondents as evidenced by a comment from one of the respondents that:

“...KM is information management and as such is seen as a strategic imperative...”

90 percent of the respondents indicated that KM was not formalised in their organisations but that KM processes (if any) were embedded in the organisational processes, procedures and cultures of their organisations. This is best illustrated by a comment made by one respondent:

“...we do not believe in a long term case for KM...KM will be built into our processes...”

Respondents were then asked to comment on whether their organisation had been practicing KM for some time without calling it that.

Figure 5.1: Practice of KM without calling it that

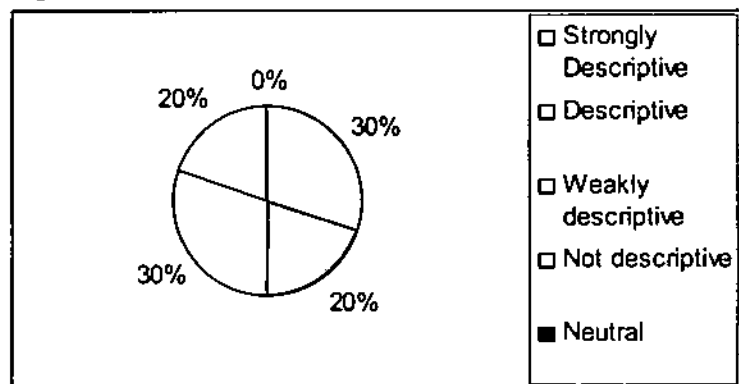


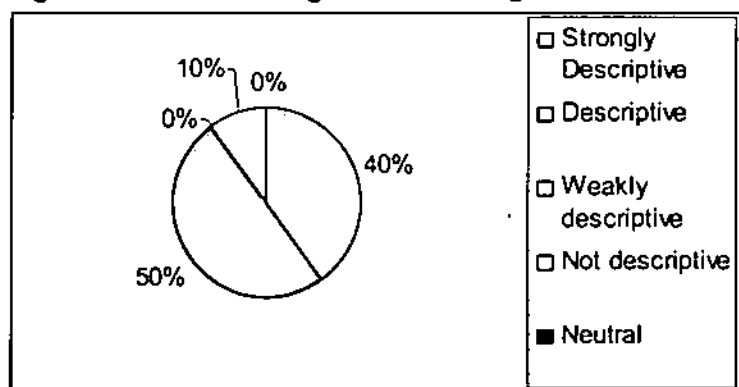
Figure 5.1 shows that 50 percent of the respondents agreed with the statement, whilst the remaining respondents did not agree to a greater or lesser extent even though formalisation of KM was not on their agendas.

5.3.2 Knowledge based view of the firm

The knowledge based view of the firm emphasises the strategic importance of KM.

This was confirmed when the respondents were asked whether knowledge is part of the resource base from which their organisation generates value (figure 5.2).

Figure 5.2: Knowledge and value generation



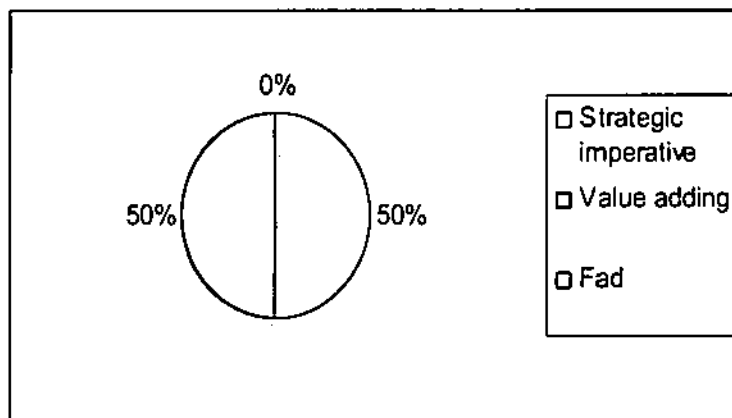
90 percent of respondents agreed with the statement that knowledge, as part of the resource base of the organisation, generates value.

To gauge how organisations view the strategic importance of KM, respondents were asked if they felt that KM was a strategic imperative, value adding or a fad. Particular comments made by respondents in this regard were that:

- "...KM is viewed as mission critical to the organisation..."
- "...KM is considered a strategic imperative..."
- "...KM as a formal strategy is non-existent and is seen as value adding but not under the KM umbrella..."
- "...KM is deemed to be important but we do not know how to implement it..."
- "...KM is value adding but is a poorly understood discipline..."
- "...KM is a strategic imperative and a part of our DNA...but we don't call it KM..."
- "...there is insufficient competition, and together with product commoditisation leads us not to take KM implementation seriously..."

These views can best be summarised in figure 5.3.

Figure 5.3: Perceptions of KM

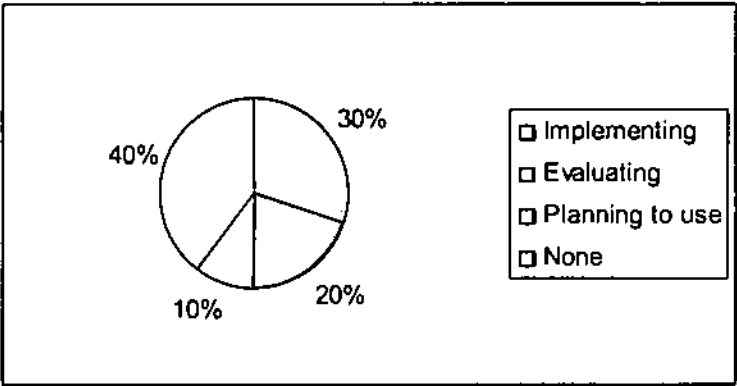


Half the respondents viewed KM as a strategic imperative whilst the other half viewed KM as value adding. None of the respondents viewed KM as a fad. The fact that KM was at the very least considered to be value-adding, is not necessarily indicative of where the organisations are in terms of "formal" KM implementation.

The importance of KM was further tested by addressing the current state of engagement with regards to the implementation of KM (as practised by the organisation), in terms of formal KM initiatives or projects.

The results as illustrated in figure 5.4 showed that 30 percent of the respondents stated that they were currently in the process of implementing KM projects, 20 percent were evaluating KM, 10 percent were planning to use KM, whilst 40 percent indicated that they had no immediate plans for using KM.

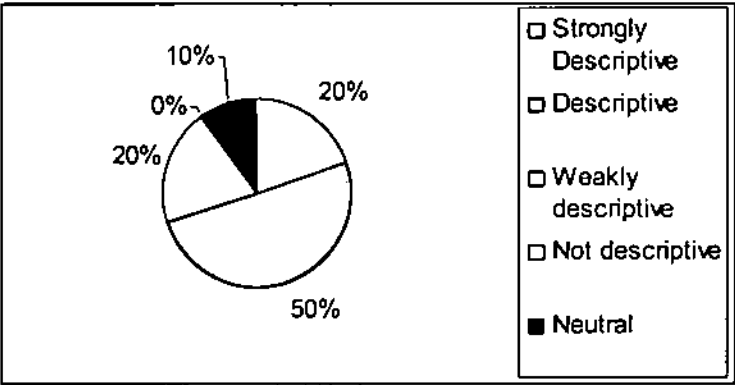
Figure 5.4: Current state of engagement in KM



In order to complete the picture of the strategic importance of KM to the organisations, the question was asked whether the CEO links the importance of organisational knowledge to business success.

Figure 5.5 illustrates the respondents' support of this statement. Of the respondents, 70 percent indicated that their CEO's link the importance of knowledge to business success with only 20 percent indicating that the statement was weakly descriptive of their organisation. Thus the importance of knowledge to organisational success is confirmed.

Figure 5.5: Importance of organisational knowledge

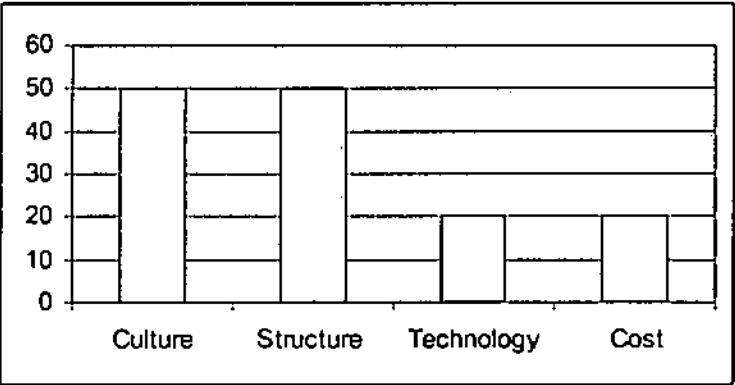


The issue of what gives the respondent organisations their competitive advantage included answers such as brand, reputation, size, distribution channels, costs, performance, technology or combinations thereof. It was interesting to note that answers received from two of the respondents, representing organisations that were relatively more knowledge based, placed a greater emphasis on people as the source of their competitive advantage. This is illustrated by one of the respondent's comments; "...competitive advantage is obtained through people and in particular top calibre people and the encouragement of the free flow of ideas..."

5.3.3 Barriers to the implementation of KM

Barriers could shed more light as to why organisations are not practicing KM. Culture, structure, technology and costs were identified as barriers to the implementation of KM. This is illustrated in figure 5.6.

Figure 5.6: Barriers to the application of KM



Of the respondents, 50 percent indicated that **structure** was a hindrance in terms of knowledge sharing for two reasons. Firstly, 20 percent indicated that their organisational structures were hierarchical which they felt was not conducive to knowledge sharing and knowledge creation. Secondly, 50 percent of the same respondents reported the formation of bureaucratic barriers between themselves and other functions, often referred to as the "silo effect", for structures that were both flat and hierarchical. **Technology** was considered a hindrance by 20 percent of the respondents in the sense that despite having access to state-of-the-art technology, few systems talk to each other across the organisation as well as the group. A further problem highlighted by 10 percent of the respondents was the lack of technology support for their state-of-the-art infra-structure. **Cost** was considered a barrier by 20 percent of respondents as illustrated by the following statement made by a respondent:

"...cost is a barrier in a sense that "time is money" not to be wasted on soft issues where ROI cannot be proved ... don't have time for debriefing...get on with the next project..."

Culture was also seen as one of the main barriers to the application of KM in that 50 percent of the respondents indicated that their organisational culture was a barrier to the successful implementation of KM in their organisations.

