



## CHAPTER 1: INTRODUCTION AND AIM OF THE RESEARCH

### 1.1 Introduction

“Why is it that a concept [knowledge management] so powerful has not delivered what it was supposed to?” (Kazimi, Dasgupta and Natarajan, 2004:01). Without substantial proof that knowledge management adds profound value to organizations, the importance and sufficient commitment to embark on knowledge management will continue to be underplayed (Kazimi, Dasgupta and Natarajan, 2004).

According to Armistead and Meakins (2002:49), the value of knowledge “results from the way in which it is used in the firm’s processes in the production of products and services. Firms gain advantage from using the capabilities that arise from knowledge assets in ways which are difficult for others to imitate or replicate, as well as the intellectual property associated with the assets”. In essence, knowledge and Information and Communication Technology (ICT) fulfil somewhat similar functions in an organization with both containing a non-quantifiable value to an organization. Value calculation is done with much difficulty or cannot be calculated at all (Armistead and Meakins, 2002). According to Laudon and Laudon (2004), this non-quantifiable value of knowledge refers to an ability to positively affect the efficiency and effectiveness of other resources. However, Laudon and Laudon (2004:315) emphasise that “as knowledge becomes a central productive and strategic asset, (as Drucker predicted in 1970), organizational success increasingly “also” depends on the ability to produce, gather, store, and disseminate knowledge”. It is therefore the ability to manage knowledge successfully and not per se “only knowledge” that drives the efficiency and effectiveness of other resources.

As early as 1970, Peter Drucker (cited in Tiwana, 2000:08) stated that the “most valuable assets of the twenty-first-century enterprise will be its knowledge and knowledge workers”. Drucker provided a clairvoyant perspective on the future of knowledge and knowledge workers, a future where the ability of enterprises to manage and exploit their intangible assets needed to become far more decisive than the ability to invest and



manage physical assets. However, in order to manage intangible assets, Davenport (1998) contends that managers need to have a sound understanding of the underlying principles, policies and strategies that guide the successful institutionalization of knowledge management. Laudon and Laudon (2004) in continuing with this line of reasoning goes even further, arguing that the understanding of the principles of knowledge management are enough to sustain competitive advantage in a knowledge-networked economy. These authors contend that managers need to actively participate in, if not lead, knowledge management decision making. But, as Zack (1999) and Earl (2001) maintain, even though organizations accept that knowledge enhances performance; managers often do not know how and where to start dealing with knowledge management endeavours, especially in the domain of decision making and strategy formulation.

A sound understanding of business strategy formulation is crucial in the foundation of an efficient and effective knowledge management strategy, and vice versa. According to Papp (1996), such an alignment will enable a firm to maximize its investments and to achieve harmony with the business strategies and plans. This, in turn, will equate to an increased profitability and competitive advantage. Zack (1999) contests this position and believes that scholars barely touch on the holistic relationship and interdependency between setting the direction for the business and setting the overall direction for knowledge management. This, according to Zack (1999), leads to an insufficient number of models providing guidelines for managers to successfully incorporate knowledge management endeavours into strategy formulation. Without sufficient guidelines, managers will continue to consider knowledge management as being separate from strategy formulation, leading to misalignment of knowledge management goals with corporate goals.

## **1.2 Background to the problem**

In questioning why knowledge management goals are not aligned to corporate goals and why managers struggle with the successful institutionalization of knowledge management, Kruger (2002) argues that even though leading university's business



programmes include Information and Communication Technology (ICT) and Information Management as core courses, Knowledge Management is rarely studied or at most just briefly touched on within ICT, Information - and Strategic Management coursework. Kruger (2002), in arguments similar to those proposed earlier by Davenport (1998), states that textbooks often neglect to supply a roadmap to the successful institutionalization of knowledge management, especially from within a strategic/managerial perspective, rather than from within a technological perspective.

Authors such as Botha and Fouche (2002) and Kazimi, Dasgupta and Natarajan (2004) are of the opinion that because we are working with abstract components such as knowledge, culture, processes or communities, there is a great deal of disillusionment about knowledge management that first needs to be addressed before we can embark on endeavours to successfully institutionalise knowledge management. According to these authors, realization that although knowledge enables the formulation of new ideas and new strategies, endeavours in knowledge management should be the result of the managerial processes. The argument is forwarded by Tiwana (2000:103) that “[k]nowledge must drive strategy, and strategy in turn must drive knowledge management.”

Until issues such as the interdependency between knowledge, knowledge management and strategy are better understood, and until more is known of the issues, principles, policies and strategies that determine the successful institutionalisation and utilisation of knowledge, endeavours to successfully illustrate the value knowledge and knowledge management add to an organization, will remain problematic. Laudon and Laudon (2004) argue that it is primarily because guidelines regarding how to integrate knowledge management programs with business are still technologically and not managerially or strategically orientated.

Therefore, in order for managers to have a rock-solid business view of the value knowledge adds to an organization, and for line managers to demonstrate that they understand knowledge management and are using it in an efficient and effective manner;



further research into this problem area is required. Hence the focus of this thesis will attempt to address the stated problem.

### *1.2.1 Aim*

The aim of the study is to investigate the interdependencies between knowledge, knowledge management and business from a managerial/strategic perspective (rather than from a technological perspective), to supply practitioners and managers with guidelines to successfully institutionalize and manage knowledge.

### *1.2.2 Objectives of research*

In order to achieve this aim, the objectives of the research are to:

- Heightening awareness of the critical role knowledge plays as a strategic corporate resource.
- Determine if there are any issues/models/methods or perspectives available, from within a strategic/managerial perspective (rather than from a technological perspective) to guide strategists in the quest to efficiently and effectively manage knowledge.
- Illustrate the progression of knowledge management maturity from a strategic/managerial perspective.
- Investigate knowledge management's performance in relation to the objectives and measures that determine the overall efficiency and effectiveness of an organization.
- Formulate guidelines (a knowledge management maturity questionnaire) to assess the knowledge management maturity of organizations.



Finally, all propositions made in the scholarly research (as reflected in the proposed knowledge management maturity questionnaire) are tested in the South African industry. This is done to expand the research beyond purely theoretical and/or academic value, thus to illustrate the usability and applicability of the questionnaire in a real world scenario. Although not directly supportive of the aim, knowledge gained from this research component is also reported upon. This, as a lesser objective, is done to supply knowledge management practitioners with a baseline of data against which they could benchmark their organizations' knowledge management maturity.

### 1.3 Research methodology

Different paradigms in philosophy of science (positivism, realism, postmodernism, critical theory, phenomenology, etc.<sup>2</sup>) all impact on the way we think about the concept knowledge. Arguments surrounding knowledge and knowledge management therefore often bordered on the philosophical. All methodologies and models proposed in this thesis ultimately had to answer and adhere to a number of scientific and meta-scientific perspectives.