Other issues raised as barriers included a lack of understanding of how to implement KM; general (lack of) awareness in the organisation of KM; incentivising the sharing and storage of knowledge and not building KM into the budgeting system as expressed in the following comment "...I have already achieved my budget, so what more do I need..."

5.3.4 Learning organisation

It was established in the literature that an environment for learning is important for the implementation of KM and that good KM in turn promotes a learning organisation. A strong learning organisation may be symptomatic of a good KM program.

Interview results were mixed as reflected in the views of some of the respondents:

- "...have created centres of excellence with all projects utilizing lessons learned and after-action reviews ...knowledge creation and knowledge sharing is also very important..."
- "...we are improving as a learning organisation and adapting to change and learning from one's mistakes is seen as part of the learning culture (in the past mistakes were treated heavy handedly)..."
- "...as a learning organisation the group does training but does not implement after-action reviews or debriefings as a matter of policy...it does not really understand nor do we have a group- wise learning strategy..."
- "...we learn by "ouch"..."
- "...organisation has a way to go in terms of becoming a learning organisation..."
- "...organisation does not tolerate mistakes and is very individually orientated..."
- "... we are not strong as a learning organisation..."

The results of the relevant questions from the questionnaire are listed in table 5.3. They support the interview results but add greater perspective and depth. The analysis of the results takes the form of a frequency distribution table together with a KMD score as discussed in chapter 4.

The average KMD score was 51.75 percent as indicated in table 5.3, below the field average tested score of 55 percent. This indicates below average performance. From table 5.3 it is apparent that organisations are relatively stronger at engaging in off-site learning experiences to find better ways of working together, learning from failure and reflecting on lessons learned. On the other end of the spectrum, disagreement and business simulation games and learning from customers is not seen as an opportunity to learn.

Table 5.3: The learning organisation

	Statements	Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
25	Teams engage in off-site learning experiences to find better ways of working together	10	70	0	10	10	70
35	Learning from failure is incorporated into how we conduct subsequent work	0	60	0	30	10	63
27	Reflecting on lessons learned from work experiences is an established practice in our organisation	20	30	10	30	10	60
33	Our organisation supports group activities that promote mutual learning	10	50	10	20	10	60
28	When people finish projects, they generally take time to meet with their team and analyse what went wrong and what could have been done better	0	70	10	0	20	58
30	When a failure occurs, our first response is not to assign blame	10	30	0	40	20	56
31	When we have a big success, we talk together about what we did right	20	30	20	10	20	53
29	Our learning process often includes gathering feedback from customers	10	30	20	30	10	50
32	In our organisation failure is considered an opportunity to learn	10	20	20	20	30	43
36	We treat disagreement as an opportunity to learn from one another	10	10	30	40	10	40
26	We use work-related games and simulations to think more clearly about our business situations	10	10	30	30	20	38
34	At some time or other everyone in our organisation does hands on work to get first hand experience of the consequences of their decisions.	10	20	50	10	10	33

5.3.5 KM enabling tools

The results of the research regarding the KM technologies and KM systems are presented now, and will act as a point of reference in presenting the results relating to the individual KM processes or practices. **Technologies and techniques utilised** in the organisations, have the potential of making significant contributions towards enabling the KM process. Figure 5.7 summarises the results in this regard.

All the organisations (100 percent) utilise corporate intranets, e-mail and the internet, work-flow systems (50 percent), data warehousing (80 percent), Wiki's (20 percent) and collaboration software (10 percent). A further 30 percent (not reflected in figure 5.7) indicated using business intelligence software to assist in decision making and product development.

Figure 5.7: Technologies contributing towards a KM initiative

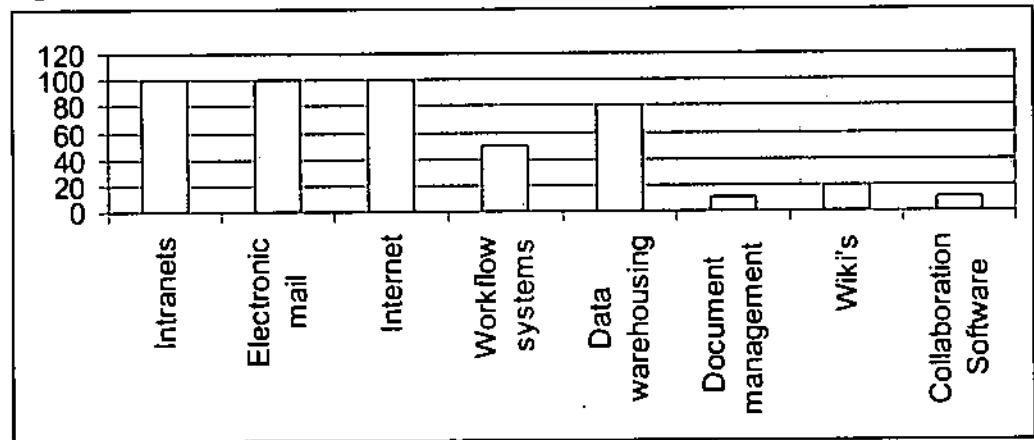


Figure 5.8: KM Techniques

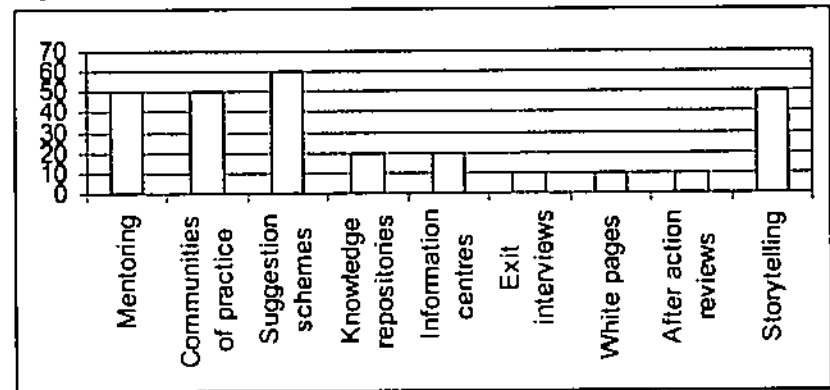


Figure 5.8 shows the percentage of respondents applying particular KM techniques. The techniques identified include suggestion schemes (60 percent), mentoring (50 percent), CoP's (50 percent), storytelling (50 percent), knowledge repositories (20 percent), information centres (20 percent), exit interviews (10 percent), white pages (10 percent) and after-action reviews (10 percent).

5.3.6 KM processes

The literature indicates that KM requires **leadership**. By leadership is implied the appointment of an individual with the relevant knowledge and skills to manage the KM processes either by himself or together with a KM department. Figure 5.9 illustrates the results of responses to the question as to whether the organisation has launched a group or appointed a person to lead the KM effort.

Figure 5.9: KM leadership

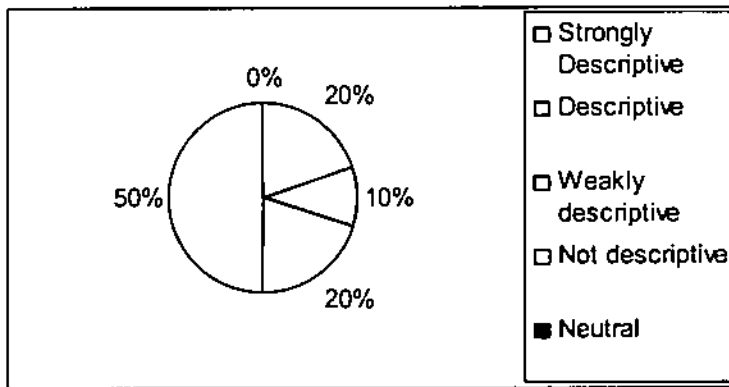


Figure 5.9 reflects that 70 percent of respondents indicated that they had not appointed anyone to lead their KM initiatives, with only 30 percent having some form of indirect leadership. Of the 70 percent who had not appointed KM leadership, 30 percent indicated the remote possibility of employing a knowledge manager in the future.

Of the 30 percent of the organisations having been identified as having some form of KM leadership, only one organisation employed a full time professional Knowledge Manager for the group. With the initiative launched and enjoying the full support of the CEO, the Knowledge Manager's mandate is to make tacit knowledge explicit and he has been given carte blanche to implement a full KM program. Currently the KM department consists of a Chief Knowledge Officer whose background is IT and who is assisted by two staff members. In addition the KM department is further assisted by voluntary KM champions situated in remote functional departments.

Another organisation also employed a full time professional Knowledge Manager, but for a specific division only. No plans have been made to expand the scope of this department further into the organisation. This particular organisation initiated an organisation-wide KM initiative two years ago which has subsequently failed. An executive with little knowledge of KM was appointed from within the human resources function to manage the KM initiative. His brief was a one liner namely to "... get KM up and running on a shoe string budget within 12 months by yourself..."

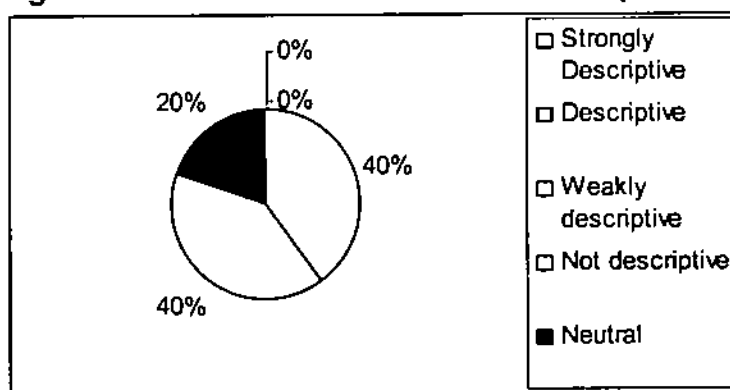
One other organisation has delegated the responsibilities of a Knowledge Manager to their Chief Operating Officer, together with his other responsibilities. This organisation has no immediate plans to employ a Knowledge Manager.

Another of the organisations that currently has no plans for initiating a KM project had previously created a KM centre of excellence whose aim was to extract value from KM. This centre reported to an Administration Manager unfamiliar with KM. The project was disbanded within two years.

A further example of the impact of poor leadership or lack of executive support within the sample was the disbanding of a major KM project entailing the building of a knowledge repository that could be used by the organization both nationally and by its offices around the world. Poor leadership was cited as the reason for this failure. One respondent stated that, "The CEO does not know what he wants or understand how to implement KM". The importance of executive support and qualified KM leadership is apparent from the above results.

As important as leadership, is **strategy**. The achievement of organisational objectives by aligning the KM strategy with the business strategy requires the inclusion of KM in business plans.

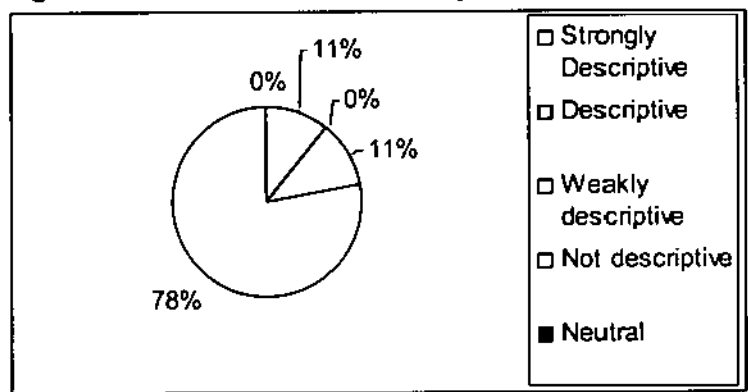
Figure 5.10: Inclusion of KM in business plans



It is apparent from figure 5.10, that none of the respondent organisations include KM in their business plans. This lack of strategic emphasis is highlighted in figure 5.11

which indicates that only 10 percent of respondents link KM activities to strategic outcomes.

Figure 5.11: Framework linking KM activities to strategic outcomes



Without exception, the interviews revealed that **cultures** in financial services organisations display a high degree of stability and direction, and it is therefore possible to conclude that these cultures will have a more positive effect on their knowledge storage capabilities. By implication, one can also conclude that the converse is also true; that financial services organisations are not very good at knowledge creation (learning organisations) as confirmed by these results.

Figure 5.12: Cultural dimensions

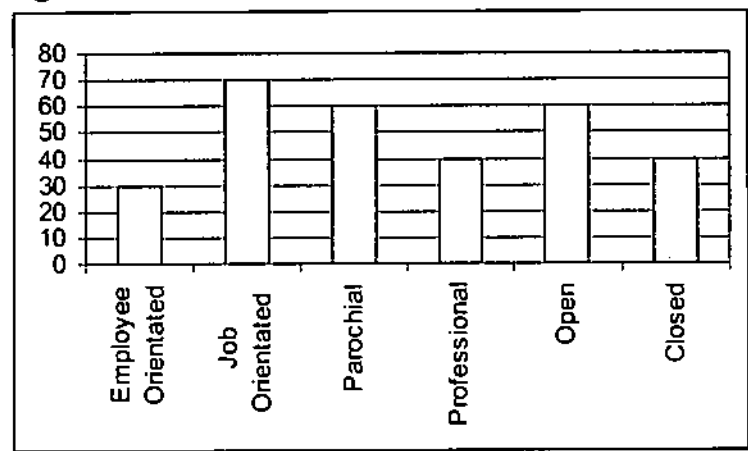


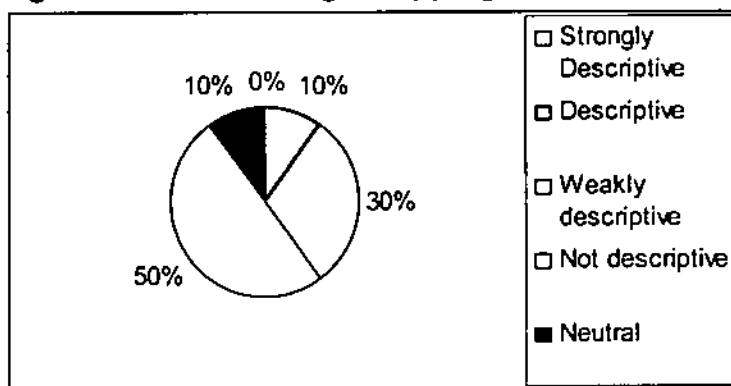
Figure 5.12 shows that job orientation is more prevalent than employee orientation (70 percent versus 30 percent). In these organisations knowledge transfer (sharing) and application will be hindered. The results also indicate that parochial cultures are

more prevalent than professional cultures (60 percent versus 40 percent), indicating a greater tendency to transfer and apply knowledge. Finally open cultures (which also indicate a greater tendency to transfer and apply knowledge) are more prevalent than closed cultures (60 percent versus 40 percent). These results may appear to be conflicting. However, most organisations display multiple cultural dimensions. Of the respondents 40 percent displayed two of the cultural dimensions conducive to knowledge sharing and application and 10 percent displayed three of the cultural dimensions conducive to knowledge sharing and application.

Knowledge identification entails understanding or assessing what knowledge an organisation has, determining what knowledge it requires and then implementing a plan to fill the gap. To assess what knowledge an organisation has requires knowledge mapping as part of the knowledge auditing process.

Respondents were asked whether their organisations have mapped the process flow of KM activities. The results as reflected in figure 5.13 indicate that only one organisation is currently mapping their knowledge. The interview has however revealed that a second organisation is currently embarking on a knowledge mapping exercise.

Figure 5.13: Knowledge mapping



Other means of identifying knowledge are white pages and social network analysis. Results show that only 10 percent of respondents use white pages and none of the respondents use social network analysis.

Knowledge generation occurs either through knowledge creation or knowledge acquisition.

Comments made by respondents, indicate that knowledge creation is considered important:

- "...have created centres of excellence with all projects utilizing lessons learned and after-action reviews ...knowledge creation and knowledge sharing is also very important..."
- "...knowledge creation is very important to our organisation in terms of new product development...knowledge is embodied in people, systems, new products ... knowledge sharing is considered paramount..."

However, knowledge creation is not considered important by other respondents:

"...knowledge creation and knowledge sharing is not an important consideration... as a learning organisation the group does training but does not implement after-action reviews or debriefings as a matter of policy...it does not really understand nor do we have a group- wise learning strategy..."

These comments with regard to knowledge creation reflect the fact that after-action reviews are an important KM tool which facilitates the creation of knowledge. There is a clear link between knowledge creation, after-action reviews and the learning organisation. Figure 5.8 however shows that only 10 percent of respondents used after action-reviews as a tool for knowledge creation.

One respondent indicates trying to implement after-action reviews but with little success:

"...after-action reviews could be done much better...company seems to be making the same mistakes...re-inventing the wheel on projects used to be a problem, but is no longer one...organisation has a way to go in terms of becoming a learning organisation..."

30 percent of respondents indicated using business intelligence software to assist in decision making and product development.

Without exception the interviews revealed that cultures in financial services organisations display a high degree of stability and direction, and it is therefore possible to conclude that these cultures are not very good at knowledge creation (learning organisations).

Of the respondents, 20 percent indicated that their organisational structures were hierarchical which they felt was not conducive to knowledge sharing and knowledge creation.

Knowledge acquisition can be achieved through KM exit interviews, information centres, benchmarking, knowledge harvesting and peer-assists. The results from figure 5.8 showed the use of information centres (20 percent) and exit interviews (10 percent). Information centres focus on the dissemination of external information and interest profiles of users. Exit interviews include a knowledge harvesting template. None of the respondents indicated using benchmarking and knowledge harvesting. It was unclear from the results to what extent peer-assists were being used.

Knowledge repositories relevant to knowledge acquisition were not evident. Figure 5.7 showed the utilisation of document management systems (10 percent) and collaborative tools (10 percent). All the organisations (100 percent) utilise corporate intranets, e-mail and the internet

Knowledge application entails the storage, sharing, use and evaluation of knowledge.

Knowledge storage is very technologically driven, using mainly content management software such as knowledge repositories (20 percent) as shown in figure 5.8. The knowledge repositories consist of databases of lessons learned and a database of expertise within the organisation.

The results revealed that cultures in financial services organisations display a high degree of stability and direction, and it is therefore possible to conclude that these cultures should have a more positive effect on their knowledge storage capabilities.

Knowledge sharing is driven by all four KM enabling elements with culture being the most important.

Figure 5.12 shows that job orientation is more prevalent than employee orientation (70 percent versus 30 percent). In these organisations knowledge transfer (sharing) will be hindered. The results also indicate that parochial cultures are more prevalent than professional cultures (60 percent versus 40 percent) indicating a greater tendency to share knowledge. Open cultures (which also indicate a greater tendency to transfer) are more prevalent than closed cultures (60 percent versus 40 percent). However, most organisations display multiple cultural dimensions. Of the respondents 40 percent displayed two of the cultural dimensions conducive to knowledge sharing.

Technology plays an important role in facilitating knowledge transfer. Results in figure 5.7 show that all the organisations (100 percent) utilise corporate intranets, e-mail and the internet, work-flow systems (50 percent), Wiki's (20 percent) and collaboration software (10 percent) .

Figure 5.8 shows the percentage of respondents applying particular KM techniques. The techniques identified include suggestion schemes (60 percent), mentoring (50 percent), CoP's (50 percent), storytelling (50 percent).

All respondents applying mentoring do so at varying levels but mainly from senior management up to executive level. In two instances the respondents applied CoP's constituted as forums. One respondent reported on a particular community of graduates below the age of thirty, who are encouraged to generate ideas, networks and suggestions which are reported through to a review panel. Storytelling although implemented by a significant percentage of the respondents, is weakly applied mainly in the context of annual events or strategic workshops. Suggestion schemes range from informal to formal with some schemes subject to peer review panels. One

particular scheme offers a hefty cash prize on a monthly basis for the best innovative suggestion.

Of the respondents, 50 percent indicated that structure was a hindrance in terms of knowledge sharing for two reasons. Firstly, 20 percent indicated that their organisational structures were hierarchical which they felt was not conducive to knowledge sharing and knowledge creation. Secondly 50 percent of the same respondents reported the formation of bureaucratic barriers between themselves and other functions often referred to as the "silo effect" for structures that were both flat and hierarchical.

Knowledge utilisation is enabled through best practice transfer. The research conducted found no evidence of the use of best practice transfer. Culture is however a significant enabler of this process. Figure 5.12 shows that job orientation is more prevalent than employee orientation (70 percent versus 30 percent). In these organisations knowledge application (use) will be hindered. The results also indicate that parochial cultures are more prevalent than professional cultures (60 percent versus 40 percent) indicating a greater tendency to apply (use) knowledge. Finally open cultures (which also indicate a greater tendency to apply knowledge) are more prevalent than closed cultures (60 percent versus 40 percent). However, most organisations display multiple cultural dimensions. Of the respondents 40 percent displayed two of the cultural dimensions conducive to knowledge application.