The study is based upon the theory that knowledge is the most strategically significant resource of the firm<sup>3</sup>, and that organizational knowledge is created through a continuous dialogue between tacit and explicit knowledge via patterns of interactions, socialization, combination, internalization and externalization<sup>4</sup>. Due to the interdependency between

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<sup>2</sup> Meta-discipline: "The nature of science and scientific research" (Mouton; 2001:139), or "paradigms in the philosophy of science" (Mouton, 2001:140).

<sup>3</sup> The knowledge-based theory of the firm considers knowledge as the most strategically significant resource of the firm. Its proponents argue that because knowledge-based resources are usually difficult to imitate and socially complex, heterogeneous knowledge bases and capabilities among firms are the major determinants of sustained competitive advantage and superior corporate performance. Originating from the strategic management literature, this perspective builds upon and extends the resource-based view of the firm. Wernerfelt (1984), Barney (1991), Conner (1991)

<sup>4</sup> Nonaka's (1994) dynamic theory of organizational knowledge creation.



people, objects and organizations being analysed, an element of Actor-Network Theory (ANT)<sup>5</sup> is presented.

To come to an understanding of the crucial role knowledge and knowledge management play in any organization, a review of literature was conducted. The selection of sources was driven by the quest to assess knowledge and knowledge management's role in the maturation process of businesses. Appropriate measurement criteria for determining the effectiveness and efficiency of knowledge management was thoroughly analysed, with special emphasis on determining if innovation can be considered an appropriate measure of the effectiveness and efficiency of knowledge management. In comparing different knowledge management success factors to one another, a new perspective to knowledge management's maturity could be formulated (Chapter 6.2).

For this research to reach its full potential, the decision was taken to turn all prepositions made out of the scholarly review into exploratory questions – questions that led to the formulation of a Knowledge Management Maturity Assessment Questionnaire (KMMAQ) (Appendix B). The questionnaire was used as a baseline to determine the knowledge management maturity of 86 South African-based organizations and to supply knowledge management practitioners with a baseline of data against which to benchmark their organizations' knowledge management performance.

Analysis of captured data used either standard statistical techniques and/or qualitative methods recommended by the University of Pretoria, South Africa. All data collected was thoroughly checked for errors, and carefully prepared for tabular and graphic representation, analysis and interpretation. The computer software used for analysis and

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<sup>5</sup> The primary tenet of actor-network theory is the concept of the heterogeneous network. That is, a network containing many dissimilar elements. These coextensive networks comprise of both social and technical parts. Moreover, the social and technical are treated as inseparable by ANT. Actor-network theory claims that any actor, whether person, object (including computer software, hardware, and technical standards), or organization, is equally important to a social network. As such, societal order is an effect caused by the smooth running of an actor network. This order begins to break down when certain actors are removed.



modelling of the dataset was SAS version 8.3, from the SAS Institute. All graphs and figures were created using Microsoft Excel (2003).

Due to restrictions such as sensitivity, confidentiality and availability of information, subjects of the research were drawn in as integral parts of the research design. This necessitated that a hybrid of participatory<sup>6</sup>, and evaluation<sup>7</sup> research be used. Not only was it required of subjects to critically review the knowledge management maturity of an organization with which they were familiar (evaluation research), but they also had to comment (first individually and thereafter as a group) on the applicability of the research instrument used (Knowledge Management Maturity Assessment Questionnaire).

#### 1.4 Limitations

Given the time and logistical limitations plus a focus on providing insights rather than generating quantitative results made it impractical and unnecessary to include all organizations within the South African industry<sup>8</sup>. However, due to the subjects of research being drawn in as integral parts of the research design, manipulation due to “overly emotional or subjective involvement” could have occurred due to respondents serving their own, rather than the research needs (Mouton, 2001:151).

#### 1.5 Assumptions

“Science cannot make progress without theories and models. Through the construction of theories and models we attempt to explain phenomena in the world’ (Mouton: 2001:77).

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<sup>6</sup> **Participatory research:** “Studies that involve the subjects of research (research participants) as an integral part of the design. Use mainly qualitative methods in order to gain understanding and insight into life-worlds of research participants” (Mouton, 2001:150).

<sup>7</sup> **Evaluation research.** “Implementation evaluation research aims to answer the question of whether an intervention (program, therapy, policy, or strategy), has been properly implemented (process evaluation studies), whether the target group has been adequately covered and whether the intervention was implemented as designed” (Mouton, 2001:158).

<sup>8</sup> Methodological considerations such as access to organizations, accuracy and availability of information and also practical consideration (available time, resources and physical access to data sources) resulted in only a sample of the total population being analysed.



The line of reasoning followed throughout this thesis is that no single approach can cover all the essential aspects involved. All models and methods proposed in this thesis are therefore at best only “tools” to harness the power knowledge and knowledge management add to individuals and organizations. However, it is proposed that holistic criteria can be devised that can cover most of the major issues involved in determining sound knowledge management practices. Criteria proposed not only simplify the understanding of the interdependent nature of knowledge, knowledge management and organizational success, but also allow the making of predictive claims under certain conditions. Wisdom of the underlying issues that guide the successful institutionalisation of knowledge management can therefore guide the establishment of sound knowledge management practices - practices that can enable business managers to formulate efficient and effective knowledge management policies, strategies and endeavours.

## **1.6 Contribution to the fields of knowledge management**

The main contribution of the research is to bring more conceptual coherence to the fields of knowledge management and strategic management resulting in a transfer of knowledge, enabling individuals and organizations to:

- Better understand the paramount role knowledge plays in organizations as a strategic resource and knowledge management as a managerial enabler.
- Understand that there are appropriate measurement criteria not only to determine the effectiveness and efficiency of knowledge management, but also to determine the level of knowledge management maturity reached.
- Set criteria to enable managers to successfully institutionalize formal knowledge management endeavours within, as well as beyond organizational boundaries.





- Understand the factors that play a role in the institutionalization of knowledge management from within a strategic/managerial rather than from a purely theoretical perspective.



## 1.7 Overview of Chapters

### 1.7.1 Chapter 1: Introduction

Chapter 1 contextualises the motivation behind conducting this study. This chapter primarily focuses on the relevance and importance of answering the research problem. Special emphasis is placed on:

- Background leading to the formulation of the problem statement (Preliminary literature review leading to identification of the research problem),
- Main and secondary research objectives, and
- Research approach/design proposed (methodology, assumptions, and contribution to the discipline).

Chapter 1 concludes with a brief outline of the rest of the thesis including the main topics that achieve the thesis aim.

### 1.7.2 Chapter 2: Knowledge as a strategic corporate resource

In order to review and report on evidence pertaining to the role and success of knowledge as a strategic corporate resource, special emphasis is placed on the following topics:

- The complexity of knowledge,
- Strategic importance of knowledge, and
- The role knowledge plays in the formulation of strategies, with particular emphasis on:
  - The role knowledge played in the evolution of strategy,
  - The role of knowledge in assessing the organization's external and internal environments, and
  - The future of strategy formulation.



### ***1.7.3 Chapter 3: Knowledge management issues, policies and strategies***

Chapter 3 sets out to address whether there are any issues/models/methodologies or perspectives available in literature to guide strategists in identifying how to effectively manage knowledge.