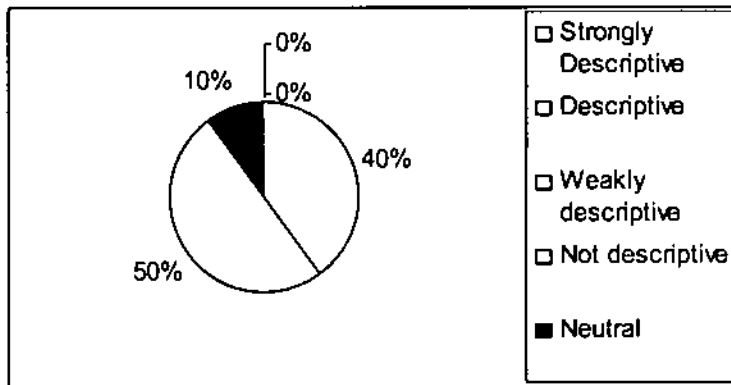
Knowledge evaluation addresses the issue of measuring KM. This issue is extremely important for the sustainability of any KM initiative. In order for any initiative in an organisation to survive it must be able to justify its existence, and justification arises through measurement.

The interviews revealed that none of the respondents use any form of metrics to gauge the effectiveness of any KM initiatives or projects. This result was corroborated by the results of questions posed in the questionnaire.

Respondents were asked whether their organisations measure KM processes and results. Figure 5.14 shows a strong negative reaction to this statement with 40 percent of the respondents disagreeing with the statement and another 50 percent

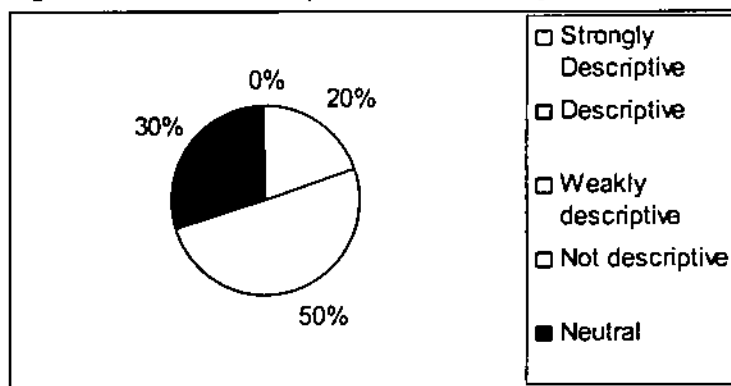
strongly disagreeing with the statement. Of the respondents, 10 percent remained neutral on the issue.

Figure 5.14: Measurement of KM processes and results



Respondents were also asked whether qualitative and quantitative metrics are used to gauge the effectiveness of the KM process. Figure 5.15 shows little support for this statement, with 20 percent of respondents disagreeing with the statement and 50 percent of the respondents disagreeing strongly with the statement.

Figure 5.15: Use of qualitative and quantitative metrics to measure KM.



5.4 Analysis of results - part 2

In part 2, the study aims to make sense of this wide field by determining the relative strengths and weaknesses of the financial services organisations with regards to knowledge acquisition, knowledge application, learning, knowledge sharing, knowledge assessment and the sustaining of knowledge. To achieve these aims, use was made of a KMD to analyse the results as described in chapter 4.

The detailed results of the KMD (Appendix 3) are summarised in table 5.4.

Table 5.4: KMD results

Section	KM Process	Average score	Average score%
Part A	Acquire knowledge	2.60	65.00
Part B	Apply knowledge	2.19	54.79
Part C	Learning organisation	2.07	51.75
Part D	Contribution (sharing knowledge)	2.08	52.00
Part E	Assessing knowledge	1.70	42.50
Part F	Building/sustaining knowledge	2.06	51.50
Average section score		2.11	52.75
Average overall score		12.70	52.75
Max possible overall Score		24.00	100.00
Field tested average score			55.00

Table 5.4 shows that the financial services organisations are very good at acquiring knowledge (65 percent) and in this regard exceed the field tested average score by 10 percent. They are average as far as applying knowledge (54.79 per cent) is concerned and are below average in terms of learning (51.75 percent), sharing (52 percent) and the building/sustaining (51.5 percent) of knowledge. The results indicate extreme weakness in terms of knowledge assessment (42.5 percent). The overall average score (52.75 percent) is below the field tested average score of 55 percent.

5.5 KM failures

Respondents were asked about earlier KM initiative failures (if any) and the reasons for such. The researcher wanted to ascertain whether reasons for failure had any bearing on the failure to apply the KM practices suggested in the literature. Two of the respondents reported earlier failures of major KM initiatives.

One respondent's organisation created a group-wide KM centre of excellence whose aim was to "extract value from KM". The centre consisted of two branches indicated below with their respective responsibilities:

- KM Technology – data management services, intranets and content management.
- KM consulting – KM audits, KM mapping, training and social network analysis.

In addition to the two branches, KM champions were recruited in operating divisions. However the centre closed down after about two years for the following reasons cited by the respondent:

- Difficulty in measuring ROI particularly on the consulting side
- KM was not linked to business plans
- Centre of excellence was headed up by an Administration Manager not familiar with KM
- Loss of focus and could not justify their existence.
- Redeployment of their executive sponsor
- Lack of knowledge in terms of applying the softer tools

Another group-wide KM initiative in another organisation failed for reasons fairly similar to the first. Reasons cited for failure by the respondent included:

- Leadership of the project by someone not familiar with KM.
- Lack of KM understanding
- Unrealistic expectations
- Not given a high priority
- Inadequate budget
- Not linking the business plans to strategy
- Inability to link KM initiatives to ROI

The cited failures highlight the importance of executive buy-in, leadership, strategy and measurement in implementing KM initiatives.

5.6 Summary

The objective of the research was to examine the KM practices of financial services organisations in South Africa in order to ascertain whether they apply appropriate KM strategies and practices and whether these practices form part of a strategic knowledge management initiative or whether they are practicing KM by default. In order to achieve this it was necessary to test a number of objectives using interview techniques and a questionnaire.

It was found that there was strong support for KM as a strategic imperative or as a value adding tool. Notwithstanding this, 90 percent of respondents indicated that KM was not formalised in their organisations. 50 percent of respondents believed they were practising KM in that KM processes and procedures were imbedded in organisational procedures, processes and cultures. The remaining respondents practice KM formally (10 percent) or do not consider themselves to be practicing KM at all (40 percent).

With reference to the future of KM, 40 percent of respondents indicated that they had no immediate plans for using KM, with the rest of the respondents currently implementing or evaluating KM, or planning to use KM in the future.

Other barriers identified included structure (hierarchies and silo effect), technology (systems not talking to each other) and costs (not in the budget). Further barriers included implementation issues, incentives for knowledge sharing as well as a general lack of awareness of KM in organisations

With the exception of one or two organisations, the results indicated that the financial services industry is not very proficient at being learning organisations. These organisations could improve their abilities to learn from failure and to learn from customers.

The results showed very poor support for KM leadership at both the operational and sponsorship levels.

Support for KM strategy as part of business strategy is very poor as evidenced by the lack of inclusion of KM in business plans and the failure to link KM activities to strategic outcomes, notwithstanding that organisational knowledge is viewed by executives as being important to business success.

Culturally the results revealed prevalence towards job orientation, parochial and open cultures, thus indicating a greater tendency to transfer and apply knowledge. Despite this, culture was considered by 50 percent of the respondents to be one of the main barriers to the application of KM.

The results indicate that organisations do not support the assessment of organisational knowledge in terms of the knowledge the organisation has and the knowledge it requires. Knowledge creation and knowledge acquisition received poor support from systems, culture and technology enablers. Prevalent cultures are conducive for knowledge storing but not much evidence in terms of technology use supports this. Culture was also found to be conducive towards knowledge sharing, but the results suggest that the use of systems, technologies and structures in optimising the sharing of knowledge are not supported strongly by organisations. The measurement of KM processes is not being supported by respondent organisations.

Finally the overall tests applied to establish the strengths and weaknesses of KM processes indicated strong support for getting knowledge, average support for applying knowledge, below average support for learning and sharing knowledge and very weak support for knowledge assessment.

The next chapter follows with a discussion on the results, a conclusion and the researcher's recommendation.

Chapter 6: Discussion, conclusion and recommendations

6.1 Introduction

This chapter discusses the results of the study. The research questions are discussed by outlining the results and introducing key insights that arose from the study. These are then evaluated against the literature reviewed. This chapter highlights the main findings of the research and provides a synthesis of the theory base and research results to produce a set of recommendations.

6.2 Discussion

6.2.1 Knowledge management

According to Nonaka & Takeuchi, cited in McAdam and McCreedy (1999), the plethora of KM definitions found in literature reflect the fact that people working in the field of KM come from a wide range of disciplines. This would imply that KM is whatever a person wants it to be. The lack of a standard definition of KM has resulted in a lack of consensus of what KM actually is. It was therefore very important at the outset of the research to determine what the respondents understood by KM.

A formalised KM initiative, in the context of this study, is one that is being managed as a separate function, under the leadership of a person qualified to do so, and which is embodied in the strategy of the organisation. The use of the term KM initiative in this study implies a "formalised KM initiative". The questions asked in relation to KM use this as a point of reference. Of the respondents, 90 percent indicated that KM was not formalised in their organisation.

To be effective KM must be made productive in each of the performance elements of an organisation, namely strategy, structure, systems and culture (Beijerse, 2000). Each of the elements can be seen as a leg of a table. If one leg is missing, the table wobbles, if two are missing, it collapses.

The process of making KM productive in the performance elements of an organisation should also be managed, in terms of planning, organising, directing, co-ordinating and control (Cronje, 1990). Accordingly, it is the view of the researcher that although it is possible to implement individual KM projects without formalising KM, it is unlikely to be as effective.

Comments made by the vast majority of respondents provide clues as to why KM has not been formalised. Firstly, there is confusion as to the difference between KM and information management. 20 percent of the respondents indicated that information management is KM. However according to the literature, knowledge is richer and more meaningful than information and can be seen as information which is applied. Knowledge therefore requires understanding gained through experience or study and results from making comparisons, identifying consequences and making connections (The NeLH Specialist Library, 2007). Secondly, although KM is considered strategically important or value adding, it is a poorly understood discipline, with respondents indicating an inability to implement KM. Thirdly, 50 percent of respondents believe that they are practicing KM without calling it that (figure 5.1). This would imply that the management processes referred to in chapter 2, which are necessary to drive any management initiative, including KM, are missing.

6.2.2 Knowledge based view of the firm

Grant (2005) proposes that for a firm to prosper it must establish a competitive advantage and that resources and capabilities are seen as a major source of competitive advantage. According to the author, the knowledge based view of the firm is an extension of the resourced based view of the firm. The knowledge based view of the firm emphasises the strategic importance of KM and as such justifies the existence of KM. As such KM must add value.

Figure 5.2 shows, that 90 percent of respondents agreed with the statement that knowledge as part of the resource base of the organisation generates value. These views were consistent with the question which asked respondents whether they felt that KM was a strategic imperative, value adding or a fad. Figure 5.3 indicates that 50 percent of the respondents viewed KM as a strategic imperative whilst the other half

viewed KM as value adding. To re-enforce the research results, respondents were asked if their CEO's link the importance of knowledge to business success. Table 5.5 indicates the respondents' strong support for this statement. Based on these results, the importance attached to KM by the respondents is without question.

These encouraging responses are however over-shadowed by the fact that 90 percent of the respondents indicated that KM was not formalised in their organisations, but that KM processes are embedded in the organisational processes, procedures and cultures. Furthermore, when enquiring on the current state of engagement in KM (figure 5.4), 40 percent of respondents indicated that their organisations have no immediate plans for using KM. A further 20 percent were evaluating the implementation of a KM initiative. It is clear from the results that KM is not on the immediate agenda of financial services organisations in South Africa.

It seems contradictory that something that is considered so important is given so little attention. A possible explanation for this was summed up by one of the respondents:

"...we get our competitive edge through sheer size and brand...the bottom line could be significantly enhanced through KM, however the organization is in a rut and earning sufficient profits vis-a-vis its competitors...globalisation may change this as competition moves to the global arena,..."

6.2.3 Barriers to the implementation of KM

A further possible explanation for the contradiction between the perceived value of knowledge and the implementation of KM processes may be found by investigating the possible barriers to the application of KM.

Structure was considered to be a hindrance to knowledge sharing and knowledge creation by 50 percent (figure 5.6) of the respondents, despite the fact that 80 percent of respondents reported flat structures in their organisations with the remaining 20 percent reporting hierarchical structures. However, Sbarcea (1999) is of the opinion that structure is irrelevant, in that knowledge in organisations is

transferred in informal and unstructured ways irrespective of the physical organisational structure.

Culture was seen as the other main barrier to the application of KM by 50 percent of the respondents. The effect of the cultural domains which were examined, do not necessarily support the contention that culture is a barrier in the context of the organisations examined. Culture will be discussed further on, in the context of specific processes.

Technology and cost were considered a hindrance by only 20 percent of the respondents. Technology was considered a barrier in the sense that few of the state-of-the-art systems are talking to each other. Cost, although cited by only 20 percent of the respondents is a lot more significant than first meets the eye. Cost was considered a barrier in the sense that "time is money" not to be wasted on soft issues.

In the opinion of the researcher, three other barriers raised by some of the respondents as an after thought, offer the closest explanation as to why KM is not formalised or implemented in organisations. The first two, namely a lack of awareness within organisations as to what knowledge management is, and a lack of understanding of how to implement KM can be summed up in comments echoed by two of the respondents:

- "...KM is deemed to be important but we do not know how to implement it..."
- "...KM is value adding but is a poorly understood discipline..."

The third barrier namely that of not incorporating KM into the budgeting system, together with the cost barrier discussed above, is a reflection of the lack of strategic emphasis placed on KM. This is put into context in chapter 6.2.6.

6.2.4 Learning organisation

Measuring respondent organisations against the yardstick of the 'learning organisation' could proxy as a health check on KM practices. According to Bose (2004), the creation and application of knowledge will have the effect of increasing collaboration which in turn will lead to an increase in organisational learning.

The average KMD score from table 5.3 was below the field average tested score of 55 percent. This indicates below average performance. From table 5.3 it is apparent that the organisations are relatively stronger at engaging in off-site learning experiences to find better ways of working together, learning from failure and reflecting on lessons learned. On the other end of the spectrum, disagreement and business simulation games and learning from customers is not seen as an opportunity to learn. These results support the interview results. The above score could be indicative of poor KM practices either in the creation or acquisition of knowledge.

After-action reviews and learning from failure indicate strength in adaptive learning abilities. Learning from customers was not well supported, indicating weakness in generative learning abilities. According to Graham and Englund (2004), adaptive learning is important in the short-term but generative learning leads to long-term survival.

Overall test results indicate that financial services organisations are below average as learning organisations.

6.2.5 KM leadership

Leadership is vital for any management initiative and KM is no exception. The task of a knowledge manager is to ensure that the KM function is properly managed. This involves planning, organising, directing, co-ordinating and controlling of the KM function as envisaged in the related theory. The role of a Knowledge Manager is to make knowledge available, leverage knowledge and enable knowledge (Squier and Snyman, 2004).

Figure 5.9 shows, that 70 percent of the respondents had not appointed anyone to lead their KM initiatives. This does not come as any surprise as 90 percent of respondents have indicated that they do not practice KM formally. Only one organisation employed a full time professional Knowledge Manager.

Respondents indicated that the role of a Knowledge Manager could be conducted by someone else with a different title. However, only 20 percent of the respondents indicated this to be the case in their organisation.

Davenport and Prusack (1998) recommend the appointment of a Chief Knowledge Officer (CKO) in order to advocate knowledge discovery and use, design and implement an organisation's knowledge infrastructure, manage relationships with external providers of information and knowledge, design and implement an organisation's knowledge codification process and to measure and manage the value of knowledge, manage other professional knowledge managers and to lead the development of knowledge strategy.

The interview results also indicated that past KM initiative failures within two organisations were due to a lack of suitably qualified leadership. According to Chauke and Snyman (2003) as cited in Squier and Snyman (2004), KM requires a manager with specific knowledge and skills to champion the concept of KM. In both instances the people heading up the KM initiative were Administration Managers who did not have a clear understanding of KM concepts. Further requirements would include familiarity with knowledge orientated organisations and technologies and a strong grounding in the primary processes of the business (Jones, Herschel and Moesel, 2003).

6.2.6 Strategy

KM strategy will only succeed if it is made a part of the business strategy. The goal is to align the organisation's knowledge strategy with its business strategy (Bukowitz and Williams, 2000). Making KM a part of the strategic process is to make it visible and to give it a measure of legitimacy in the organisation.

None of the respondent organisations include KM in their business plans (figure 5.10). This is further highlighted by the fact that only 10 percent of respondents link KM activities to strategic outcomes (figure 5.11). If KM is not included in business plans, it is possible that KM may not be in line with business strategy.

Failure to include KM in business strategy has a number of implications. Firstly, if KM is not included in a business plan it will not be considered important as a means of achieving organisational goals and therefore ignored. A comment made by a respondent that "...cost is a barrier in a sense that "time is money" not to be wasted on soft issues where ROI cannot be proved ... don't have time for debriefing...get on with the next project..." will no longer be valid if KM is included in business plans. Secondly, if KM is not built into business plans, it will not be budgeted for. If it is not budgeted for, it will not happen, as is illustrated by this comment..." have already achieved my budget, so what more do I need..."

It remains a puzzle, that CEO's attach such importance to knowledge as a catalyst for business success, yet fail to include KM in their business plans.

The KMD results as reflected in table 5.4, on the building and sustaining of knowledge reflect a below average score and concur with the results discussed under KM leadership and strategy. A high score in this process would ensure that the intellectual capital would keep the organisation viable and competitive.

6.2.7 Knowledge identification

The next important step after building KM into the strategy process and appointing a KM leader is to identify the necessary knowledge in the organisation that will assist in achieving the organisation's goals. This is the first strategically driven step in the KM process.

The tool most commonly used to identify knowledge is the knowledge audit and is usually the first step in initiating a KM program (Hylton, 2002). Most knowledge audits involve the creation of a knowledge map which is a visual representation of an organisation's knowledge (Schwikkard and Du Toit, 2004).

The results indicated that 90 percent of the organisations have not yet mapped their knowledge. The implication of this result is that despite organisations being under the impression that they are practicing KM, albeit informally, they could well be focussing their efforts in areas that are not adding value to the organisation and ignoring areas that could be adding value.

Other tools such as white pages and social network analysis were not being utilised. White pages are a particularly easy tool to implement and could show members CV's, areas of expertise and areas of interest etc (NeLH Specialist Library, 2005).

Knowledge creation was considered by a few respondents as being important in terms of new product development. However, with most financial services organisations selling "commodity-type" products, knowledge creation was not considered to be particularly important by the majority of respondents.

This may also have to do with the culture of financial services organisations, which display a high degree of stability and direction. According to Kayworth and Leidner (2004), this has a negative effect on creative activities.

An anomaly has arisen in that the interview showed that only 10 percent of respondents use after-action reviews as a tool for knowledge creation. However in the learning organisation questionnaire, 70 percent of respondents indicated that they take time to meet as a team in order to discuss what went wrong and what could be learnt from that. In the view of the researcher, the questionnaire results are more accurate as this response was corroborated by other similar questions.

It should be noted that after-action reviews do not create knowledge of themselves, but it is the learning and the subsequent sharing of that learning that creates the knowledge.

Only 30 percent of the respondents indicated using business intelligence software to assist in decision making and product development. A greater response was anticipated, given that financial services organisations are very data and actuarially orientated.

Hierarchical structures were blamed by 20 percent of the respondents as not being conducive to knowledge creation. According to Van den Bosch (1999), top-down, divisional structures have a low potential for knowledge absorption flexibility. Furthermore, the collection and distribution of information is cumbersome and slow (Fiol, 2003). For these reasons organisations are flattening their structures in order to focus on ensuring flexibility of new knowledge creation (Beiers, 2000). However not all experts agree with this view and regard structure as irrelevant. This is summed up by Fiol (2003) who says that structures are not the primary drivers of knowledge work and cannot of themselves produce meaningful communication or relationships. However, according to Sbarcea (1999), flatter structures seem more likely to allow for informal and unstructured relationships than top-down structures, but the structures themselves do not produce the relationships. It is clear that more research is necessary in order to better understand the relationship between structure and KM.