Emphasis in Chapter 3 is specifically placed on:

- Defining the concept knowledge management,
- Conceptualising knowledge management with regard to strategy formulation,
- Identifying and describing issues involved in knowledge management,
- Identifying and defining strategies to govern knowledge management, and
- Discussing the need to create knowledge domains.

### ***1.7.4 Chapter 4: Knowledge and knowledge management maturity***

In Chapter 4, it is argued that there is a chronological sequence of events that needs to take place in order to institutionalise knowledge management successfully, especially from within a strategic perspective. The aim of this chapter is therefore to propose an evolutionary methodology with regard to the progression of knowledge management maturity within an organizational setting.

In order to be able to answer the above-mentioned aim, emphasis is placed on:

- The evolution of knowledge management,
- Criteria to determine the organization's knowledge management orientation, and
- The formulation of a holistic ICT and knowledge management maturity model.



### ***1.7.5 Chapter 5: Determining the value of knowledge management***

The aim of chapter 5 is to bring knowledge management's performance into context with the objectives and measures that determine the overall efficiency and effectiveness of an organization.

In the quest to achieve the above-mentioned, emphasis is placed on:

- Knowledge management in relation to business strategy and innovation,
- Criteria to determine the efficiency and effectiveness of an organization,
- How to assess the efficiency and effectiveness of knowledge management within an organizational perspective, and
- The value of knowledge management in relation to maturity.

This chapter in numerous ways, focused on the difference in opinion/viewpoints with regard to innovation's role as a measurement criteria for knowledge management success.

### ***1.7.6 Chapter 6: Methodology to assess knowledge management maturity***

This chapter builds on the reasoning proposed in the previous four chapters and proposes a questionnaire to empirically test the knowledge management maturity of an organization. Chapter 5 concludes with the hypothesis that progressions in knowledge management maturity (from a strategic perspective) directly relate to an increased ability to shorten the strategic cycle of imitation, consolidation, and innovation, and in doing this induce profitability, growth and sustainability.

Chapter 6 not only supplies an explanation why this research method was selected, but also comments on the sampling techniques used, the way in which the knowledge management maturity questionnaire has been formulated, the data collection process, and in short, of problems encountered with regard to gaining access to subjects.



### ***1.7.7 Chapter 7: Study of the knowledge management maturity of South African Industry***

In order to supply a baseline of data on which to benchmark knowledge management maturity, chapter 7 reports on the stance of knowledge management maturity in 86 South African-based organizations. Not only does it elaborate upon on the way data was captured, edited, and analysed, but throughout the discussion, care is taken to debate all anomalies and surprising results, especially where results deviate from the expected.

### ***1.7.8 Chapter 8: Conclusion***

The final chapter summarises all facts, arguments, findings and recommendations presented in this thesis. Results and conclusions reached in Chapter 7 are meticulously related to the literature reviewed in chapters 2, 3, 4 and 5. In addition to identifying whether results confirm or deviate from the expected, special emphasis is placed on highlighting gaps and uncertainties that might require further study. Chapter 8 concludes with an elaboration on the main findings, and also proposes a number of recommendations regarding further research.



## CHAPTER 2: KNOWLEDGE AS A STRATEGIC CORPORATE RESOURCE

### 2.1 Introduction

According to Henczel (2000:210), 'knowledge is universally recognized as the most important asset an organization has'. It would seem that the ability to reason with knowledge is becoming the distinguishing factor between being recognized as a leader or being considered a follower. Though knowledge is becoming freely available, it is seldom there when you need it most. This is because knowledge in itself is normally not tangible, resides in the head of the knower, and in a managerial sense can be internal as well as external to the firm (Zack 1999). As Davenport and Prusak (1998:05) state, knowledge is 'a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knower. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms'. Therefore, even though knowledge starts off as an individual entity, it can be shared, it can be built upon, and it can be used over and over again. Unfortunately it can also be lost in the process.

Murray (2000) argues that it is the uniqueness, the quality of knowledge that makes it one of a firm's most precious assets. Zack (1999:127) states that: 'companies having superior knowledge are able to coordinate and combine their traditional resources and capabilities in new and distinctive ways, providing more value for their customers than can their competitors'. In agreement with this, Tiwana (2000:100) argues that knowledge is crucial to any organization: 'no technology, no market share, no product, etc. can ever provide a competitive advantage that is anything other than temporary. They can all be copied – knowledge is the only resource that cannot be copied, for knowledge is protected by context'. No wonder that management experts such as Drucker (1970), as early as the seventies, were already pointing out that the most valuable assets of the twenty-first-century enterprise, will be knowledge and knowledgeable workers.



### *2.1.1 Aim*

In this chapter (as an introductory chapter) the focus is on reporting on the critical role that knowledge plays as a strategic corporate resource and the success it achieves.

### *2.1.2. Scope*

In order to sensitise the reader to the major impact that knowledge has on corporate strategy and organizational success, a managerial perspective on the reasoning is followed. Thus, to emphasise the above-mentioned aim, the following topics are discussed:

- The complexity of knowledge.
- The strategic importance of knowledge.
- The role knowledge plays in the formulation of strategies, with particular emphasis on:
  - The role knowledge played in the evolution of strategy.
  - The role of knowledge in assessing an organization's external and internal environments.
  - The future of strategy formulation.
- Finally all facts, arguments, and findings pertaining to the complexity of knowledge are briefly summarised.



## 2.2 The complexity of knowledge

In an organizational sense, the problem with aligning knowledge and strategy is not only rooted in the complexity of knowledge, but also in the sharing of knowledge. As far back as 1958, Polanyi (1958) struggled with the concept of sharing knowledge. Polanyi (1958:49) argued that: 'The successful performance of a skill depends on the observance of a set of rules which are not known as such to the person following them'. This notion later led Polanyi (1966:04) to come to the conclusion that the problem with knowledge sharing is that 'we know more than we can tell'. Gertler (2003:77), also struggling with the idea that the dimension of knowledge exists in the background of our consciousness, argues in similar vein that 'when the skilled performer attempts to describe or explain their performance to an unskilled pupil, they must first try to develop their own awareness of all of the key components of success before they can attempt to communicate these to their student'.

Tiwana (2000) is of the opinion that this uniqueness, this inability to share knowledge, makes it one of the most difficult and most precious assets business has to manage. Furthermore, in an organizational sense the awareness of all of the key components of success extends beyond the individual, to include group and organizational dimensions. In addition, Henczel (2000) argues that when the data-to-information transfer process is combined with the execution of a task, this leads to a further transformation process, a process of creating new information, a process of creating both explicit and tacit knowledge. To study a concept as complex and elusive as knowledge is therefore not an easy task. As Davenport and Prusak (1998:05) stress: 'knowledge is a fluid mix of framed experience' and according to Snyman and Kruger (2004), knowledge means different things to different people; knowledge is extremely complex; and although it can be shared, the manner in which it is internalised and applied (managed) will be different for every person, situation and enterprise. Laudon and Laudon (2004), building on the works of Davenport, DeLong and Beers (1998), argue in similar fashion that an





organization's knowledge base consists of the different sources that constitute knowledge. According to Laudon and Laudon (2004:316), these sources comprise:

- 'Structured internal knowledge (explicit knowledge), such as product manuals or research reports.
- External knowledge of competitors, products and markets, including competitive intelligence.
- Informal internal knowledge, often called tacit knowledge, which resides in the minds of the individual employees but has not been documented in structured form.'