With the advent of the internet, e-mail and intranets, **knowledge acquisition** has never been easier. All the organisations under review allow their staff access to these tools. However, it is disappointing that only 10 percent use collaborative tools, 20 percent have information centres and 10 percent utilise exit interviews as a means of acquiring the knowledge of people leaving the organisation. All the financial services organisations have giant databases housing data and information, but knowledge repositories housing for example lessons learned or databases of expertise were not evident. However, the research was not all encompassing, and it is likely that other tools not considered, would also contribute towards knowledge acquisition.

None of the respondents acknowledge the use of benchmarking. This is however a valuable tool in acquiring knowledge on the basis of the work that someone else has done i.e. to prevent re-inventing the wheel.

The average KMD score (65 percent), on knowledge acquisition (table 5.4) was relatively higher than the scores for the other processes measured. However, although the score of 65 percent is higher than the average field tested score of 55 percent, it nevertheless indicates that there is a lot of room for improvement.

An examination of the results of the KMD questionnaire (Appendix 3) reveals some interesting insights. The results indicated strong support for the statement that the organisations had established ways for people to document information. Weak support was received for the statement that people can search for information across a wide variety of applications and databases. The other statement that was weakly supported was that groups and individuals routinely document and share information. This indicates two things: firstly, that although the organisations have established ways for people to document and share information these databases and applications are restricted to localised areas only and are not available to people in other areas of the company (Silo effect). Collaboration is a problem. Secondly, the infrastructure created for people to share their expertise is only as good as the willingness of groups and individuals to use this infrastructure so that other people can acquire their knowledge (to acquire knowledge, someone must have been willing to share it).

One can therefore conclude from the aforementioned discussion that sufficient technology exists for people to acquire knowledge, but that the existing technologies are by and large confined to Silos and that there is a reluctance on the part of individuals or groups to share their expertise by means of these technologies. Valuable knowledge is being lost because the organisations are not employing techniques such as knowledge harvesting or exit interviews which have been adapted to include KM aspects.

Knowledge storage facilitates the access to knowledge and the transfer of knowledge through knowledge repositories which consist of a variety of databases. From figure 5.8 it is evident that only 20 percent of organisations utilise knowledge repositories as envisaged for the purpose of KM.

The results indicated that the culture of financial services organisations is characterised by high degrees of stability and control. According to Kayworth and Leidner (2004) this will have a positive effect on knowledge storage capabilities.

Although knowledge storage capabilities are strong, the will to use them clearly is not.

The most important enabling element driving **knowledge sharing** is culture. The cultural dimensions identified showed a strong job orientation (70 percent versus 30 percent) indicating an emphasis on the performance of tasks effectively. In this kind of culture knowledge sharing will be hindered (Kayworth and Leidner, 2004). The other dimensions identified that could have a positive effect on knowledge sharing were parochial and open cultures. According to Kayworth and Leidner (2004), a parochial culture suggests loyalty to the organisation by the individual and in an open culture a more homely atmosphere is prevalent as opposed to being secretive and wary of outsiders or insiders. The results also indicate that parochial cultures are slightly more prevalent than professional cultures (60 percent versus 40 percent) indicating a greater tendency to share knowledge. Open cultures (which also indicate a greater tendency to transfer knowledge) are slightly more prevalent than closed cultures (60 percent versus 40 percent). On balance, the results suggest that financial services organisations as an industry are neither positively nor negatively disposed to knowledge sharing.

The results indicate that e-mail (100 percent) is the main tool earmarked for knowledge sharing. However on its own it is insufficient. Work-flow systems are useful in that core process knowledge is embedded in the design of the software (Dubowski, 2006). This is a good example of a system where tacit knowledge is converted to explicit knowledge; it is stored and then shared among users. Only half the respondents reported using this technology. Wiki's and other collaboration software account for 30 percent. These results are disappointing bearing in mind the important role that technology plays in facilitating knowledge transfer.

Figure 5.8 shows the percentage of respondents applying particular KM techniques as follows; suggestion schemes (60 percent), mentoring (50 percent), CoP's (50 percent) and storytelling (50 percent).

Of all the KM techniques listed, CoP's are probably the most important as a knowledge sharing tool. Their foundation rests on the idea that the most critical knowledge in any organisation is not stored in its computer system but in its casual conversations (Moreno 2001). It is an attempt to make tacit knowledge more

accessible to the organisation at large. As such culture is a greater enabler of sharing than technology.

Of the respondents, 50 percent indicated that structure was a hindrance in terms of knowledge sharing for two reasons. Firstly, 20 percent indicated that their organisational structures were hierarchical which they felt was not conducive to knowledge sharing and knowledge creation. Secondly, 50 percent of the same respondents reported the formation of bureaucratic barriers between themselves and other functions often referred to as the “silo effect” for structures that were both flat and hierarchical.

Much has been discussed about structure under knowledge creation and will not be repeated here. According to Sbarcea (1999), even in flat organisations, the suppression of conversations will not enhance knowledge work and by contrast the encouragement of conversations in top-down structures, will promote knowledge work. It is therefore uncertain whether structure will have any effect on knowledge sharing.

The KMD score in part D of table 5.4 holds no surprises, and reflects a below average score of 52 percent. Of interest (Appendix 3) is that only 30 percent of respondents agreed with the statement that knowledge sharing behaviour is built into their performance appraisal system. It is also apparent that organisations are not making it easy for people to share. Of the respondents, 70 percent indicated that the process of contributing knowledge via repositories is hampered by the fact that such repositories are not seamlessly integrated into work activities. Furthermore, 40 percent of respondents stated that the electronic and physical spaces where knowledge is stored are not intuitively structured to help people direct their contributions.

Culture is a significant enabler of the **knowledge utilisation** process. The same considerations in respect of culture that apply to knowledge sharing, apply equally to knowledge utilisation. The effects of culture in respect of knowledge utilisation are therefore neutral for the same reasons, as those discussed for knowledge sharing.

The KMD score for this process was an average of 55 percent as shown in table 5.4. This can be attributed mainly to the culture of participation exercised in many financial services organisations (Appendix 3).

Knowledge evaluation is about the measurement of KM. The results revealed that none of the respondents use any form of metrics to gauge the performance of KM initiatives as is apparent from figure 5.13. Of the respondents, 70 percent indicated that neither quantitative nor qualitative techniques are used to gauge the effectiveness of KM processes.

The KMD score for this process as shown in table 5.4 is 42.5 percent. It is the lowest of all the individual KMD results and is in line with the above analysis (Appendix 3). There are two possible reasons for this, Firstly in view of the few KM processes actually initiated by respondents, there is nothing to measure. Secondly, according to Bose (2004) measuring KM is the least developed aspect of KM because of the difficulty in measuring something that cannot be seen.

The fact that it is difficult to measure does not mean that it should not be measured as failure to measure can lead to a loss of focus and an inability to justify the cost of the initiative.

The **overall results** as per table 5.4 shows that the financial services organisations are better at acquiring knowledge (65 percent) and in this regard exceed the field tested average score by 10 percent. They are average as far as applying knowledge (54.79 per cent) is concerned and are below average in terms of learning (51.75 percent), sharing (52 percent) and the building/sustaining (51.5 percent) of knowledge. The results indicate extreme weakness in terms of knowledge assessment (42.5 percent). The overall average score (52.75 percent) is below the field tested average score of 55 percent.

The above results indicate the relative strengths and weaknesses of the various KM processes practiced by the respondents' organisations. The results do not reflect the KM status in absolute terms. Although the yardstick against which the scores were

measured is the field tested score of 55 percent, this acts as a guideline only. The field tested score was based on a variety of organisations in varying industries.

The overall average KMD score was 52.75 percent which is below the field tested score of 55 percent. The score actually indicates that financial services organisations in South Africa have only reached half their potential in terms of KM practices.

6.3 Main findings of the research

The main findings of the research are summarised below.

Most of the respondents believe they are practicing KM, not as part of a strategic KM initiative but through informal KM practices that are embedded in organisational processes, procedures and cultures. A formalised KM initiative, in the context of this study, is one that is being managed separately, under the leadership of a person qualified to do so, and which is embodied in the strategy of the organisation. Therefore it is the view of the researcher that the informal practice of KM is not true KM.

The overwhelming support of respondents for knowledge as an agent of value is contradicted by a lack of KM formalisation and the poor level of KM engagement in current and anticipated KM projects or initiatives.

Structure, culture, technology and costs were considered to be barriers to the implementation of KM. There may be an element of truth in all of these, but the most likely barrier in the opinion of the researcher are ignorance, a lack of understanding as to how to implement KM and the lack of strategic emphasis given to KM.

Overall test results indicate that financial services organisations are below average as learning organisations.

Of all the respondents, only one organisation had employed a professional knowledge manager to manage their KM processes and practices. Two KM initiative

failures can be attributed to a lack of suitably qualified and experienced KM leadership

KM strategy is not aligned with business strategy and as such is not included in the business plans of the organisations.

The majority of the organisations have not performed a knowledge audit. The implication is that despite organisations being under the impression that they are practicing KM, albeit informally, they could well be focussing their efforts in areas that are not adding value to the organisation and ignoring areas that could be adding value.

From a cultural point of view, financial services organisations are not pre-disposed to knowledge creation and neither does the nature of their products encourage knowledge creation. It is uncertain whether structure has an impact on the knowledge creation process in the organisation. After-action reviews are descriptive of the organisations under review but the use of technology to support knowledge creation is limited.

Sufficient technology exists for people to acquire knowledge, but the existing technologies are by and large confined to silos and there is reluctance on the part of individuals or groups to share their expertise by means of these technologies. Valuable knowledge is being lost because the organisations are not employing techniques such as knowledge harvesting or exit interviews which have been adapted to include KM aspects.

The practice of benchmarking or best practices was not evident from the results.

Although knowledge storage capabilities are strong, the will to use them was not evident.

The results indicate that organisational culture within the industry is neutral as an enabler of knowledge sharing. Technology as a facilitator of knowledge transfer was also poorly supported. The most important KM technique utilised was CoP's but was

supported by only half the respondents. It is unclear whether structure has an impact on knowledge sharing. Overall the KMD score is below average and highlights the fact that organisations are not doing enough to either encourage knowledge sharing or to make the sharing of knowledge easier.

Knowledge utilisation was relatively well supported and this can be attributed mainly to the participative leadership styles practiced by some of the respondents.

None of the respondents use any form of metrics to gauge the performance of KM initiatives. This is either because they have no KM initiatives to measure, or because of the difficulty in measuring KM initiatives.

The overall KMD score indicates that financial services organisations in South Africa have only reached half their potential in terms of KM practices.