Of interest is the fact that Nonaka and Takeuchi (1995:63) earlier established a fourth type of knowledge, namely 'implicit knowledge'. Nonaka and Takeuchi (1995) argue that internal (tacit) knowledge in the form of mental models can to a certain extent be expressed, even if only in the mind of the individual, and thus becomes expressible knowledge, in other words, information (refer to Figure 2.1: Knowledge sources present in an organization).

Zack (1999:131), referring to the managerial use of knowledge, came to the conclusion that regardless of the sources of knowledge and regardless of how knowledge is categorized, it can also be classified according to whether it is 'core, advanced or innovative knowledge<sup>9</sup>'.

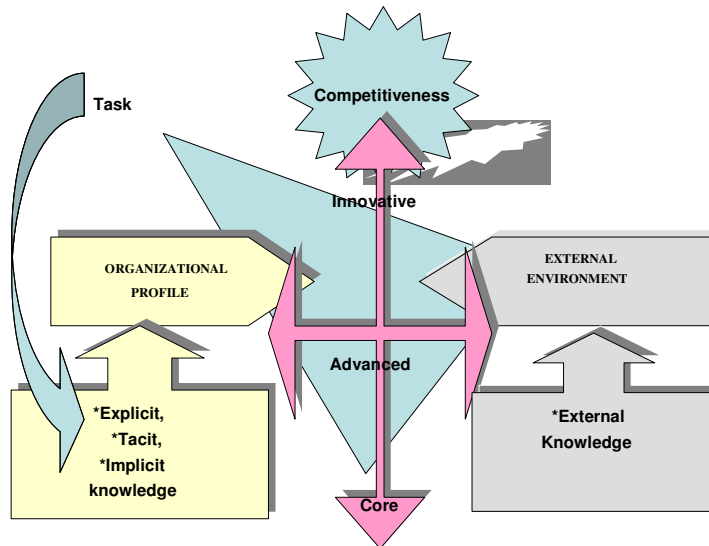
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<sup>9</sup> Core Knowledge. 'Core Knowledge is the minimum scope and level of knowledge required just to play the game' (Zack, 1999:131).

Advanced Knowledge. 'Advanced knowledge enables a firm to be competitively viable' (Zack 1999:131).

Innovative Knowledge. 'Innovative knowledge is that knowledge that enables a firm to lead its industry and competitors and to significantly differentiate itself from its competitors' (Zack, 1999:131).

Figure 2.1: Knowledge sources present in an organization



In a business sense, even if knowledge in the head of the knower has perceived value, it means nothing - for knowledge to have real value, it must be shared, it must be applied, and it must influence and change something, e.g. knowledge must lead to an innovative idea. However, as has been stated, knowledge is complex, requires a number of managerial processes to institutionalize and/or apply it, is called different things by different people, and probably does not have the same effect under all conditions. In this context, authors such as Von Krogh, Nonaka and Aben (2001), state that the key resource for achieving sustainable competitive advantage and superior profitability is not knowledge in all its complexity, but more specifically some application of knowledge. Darroch and McNaughton (2002), quoting the work of Day (1994), Fahey and Prusak (1998), Grant (1996), and Teece (1998), came to basically the same conclusion. Although Darroch and McNaughton (2002) agree with Von Krogh, Nonaka and Aben (2001) that certain knowledge management processes lead to growth and profitability, these authors disagree about which process can truly be considered the enabler. According to Darroch and McNaughton (2002), due to ambiguity and the uniqueness of firms, knowledge dissemination and responsiveness have the most impact on the creation of a sustainable



competitive advantage, especially with regard to the importance of knowledge dissemination practice for innovation. Although it can be argued that in the quest to be *au fait* with knowledge in all its complexity, it is imperative that thorough appreciations be done to determine which knowledge management process (or processes) leads to growth and profitability. This, however fall outside the scope and aim of this study. Although knowledge is complex and means different things to different people, it is important at this stage not to get trapped in an in-depth discussion of what specifically constitutes knowledge. The focus should rather be on determining whether there is any evidence to support the notion that knowledge (in all its complexity), is truly of strategic importance.

### **2.3 The strategic importance of knowledge**

Skyrme (2000:62) is of the opinion that knowledge and other forms of ‘intellectual capital’ can be considered ‘hidden assets’. Zack (1999) argues that organizations gain competitive advantage by successfully excluding competitors from valuable resources. Unfortunately, according to Zack (1999), organizations struggle to sustain these advantages primarily due to competitors developing substitute resources, and/or imitating such resources. Zack (1999) maintains that due to the uniqueness of knowledge it is extremely difficult if not impossible to imitate knowledge, especially context-specific tacit knowledge. In agreement with this, Teece (1998) argues that the ability to build, utilize and protect knowledge assets that are difficult to imitate, is one way of sustaining competitive advantage. Zack (1999:127) goes on to argue that ‘to acquire similar knowledge, competitors have to engage in similar experiences. However, acquiring knowledge through experience takes time, and competitors are limited in how much they can accelerate their learning merely through greater investment’. Zack (1999:126) is therefore of the opinion that: ‘by having superior intellectual resources, an organization can understand how to exploit and develop their traditional resources better than competitors’, and continues: ‘Therefore, knowledge can be considered the most important strategic resource’. To emphasize this point, Zack (1999) refers to a number of organizations<sup>10</sup> which leveraged their knowledge capabilities to achieve competitive

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<sup>10</sup> LeaseCo, Big6, Lincoln Re, Dow Chemicals, Apple, etc.



advantage. In accordance with this, Tiwana (2000) stresses the fact that companies such as Microsoft, General Electric, Intel, Merck, IBM, Coca-Cola, to name but a few, are all driven by and valued for their knowledge, not their capital assets. Von Krogh, Nonaka and Aben (2001), also agree with this statement and argue that managers at Unilever<sup>11</sup>, after actively managing knowledge for 10 years, have achieved increased efficiency in manufacturing and supply chain, a faster rate of innovation, and an acceleration of rolling out best practice – all instances where knowledge was put into motion. According to Von Krogh, Nonaka and Aben (2001), managers at Unilever are convinced that knowledge is a key differentiator, and investment in knowledge truly leads to accelerated growth and profitability.

One must take note that knowledge, when broken down into separate knowledge management processes, does not all specifically or directly lead to growth and profitability. In agreement with this, Darroch and McNaughton, (2002:02), [quoting the work of various authors such as Cooper (1979); Abbey (1983); Kitchell (1995); Amabile et al (1996); Anderson and West (1996); Hurley and Hult (1998); Li and Calantone (1998); Tang, (1999); and Lynn, Reilly, and Akgun (2000)], argue that although there is convincing empirical evidence that knowledge acquisition and spending money on Research and Development (R&D) will positively affect innovation, there seems to be mixed evidence of a link between the knowledge management processes of dissemination or responsiveness to knowledge, and innovation. Darroch and McNaughton (2002) pointed out that these discrepancies arose not only as a result of a lack of research linking knowledge and knowledge management with innovation, but also due to studies failing to account for different types of innovation<sup>12</sup>. Again it is argued that knowledge must be applied differently in different situations. If knowledge must be applied in different ways (especially in a business sense) in order to have value then, owing to all the above-mentioned confusion, it is necessary to focus on the role knowledge plays and its effect on the methodology strategists use to allocate resources. In agreement with this, Bater (1999:39) states that: ‘We need to understand how knowledge and information and skills

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<sup>11</sup>Unilever. One of the world’s largest fastest-moving consumer goods companies.

<sup>12</sup>Please refer to Chapter 5 (Section 5.2) for a more thorough analysis of the link between knowledge management and innovation.



“lubricate” the achievement of organizational objectives. We need to determine how the business works – its chains of activity – and we need to determine the exact points at which knowledge, skills and information inject their value’. What Bater (1999) is proposing is that in assessing the strategic value of knowledge, strategists must look at business from a holistic perspective. Strategists not only need to look at the environment in which the organization competes, the chain of events that take place to transform input into output, the organization’s culture, norms, values, structure and even politics, but also where and how specifically knowledge, skills and information inject value in the effort to sustain survival, the quest to achieve growth, profitability and sustainability. In the attempt to determine whether or not knowledge is of strategic importance, strategists need to focus on the very incision point in business management where knowledgeable reasoning really counts - the managerial point where the business’ most important decisions are made, where resources (even those needed to manage knowledge) are allocated. In accordance with this, Carneiro (2000:97) maintains that ‘a deepening of the analysis of manager’s interest in knowledge is critical to understand how knowledge management can contribute to improve strategies formulation’. Therefore, in assessing the way strategy is formulated, strategists should not only assess the role knowledge plays in strategy formulation, but also the filtering role strategy plays in the allocation of resources needed to manage knowledge effectively. Quoting the words of Tiwana (2000:103): ‘Knowledge must drive strategy, and strategy in turn must drive knowledge management’.

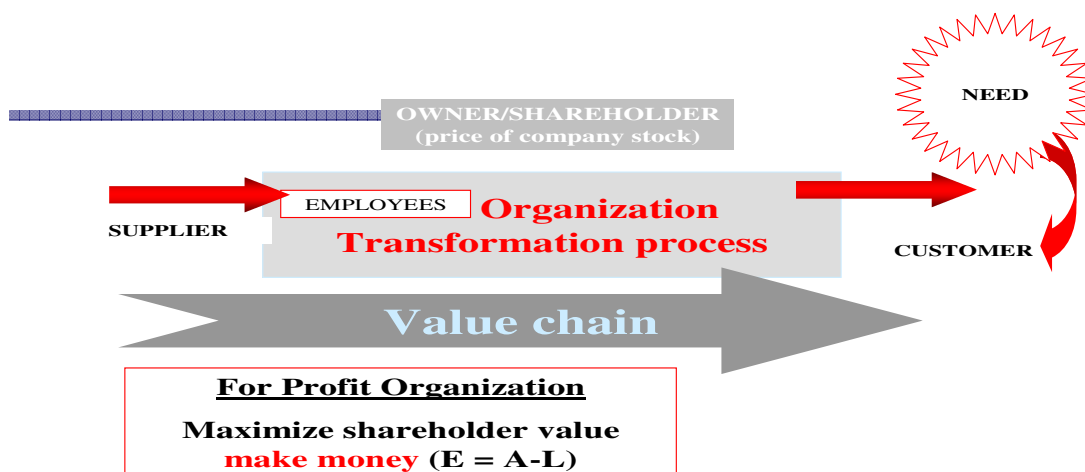
#### **2.4 The role knowledge plays in the formulation of strategy**

As a point of departure in assessing the role knowledge plays in strategy formulation, it is imperative to start off by looking at strategy from a holistic business perspective. Mintzberg and Lampel (1999:28), reflecting on the different ways of formulating strategy, conclude that: ‘the field of strategy management should seek an understanding of its own evolution. But it must do so without adopting a pseudoscientific theory of change. It may be that the development of strategic management is at odds with the assumed development in evolutionary biology. This assumes a succession of species,

with one often replacing another’. The same authors later continue: ‘the schools of strategy represent a line of descent through the history of the field, but this may not be a descent by replacement’. What Mintzberg and Lampel (1999) are proposing is not to upset the apple cart for every new management fad/mindset. Rather than focusing on the differences in opinion/methodologies with regard to strategy formulation, strategists should redirect their attention towards what in particular makes business and strategy work.

According to Pearce and Robinson (2005), the goal of all organizations is to supply value to internal and external stakeholders. Stakeholders are more than simply owners or shareholders of the organization. Stakeholders include owners, shareholders, suppliers, customers and especially employees (refer to Figure 2.2: Providing stakeholders with value).

Figure 2.2: Providing stakeholders with value



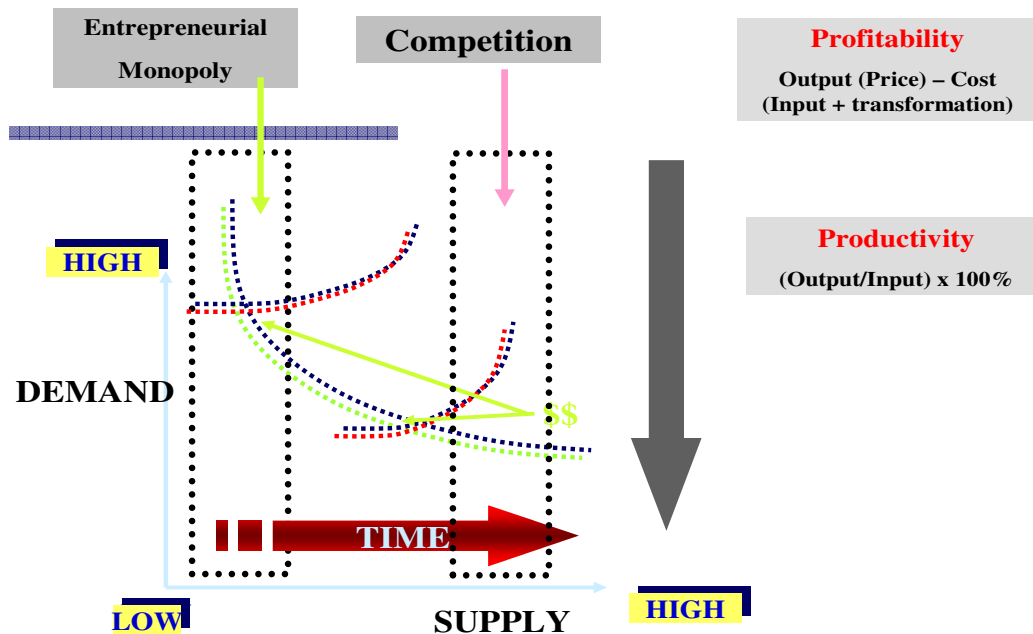
In essence, the sole purpose of organizations is to service the needs of all these different stakeholders, e.g. to add value to all stakeholders. All business is rooted in the quest to satisfy needs, to utilize windows of opportunity. Therefore, in order to survive over a prolonged period of time, the different needs of all stakeholders must be addressed. Unfortunately, business managers became accustomed to servicing the needs of only