6.4 Recommendations

These recommendations arise out of the weaknesses identified from the research results:

- In order to remain competitive, organisations should implement a formal KM initiative
- KM should be formalised and have top executive buy-in.
- An education program should be implemented, aimed at all levels of the organisation, teaching people what KM is and how it can benefit them.
- Knowledge workers must be trained in how to implement KM.
- Knowledge champions must be appointed throughout the organisation to act as representatives of the KM department.
- A full-time, professional Knowledge Manager with the appropriate education and skills should be employed to lead the KM effort in the organisation.
- KM should be given a strategic emphasis by including it as part of the business strategy process. The knowledge strategy must answer; what is to be shared, with whom is it to be shared, how will it be shared and why will it be shared.

- To ensure that there is sufficient knowledge to meet the strategic objectives of the organisation and to ensure that KM initiatives are focussing on areas that add value to the organisation, the organisation must engage in a knowledge audit, utilising tools such as knowledge mapping and social network analyses.
- Organisations should pay more attention to after-action reviews as a means of creating new knowledge. This can be applied to projects and to the performance of departments or divisions for example on a monthly basis. The results should then be captured into a knowledge repository for future reference.
- Technologies should be developed so as to mitigate against the "silo" effect.
- Exit interviews should be adapted or knowledge harvesting techniques should be employed in order to capture the knowledge of people leaving the organisation with the objective of ensuring that their critical knowledge remains behind.
- To facilitate the willingness of people to share, organisations should develop cultures that are open, parochial and employee orientated. However culture is often difficult to change and could take a long time. In this instance, the KM strategy should be designed bearing in mind the existing culture.
- Knowledge sharing should be encouraged by building an undertaking to share knowledge into employment contracts and by including knowledge sharing as a key result area in performance appraisals. This will send the message that knowledge sharing is not a passing fad, but rather a permanent fabric of the organisation.
- Organisations should strongly encourage the formation of CoP's in order to facilitate knowledge sharing.
- There should be an organisational embrace of the value of knowledge sharing. This will make the implementation of KM relatively easy. Knowledge sharing should be built into the "values" statement of the organisation.
- Knowledge repositories should be intuitively structured to allow for ease of access or ease of capturing.
- Knowledge initiatives should be measured both quantitatively and qualitatively. Current practice overseas is to use an adapted form of the balanced score

card to measure KM initiatives. The relevant metrics used, will depend on the objectives of the KM program.

- In implementing the above initiatives, do not go for a "big bang" approach. Focus initially on areas that are critical, where success can be assured and the effort is measurable. Repeat this and build on from there....

However, if organisations do not have, or are not willing to apply the necessary resources to implement the above recommendations, a lighter approach is possible which would also benefit the organisation but not be as effective. Bose (2004) states that there are three broad objectives of KM in an organisation: leveraging an organisation's knowledge; creating new knowledge and increasing collaboration. He states that the most common KM programs that will jointly address all of the above three objectives, involve the development of knowledge repositories and the forming and developing of CoP's.

6.5 Future research

This research was exploratory in nature, and can accordingly serve as a precursor to future research. The findings of this research have highlighted several areas that could be the subject of further research:

- The relationship between organisational structure and its impact on KM processes is unclear. For example, the experts seem divided as to whether flatter structures are better at facilitating knowledge transfer than top-down structures.
- The research represents a snapshot of various financial services organisations. Future research could be focused on specific types of organisations which fall under the financial services umbrella.
- This research was extremely broad. Future research could focus on specific processes only, or on specific enablers in the context of financial services organisations in South Africa.

6.6 Conclusion

This exploratory research sought answers to the following three questions:

1. Are current KM practices/ processes in line with contemporary best practices?
2. Do current practices form part of a "strategic" KM initiative, or are they merely embedded in organisational processes, procedures and cultures?
3. How do companies see the future of KM?

The research can confirm that KM practices are not in line with contemporary best practices and have reached only half of their potential in this regard. The research can also confirm that for the majority of organisations, current practices are merely embedded in processes, procedures and cultures. Given the poor levels of engagement in current and future planned KM initiatives, it is apparent that the future of KM is uncertain. However rapid globalisation may change this.

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Appendix 1



Interview Schedule

Researcher introduces himself and thanks the interviewee for making time available to meet with the researcher. Brief explanation of the research topic is provided and the purpose of the interview and questionnaire (Appendix 2) is explained.

4. What is the perception of knowledge management in the organisation?
5. What is the current state of engagement with regards to knowledge management?
6. Would you consider your organisation to be a learning organisation?
7. What is the role of KM leadership in your organisation?
8. How has KM strategy been implemented in your organisation?
9. How would you describe your organisational culture?
10. What are the barriers to the application of knowledge management in your organisation?
11. What technologies contribute to your knowledge management initiative?
12. What techniques support your knowledge management initiative?
13. How is KM measured in your organisation?

The interviewee is informed that there are no further questions and is invited to raise any issue pertinent to the research topic that the respondent feels was not discussed. In the absence of any additional issues, the interviewee is asked to complete the questionnaire (Appendix 2).

Appendix 2



Knowledge Management Questionnaire

Demographic information:

Position held:

Tenure with your organisation (in your capacity as knowledge officer/manager, information/systems manager or other)

Copy of dissertation required?

Your contact details (if a copy of the dissertation is required)

The questionnaire consists of five sub-sections. Please answer all the questions by marking the applicable block with an X

Evaluation criteria

S - The statement is strongly descriptive of my organisation

D - The statement is descriptive of my organisation

O - I neither agree nor disagree with the statement

N - The statement is weakly descriptive of my organisation

W - The statement is not descriptive of my organisation

Appendix 2

Part A -Acquire knowledge

		Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive
1	Groups and individuals routinely document and share information about their expertise.	S	D	O	W	N
2	The organisation allocates resources to communities of specialists that wish to manage their knowledge	S	D	O	W	N
3	The electronic and physical places where we store our knowledge are kept up to date	S	D	O	W	N
4	Communities of specialists are easy to identify making it clear to others in the organisation where to go for specific information	S	D	O	W	N
5	We have established ways for people to document and share information	S	D	O	W	N
6	Specific individuals identify, collect , classify, summarise and disseminate organisational knowledge	S	D	O	W	N
7	Experts play a role in identifying important information for other users	S	D	O	W	N
8	The electronic and physical places where we store our knowledge contain the best information available on a wide range of critical topics	S	D	O	W	N
9	People can search for information across a wide variety of applications and databases	S	D	O	W	N
10	Requests for information posted to the intranet or discussion forums are generally easy to understand	S	D	O	W	N
11	The organisation has created electronic and paper based tools which direct people to available resources	S	D	O	W	N
12	We have established ways for people to document and share information.	S	D	O	W	N

Appendix 2

Part B - Use knowledge

		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive
13	Our reporting relationships do not interfere with people getting the information they need	S	D	O	W	N
14	Office space is not used as a symbol of status or seniority in our organisation	S	D	O	W	N
15	Everyone can describe how their decisions can effect overall organisational performance	S	D	O	W	N
16	Everyone speaks up if they have an opinion or idea to offer	S	D	O	W	N
17	We seriously consider what others might call crazy or outrageous ideas as part of our problem solving process	S	D	O	W	N
18	We view collaborating with competitors to grow the industry as a good thing to do	S	D	O	W	N
19	We give all promising ideas thorough consideration, no matter who they come from	S	D	O	W	N
20	We make a point of not structuring some of our meetings because it helps us think more creatively about problem solving	S	D	O	W	N
21	Involving our customers in the process of creating and developing new products and services is a well established practice in our organisation	S	D	O	W	N
22	People would describe our organisation as flexible rather than rigid	S	D	O	W	N
23	We frequently partner with our suppliers to improve the way we deliver to our customers	S	D	O	W	N
24	Our workspace is designed to promote the flow of ideas between work groups	S	D	O	W	N

Appendix 2

Part C- Learning organisation

		Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive
25	Teams engage in off-site learning experiences to find better ways of working together	S	D	O	W	N
26	We use work-related games and simulations to think more clearly about our business situations	S	D	O	W	N
27	Reflecting on lessons learned from work experiences is an established practice in our organisation	S	D	O	W	N
28	When people finish projects, they generally take time to meet with their team and analyse what went wrong and what could have been done better	S	D	O	W	N
29	Our learning process often includes gathering feedback from customers	S	D	O	W	N
30	When a failure occurs, our first response is not to assign blame	S	D	O	W	N
31	When we have a big success, we talk together about what we did right	S	D	O	W	N
32	In our organisation failure is considered an opportunity to learn	S	D	O	W	N
33	Our organisation supports group activities that promote mutual learning	S	D	O	W	N
34	At some time or other everyone in our organisation does hands on work to get first hand experience of the consequences of their decisions.	S	D	O	W	N
35	Learning from failure is incorporated into how we conduct subsequent work	S	D	O	W	N
36	We treat disagreement as an opportunity to learn from one another	S	D	O	W	N

Appendix 2

Part D –Share cknowledge

		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive
37	The organisation has determined where knowledge sharing across groups will yield the highest mutual benefits	S	D	O	W	N
38	We acknowledge contribution to our groupware system by linking it to the name of the original author.	S	D	O	W	N
39	Face-to-face interactions are used to strengthen electronic communications	S	D	O	W	N
40	People are members of multiple communities making it easier to transfer knowledge across the entire organisation	S	D	O	W	N
41	We link people across different organisational units and functional groups to promote knowledge sharing	S	D	O	W	N
42	Electronic and physical spaces where we store our knowledge have an intuitive structure that helps people direct their contributions	S	D	O	W	N
43	Knowledge-sharing behaviour is built into the performance appraisal system	S	D	O	W	N
44	Our organisation looks for ways to remove barriers to knowledge sharing	S	D	O	W	N
45	Processes for contributing knowledge to the organisations repositories are seamlessly integrated into work activities	S	D	O	W	N
46	People can identify others in the organisation who might benefit from their knowledge	S	D	O	W	N
47	Knowledge sharing is publicly recognised	S	D	O	W	N
48	People focus their knowledge sharing on mission critical information	S	D	O	W	N