those stakeholders responsible for the greatest flow of money into the organization, e.g. the needs of owners/shareholders and customers (Tiwana, 2000). To a great extent, the needs of suppliers, employees and the society that sustain the organization, are still being neglected (Pearce and Robinson, 2005). This might primarily be due to difficulties experienced in measuring the satisfaction of these needs. First of all, these needs are not always tangible ones; therefore success cannot be measured accurately by the use of only tangible (hard) measurement criteria such as ROI, Earnings Growth, etc. An example of this would be the requirement of employees to experience work satisfaction. Fulfilment of this need cannot be measured accurately using only tangible measurements - these needs can only be addressed by toughening up the very soul of those experiencing them.

If there is demand for a need to be satisfied, and if a need can be satisfied with less consumption of input than competitors can manage, it is clear that some kind of gain/profit can be made. If the organization is the only entity servicing the needs of stakeholders, and if there is a high demand for that satisfaction of needs, profit or gain maximization can be achieved. Unfortunately, success of any kind draws attention, and attention normally leads to competition or rivalry in servicing lucrative needs. Dividing the bounty between more competitors generally leads to a lower premium being paid for the satisfaction of a particular need - the economic principle determining the intrinsic value of all commodities, the principle of demand vs. supply (see Figure 2.3).

Figure 2.3: Demand vs. Supply



To ensure a continued stay at that most favourable point of the demand and supply graph, the satisfaction of different needs is being played off against one another, i.e. organizations formulate strategy. Snyman and Kruger (2004:05) argue that all strategy formulation is in essence the quest to achieve superior (economic) results, by means of the manipulation of sound business principles. In order to remain at the most favourable point on the demand and supply graph (the point that also represents the fiercest competition), organizations strive to be entrepreneurial or even to achieve a monopoly. This entails organizations structuring their core capabilities and competencies in such a way as to produce (transform input into output) more cheaply; to create new needs i.e. be entrepreneurial; to succeed in setting up efficient and effective barriers to entry; to kill off all competition; or at the very least be able to act on lucrative opportunities speedily, e.g. be able to transform quickly (Pearce and Robinson 2005).





Considering that the goal of all organizations is to supply value to all stakeholders, to survive over time requires a play-off between the satisfactions of all the different needs (Porter 1980). However, whatever the need, it always revolves around growth in the external environment (creating new market segment), growth internally, and/or transforming input into output in the most effective and efficient manner. This is the essence of all strategy formulation; the quest to satisfy the different needs of stakeholders by means of drawing a synthesis between the organization's profile and the environment in which the organization competes. By either growing and/or being profitable, organizations can ensure the satisfaction of the different needs of stakeholders. An example of this would be to follow a strategy of cost leadership, e.g. producing more cheaply than competitors, for the same level of quality. Cost leadership, e.g. saving on the utilization of resources, reflects favourably on any balance sheet. Without doubt, savings that impact favourably on the Equity = Assets – Liability equation satisfy the need of shareholders (especially if these savings are paid out as dividends). This in turn can lead to even more investment. Another example might relate back to the satisfaction of the need of a totally different stakeholder. By rewarding employees for incremental improvement, e.g. small innovative ideas, organizations can start to follow an incremental growth strategy. Incremental improvement normally leads to a lower rate of resource consumption, faster transformation of input into output, worker satisfaction, and can even lead to growth in the external environment e.g. establishing and/or penetrating a new market segment. The satisfaction of needs is nothing more than playing off growth against profitability, with growth and profitability feeding on one another. Precisely what Pearce and Robinson (2000:31), authors renowned for their work in strategic management, phrase as: 'the firm's intention to secure survival, through growth and profitability'<sup>13</sup>. Porter (1980), in providing insight to strategists with regard to the formulation/structuring of strategies, states that in order to achieve a competitive advantage, organizations can follow one of two generic strategies, cost and

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<sup>13</sup> Pearce and Robinson (2000) came to the conclusion that in order to achieve superior economic results (competitive advantage) three business principles (goals) guide the strategic direction of almost every business organization, namely survival through growth and profitability.



differentiation<sup>14</sup>. According to Zack (1999), the work of Porter came under scrutiny by authors such as Teece (1984), Barney (1991) and Connor (1991). These authors are of the opinion that Porter's models address the profitability of industries rather than individual firms, and wrongly maintain that with sufficient barriers, all firms in an industry could realize exceptional returns. Zack (1999:127) correctly argues that: 'to put balance back into the original notion of business strategy, recent work in the area of strategic management and economic theory has begun to focus on the internal side of the equation – the firm's resources and capabilities'. Although disagreeing with some of the earlier work done by Porter, Zack (1999) acknowledges that Porter's models have contributed immensely to our understanding of strategy, primarily because they are based on solid economic thinking.

Pearce and Robinson (2005), building largely on the work of Porter (1980, 1981, 1985, 1987), put some balance back into the original notion of formulating strategy. Pearce and Robinson (2005) pose that in order to survive, organizations constantly need to analyze their internal strengths and weaknesses (strong points, weak points), be on the lookout for new opportunities and threats, outperform their competitors, grow internally, within an industry, or even beyond the borders of their competitive environment. According to these authors, this can only be achieved if strategy is based on the mustering/exploitation of core competencies and capabilities<sup>15</sup>. The gist of the argument proposed by Pearce and Robinson (2005) is again that strategy relates back to survival and sustainability through growth and profitability. Against this background, Snyman and Kruger (2004) came to the conclusion that the goals of all strategy formulation revolve around the economic

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<sup>14</sup>Cost: Being a low cost producer of goods and services. e.g. in the quest to become more efficient and effective gaining certain competencies and capabilities (profitability and growth).

Differentiation. Differentiation of product or service e.g. growth into new market segments in order to satisfy new or different needs of stakeholders (primarily growth).

Porter (1985) revised this statement and included Focus as the third generic strategy (a combination of cost and differentiation focusing on mustering a particular force to gain advantage). Porter (1980, 1985) particularly emphasized the role that economic (demand and supply) forces play in strategy formulation. Porter consequently not only identified five external forces impacting on the organization, but also emphasized that organizations operate as small-interlinked value chains, chains linking the organization into the external competitive environment (Porter 1980, 1985).

<sup>15</sup>Core competencies and capabilities. Pearce and Robinson (2005) specifically state that core competencies and capabilities not only refer to the organization's internal competencies and capabilities, but also to the competencies and capabilities of the organization's extended partners.



principle of supply versus demand. One might argue that this is nothing new, the fundamental workings of economics are determined by demand versus supply, thus it is only logical that these principles will also hold true for strategy formulation. This might hold true for the present, but what about the future? Will the economic principle of demand vs. supply still hold true in future? Stated differently, will organizational survival still be determined by the ability to both grow (internally as well as externally) and at the same time be profitable, and will organizations still need to satisfy the needs of all stakeholders, i.e. achieve sustainability?

According to Zack (1999:127), 'levering resources and capabilities across many markets and products, rather than targeting specific products for specific markets, becomes the strategic driver'. This argument relates to statements made by Snyman and Kruger (2004). Referring to a futuristic environment of continuous change, these authors state that organizations will in future need to pool not only their own core competencies and capabilities, but also the competencies and capabilities of their stakeholders, and also, focus (in an innovative way) on specific internal and external forces – forces that will give an organization a competitive edge. The problem that presents itself here is that the competencies and capabilities of some of the stakeholders are the very forces impacting, dictating and even determining the environment in which organizations compete.

One can hypothesize on this point, but not being clairvoyant, the only certainty about the future is that organizations will be dealing with change. Mintzberg (1994), Porter (1996) and Camillus (1997) rightly argue that the new environment will necessitate a completely new way of thinking. Change, being unpredictable and difficult to adapt to, will oblige role-players to force their own change upon their environment (Rayport and Sviokla, 1995) Thus, if constant change is going to be the norm in future, to answer the question: 'will strategy continue to be a play-off between the allocations of resources, to muster capabilities and competencies, all in the quest to satisfy needs?' strategists need to return to the root of all change - the need to evolve.



Without the ability to evolve, all life on earth would over time cease to exist. This law of nature not only holds true in the natural world, but in our ever-changing business environment, is just as applicable to organizational survival. Thus, in a business sense, in order to adapt to changes in the field of play, or even to become the very force necessitating change, some form of evolution is needed. In natural science, evolution is an extremely slow process; perceived over a short time span as nothing more than slight, but constant behavioural change. Cognisance must be taken of the fact that constant behavioural change must, over time, lead to a physical change in the form and function of the organism in order for it to be deemed evolutionary, i.e. there must be a change in the form, or at least the permanent behaviour of the organism. Therefore, in order for changes to be deemed evolutionary in a business sense, they must (like natural evolution) lead to a transformation in the form and function of the organization. In Chapter 5 (section 5.2) it is argued that the entity that instills this type of change within an organization is some form of innovation. Consequently, if the purpose of evolutionary change is to ensure survival, then innovation (being the entity that instills this type of change) is also the change agent for ensuring growth and profitability. As attack is often considered the best form of defence, one can argue that in an ever-changing environment if constant evolution is needed in order to survive, constant innovation would be the best form of defence. Considering that the emphasis in this statement would be on time, and more specifically an extremely long period of time, innovation, just for the sake of it, will in the short term deliver no better results than any game of chance. Unlike nature, time is the only commodity business managers do not have in abundance. Innovation in itself is thus not enough. Arguably, business managers can turn to the distinguishing attribute that made man the crown of all creation, the attribute that enabled man to conquer evolution - knowledgeable reasoning. Authors such as Nonaka and Takeuchi (1995); Dove, (1999); Carneiro, (2000); Darroch and McNaughton, (2002); and Snyman and Kruger, (2004) suggest that for innovation to have real value, it needs to be brought into perspective with knowledge. Taking into account Bater's (1999) contention that strategists need to determine the exact points at which knowledge, skills and information inject most value into the managerial process, the point where knowledge is supposed to be brought into perspective with innovation should also be the point (of incision) where knowledge entry



into the managerial process will yield the highest gain to the organization. As argued, this point of incision resides within business strategy.

If the essence of all strategy formulation is to change for the better, the question can be posed: Why don't all strategies lead to some form of competitive advantage? Simply put, just as not all evolution leads to the survival of the species, not all strategies can lead to competitive advantage. Arguably this is due to the dynamics, the fundamental way all evolution works – survival of the fittest. In nature, the environment determines the strongest, or most adaptable, and survival is secured by ensuring that the genes of the strongest are replicated for future generations. The best is determined through trial and error and, as previously stated, over an extremely long period of time. Trial and error is thus nature's way of learning – learning how to ensure survival. Unfortunately, if the environment changes too quickly, trial-and-error simply does not work. Extinction, of even the best genes, normally follows. This is also true in a business sense. Without having the luxury of ample time, in an ever-changing business environment, the trial-and-error method simply does not work. Once again it is argued that the distinguishing factor between winning and losing, survival and extinction, profit and loss, in an ever-changing environment where time is of the essence, is knowledgeable reasoning.

In order for businesses to evolve, innovation is an indispensable ingredient. However, in order to survive, grow and be profitable – especially in a rapidly changing environment, in order to be distinguished as a capable competitor - innovation needs to be brought into relation with knowledgeable reasoning. Only when this is done can innovation act as an efficient and effective agent of change, but once again it is argued that strategy is the incision point where innovative plans are made, plans to enable the organization to grow and/or be profitable, the very point on the managerial agenda where innovation is supposed to be brought into relation with knowledgeable reasoning. Strategy is thus nothing more than a hypothetical moment of truth, a moment when all knowledge is supposed to come together. Therefore, knowledge must first be consolidated in a hypothetical moment of truth; it must lead to plans to speed up the business evolutionary process; it must then be filtered by and render strategy possible before it can be related to



any form of innovation, for strategy is the filter (where you decide on the best genes) for all knowledgeable reasoning. Pearce and Robinson (2005), therefore assert that in future knowledge will only gain in stature, and strategy will become a managerial process taking place at all levels of the organization, not only employed by strategic (top) managers.