Appendix 2

Part E - Assess knowledge

		Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive
49	We recognise that knowledge is part of the resource base from which our organisation generates value	S	D	O	W	N
50	Members of the senior management team frequently talk about knowledge management when reporting on the state of the organisation	S	D	O	W	N
51	We measure our knowledge management process and its results	S	D	O	W	N
52	We issue an external document that reports on how well we manage knowledge	S	D	O	W	N
53	We have developed a framework that links knowledge management activities to strategic outcomes	S	D	O	W	N
54	We have a framework that describes how our organisations different forms of knowledge interact with one another to create value	S	D	O	W	N
55	We issue an internal document that reports on how well we manage knowledge	S	D	O	W	N
56	Assessment of intellectual capital is part of our overall organisational performance measurement process	S	D	O	W	N
57	We have been practicing knowledge management for some time now without calling it that	S	D	O	W	N
58	We rely on a team whose members have valuation, measurement and operating expertise to assess our knowledge management process and its results	S	D	O	W	N
59	We have mapped the process flow of knowledge management activities	S	D	O	W	N
60	Qualitative and quantitative metrics are used to gauge effectiveness of our knowledge management process	S	D	O	W	N

Appendix 2

Part F - Build / Sustain

		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive
61	Does the CEO link the importance of your organisational knowledge to your business success	S	D	O	W	N
62	Our IT systems promote the formation of different networks of people	S	D	O	W	N
63	Our top executives ask all managers to include knowledge management in their business plans	S	D	O	W	N
64	Our product development process explicitly includes our customers	S	D	O	W	N
65	Our organisation treats people like sources of value rather than costs	S	D	O	W	N
66	We have launched a group or appointed a person to lead our knowledge management effort	S	D	O	W	N
67	People generally trust the information they find in our IT systems	S	D	O	W	N
68	We are increasingly teaming up with other organisations in strategic networks or partnerships to bring innovative products to markets	S	D	O	W	N
69	Our products or services deliver much higher value as a result of the knowledge they contain	S	D	O	W	N
70	We strive to maintain people who have mission critical skills	S	D	O	W	N
71	We have a formal policy that ensures we share technology and ideas across unit or group borders	S	D	O	W	N
72	We see our products and services as having both a tangible and knowledge- based dimension	S	D	O	W	N

Appendix 3

Part A: Acquire knowledge: Results

Statements		Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
3	The electronic and physical places where we store our knowledge are kept up to date	30	50	0	10	10	78
4	Communities of specialists are easy to identify making it clear to others in the organisation where to go for specific information	40	30	0	20	10	75
10	Requests for information posted to the intranet or discussion forums are generally easy to understand	50	30	10	0	10	75
5	We have established ways for people to document and share information	20	50	0	20	10	70
8	The electronic and physical places where we store our knowledge contain the best information available on a wide range of critical topics	30	40	0	10	20	70
11	The organisation has created electronic and paper based tools which direct people to available resources	20	60	0	0	20	70
12	We have established ways for people to document and share information.	10	70	10	10	0	68
2	The organisation allocates resources to communities of specialists that wish to manage their knowledge	20	40	0	20	20	65
6	Specific individuals identify, collect, classify, summarise and disseminate organisational knowledge	0	60	10	20	10	58
7	Experts play a role in identifying important information for other users	10	60	20	0	10	58
9	People can search for information across a wide variety of applications and databases	10	30	10	30	20	53
1	Groups and individuals routinely document and share information about their expertise.	0	30	20	20	30	43

Appendix 3

Part B - Use knowledge: Results

Statements		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
14	Our reporting relationships do not interfere with people getting the information they need	30	20	0	40	10	68
22	Office space is not used as a symbol of status or seniority in our organisation	30	30	10	30	0	68
16	Everyone can describe how their decisions can effect overall organisational performance	10	40	0	40	10	63
19	Everyone speaks up if they have an opinion or idea to offer	30	40	20	0	10	63
23	We seriously consider what others might call crazy or outrageous ideas as part of our problem solving process	30	20	20	30	0	60
18	We view collaborating with competitors to grow the industry as a good thing to do	20	30	10	10	30	55
15	We give all promising ideas thorough consideration, no matter who they come from	20	10	10	40	20	53
24	We make a point of not structuring some of our meetings because it helps us think more creatively about problem solving	0	40	10	40	10	53
17	Involving our customers in the process of creating and developing new products and services is a well established practice in our organisation	20	10	20	30	20	48
21	People would describe our organisation as flexible rather than rigid	20	30	30	0	20	48
20	We frequently partner with our suppliers to improve the way we deliver to our customers	0	30	20	30	20	43
13	Our workspace is designed to promote the flow of ideas between work groups	10	30	40	10	10	40

Appendix 3

Part C – Learning organisation: Results

Statements		Strongly descriptive	Descriptive	Neither agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
25	Teams engage in off-site learning experiences to find better ways of working together	10	70	0	10	10	70
35	Learning from failure is incorporated into how we conduct subsequent work	0	60	0	30	10	63
27	Reflecting on lessons learned from work experiences is an established practice in our organisation	20	30	10	30	10	60
33	Our organisation supports group activities that promote mutual learning	10	50	10	20	10	60
28	When people finish projects, they generally take time to meet with their team and analyse what went wrong and what could have been done better	0	70	10	0	20	58
30	When a failure occurs, our first response is not to assign blame	10	30	0	40	20	58
31	When we have a big success, we talk together about what we did right	20	30	20	10	20	53
29	Our learning process often includes gathering feedback from customers	10	30	20	30	10	50
32	In our organisation failure is considered an opportunity to learn	10	20	20	20	30	43
36	We treat disagreement as an opportunity to learn from one another	10	10	30	40	10	40
26	We use work-related games and simulations to think more clearly about our business situations	10	10	30	30	20	38
34	At some time or other everyone in our organisation does hands on work to get first hand experience of the consequences of their decisions.	10	20	50	10	10	33

Appendix 3

Part D – Share knowledge: Results

Statements		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
46	People can identify others in the organisation who might benefit from their knowledge	10	70	0	10	10	70
39	Face-to-face interactions are used to strengthen electronic communications	40	30	30	0	0	63
40	People are members of multiple communities making it easier to transfer knowledge across the entire organisation	10	50	0	20	20	63
41	We link people across different organisational units and functional groups to promote knowledge sharing	20	40	20	10	10	58
44	Our organisation looks for ways to remove barriers to knowledge sharing	0	50	10	30	10	55
47	Knowledge sharing is publicly recognised	20	30	20	20	10	55
37	The organisation has determined where knowledge sharing across groups will yield the highest mutual benefits	10	30	10	30	20	53
48	People focus their knowledge sharing on mission critical information	0	60	20	0	20	50
43	Knowledge-sharing behaviour is built into the performance appraisal system	10	20	0	10	60	45
42	Electronic and physical spaces where we store our knowledge have an intuitive structure that helps people direct their contributions	10	20	30	30	10	43
45	Processes for contributing knowledge to the organisations repositories are seamlessly integrated into work activities	10	0	20	50	20	40
38	We acknowledge contribution to our groupware system by linking it to the name of the original author.	0	10	30	40	20	33

Appendix 3

Part E – Assess knowledge: Results

Statements		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
49	We recognise that knowledge is part of the resource base from which our organisation generates value	40	50	0	10	0	83
57	We have been practicing knowledge management for some time now without calling it that	30	20	0	30	20	65
56	Assessment of intellectual capital is part of our overall organisational performance measurement process	10	40	10	20	20	55
50	Members of the senior management team frequently talk about knowledge management when reporting on the state of the organisation	10	30	20	10	30	45
58	We rely on a team whose members have valuation, measurement and operating expertise to assess our knowledge management process and its results	10	20	10	10	50	43
54	We have a framework that describes how our organisations different forms of knowledge interact with one another to create value	0	20	10	20	50	38
55	We issue an internal document that reports on how well we manage knowledge	0	10	20	0	70	35
59	We have mapped the process flow of knowledge management activities	0	10	10	30	50	35
51	We measure our knowledge management process and its results	0	0	10	40	50	33
53	We have developed a framework that links knowledge management activities to strategic outcomes	10	0	10	10	70	33
52	We issue an external document that reports on how well we manage knowledge	0	0	20	20	60	25
60	Qualitative and quantitative metrics are used to gauge effectiveness of our knowledge management process	0	0	30	20	50	23

Appendix 3

Part F – Build / sustain knowledge: Results

Statements		Strongly descriptive	Descriptive	Nether agree nor disagree	Weakly descriptive	Not descriptive	KMD Score
		%	%	%	%	%	%
70	We strive to maintain people who have mission critical skills	50	20	0	20	10	78
61	Does the CEO link the importance of your organisational knowledge to your business success	20	50	10	20	0	68
67	People generally trust the information they find in our IT systems	20	40	10	30	0	65
65	Our organisation treats people like sources of value rather than costs	30	30	20	20	0	63
71	We have a formal policy that ensures we share technology and ideas across unit or group borders	20	20	10	30	20	55
62	Our IT systems promote the formation of different networks of people	0	60	20	0	20	50
66	We have launched a group or appointed a person to lead our knowledge management effort	20	10	0	20	50	50
68	We are increasingly teaming up with other organisations in strategic networks or partnerships to bring innovative products to markets	10	40	30	10	10	48
69	Our products or services deliver much higher value as a result of the knowledge they contain	30	10	50	10	0	43
72	We see our products and services as having both a tangible and knowledge- based dimension	10	20	40	20	10	38
64	Our product development process explicitly includes our customers	10	30	50	20	10	35
63	Our top executives ask all managers to include knowledge management in their business plans	0	0	20	40	40	30

Appendix 4

KM Processes and enablers

Knowledge stocks and flows	Knowledge processes (Beijerse, 2000)	KM enabling elements	KM enabling tools	Performance elements (Beijerse, 2000)
Strategy/ Leadership				
Knowledge identification	Determine necessary knowledge	Strategy	Knowledge audit	Strategic
	Determine knowledge available	Strategy	- Social network analysis - Knowledge audit - Knowledge map - White pages	Strategic
	Determine knowledge gap	Strategy	Knowledge audit	Strategic
Knowledge generation	Knowledge creation	- Systems - Culture - Technology - Structure	- After-action reviews - Knowledge creation technologies	Structure Culture
	Knowledge acquisition	- Systems - Technology	- Exit interviews - Info Centres - Benchmarking - KM harvesting - Repositories	- Systems - Structure
Knowledge application	Knowledge storage	- Technology - Structure - Culture	- Content management software	- Systems - Structure
	Knowledge sharing	- Culture - Systems - Technology - Structure	- Story telling - CoP's - Collaboration Software - Peer-assists	- Culture - Structure
	Knowledge utilisation	Culture	Best practice transfer	Culture
	Knowledge evaluation	Strategy	KM measurement	Strategy