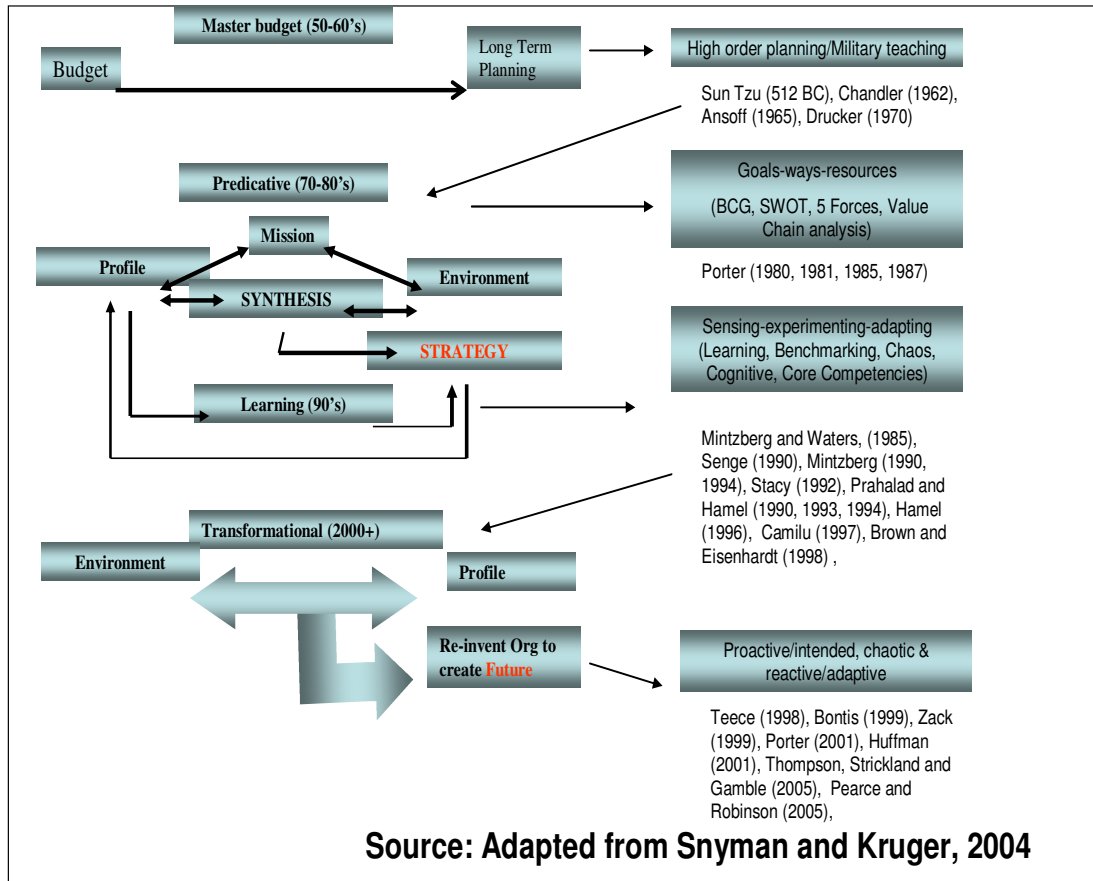
It is only now that knowledge is becoming freely available that strategists are realizing its potential as an enabler, an agent of change enabling managers to drastically speed up the business evolutionary process. Strategy based on knowledgeable reasoning is undoubtedly changing the competitive environment, rewriting the rules, and enabling organizations to evolve and draw new types of synthesis. With reason, authors such as Bate (1999:38) maintain: 'It's knowledge and information that feed the business; the technology is important, certainly, but it remains merely the vehicle for delivery. No amount of IT will make an iota of difference to business success unless it is geared to supporting an organization's knowledge and information needs'.

#### ***2.4.1 The role played by knowledge in the evolution of strategy***

'The field of strategy management should seek an understanding of its own evolution. But it must do so without adopting a pseudoscientific theory of change' (Mintzberg and Lampel, 1999:21).

As a point of departure in assessing the role that knowledge plays, and most probably will continue to play in strategy formulation, it is important to begin by considering strategy from a historical perspective (refer to Figure 2.4). Strategy, the old military concept of higher-order planning (Sun Tzu, 1971) started coming to the fore in business planning during the 1960s and 1970s. Accounting and operational principles clouded decision-making prior to this period (Snyman and Kruger, 2004).

Figure 2.4: Models for strategy formulation



During the 1970s, mostly as a result of work done earlier by Chandler (1962) and Ansoff (1965), organizations began experimenting with a concept called ‘higher-order planning or strategy’. As in military teachings (Sun Tzu, 1971), authors such as Chandler (1962) proposed that organizations relate their internal state and external expectations to each other. The methodology used was similar to the methodology used to solve military appreciations and problems: a predetermined ‘vision and mission’ to conquer the enemy, primarily via the reconnaissance of enemy forces, and skilful deployment of one’s own forces. Thus the concept of ‘business strategy’ was born.



During the 1980s, strategy was for the most part influenced by the work of Porter<sup>16</sup> of the Harvard Business School. Apart from proposing that a synthesis between external and internal forces be drawn, an element of predictability was being incorporated into strategy formulation. Strategy formulation shifted towards a methodology of trying to design a competitive formula around a prediction of the future, that is, predictive models. In essence, in returning to economic and marketing principles, strategic thinkers suggested that strategic choice centres on predetermined or 'generic' strategies ((*vide* Boston Consulting Group's *Growth Share Matrix* (Henderson, 1979) and *Generic Strategies of Cost, Focus, Differentiation* (Porter, 1985)). The common thread among all predictive models was the drawing of a synthesis between organizations' strong and weak points, and the opportunities and threats presented in the external environment, called the SWOT analysis. Important variations on this methodology included the adding of a predetermined vision (primarily building on an earlier idea proposed by Drucker (1970), a clear-sighted and entrepreneurial futuristic view/end state (Westley and Mintzberg, 1989), or even some form of strategic objective or 'intent' (Hamel and Prahalad, 1989). Mintzberg, Ahlstrand and Lampel (1998) therefore argue that advocates of this 'school' followed the dogma of 'goals-ways-resources' (Zeleny, 1997), viewing personalized leadership, based on strategic vision, as the key to organizational success.

During the latter part of the 1980s, spectacular gains in the Japanese industry forced organizations to rethink the way they had perceived strategy. Porter's work came under critical scrutiny of authors such as Teece (1984), Mintzberg and Waters (1985), Mintzberg (1990, 1994), Connor (1991) and Hamel (1996). These authors argued that Porter's models address the profitability of industries rather than of individual firms, and incorrectly suggest that with sufficient barriers, all firms in an industry can realize exceptional returns. Moreover, Mintzberg, Ahlstrand and Lampel (1998), started to argue that Porter's work, in as much as it deals with the assessment of organizational strength and weaknesses, bypasses learning, making strategy explicit, promoting inflexibility. Largely due to Senge's book, *The Fifth Discipline* (1990), and Mintzberg's (1994) critique of predictive models, organizations bent upon learning from and benchmarking

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<sup>16</sup> Porter (1980, 1981, 1985, 1987).





the best, started placing more emphasis on a learning methodology (Main, 1992; Watson, 1993).

Criticism of predictive models encouraged a shift away from strategy only being vested in the highest echelons of management to include other spheres of the organization as well. Beer, Eisenstat, and Spector (1990), for instance, argued that change should not be a top-down process and suggested that the most successful transformations and strategies should start at the periphery of the organization, and be led by general managers, not the Chief Executive Officers (CEOs). Strategic thinkers began to argue that the ability to have an instant grasp of the whole not only necessitated an understanding of the external environment, but also called for an effort to combine all the knowledge locked up within the organization – ‘the sixth sense of Kan’ (*vide* earlier work done by Shimizi, 1980).

Strategy was therefore no longer perceived to be exclusively a predictive process of planning, implementation and control. Strategy started to encapsulate learning. According to Zeleny (1997), learning advocates followed a doctrine of ‘sensing, experimenting and adapting’ instead. The pivotal aspect of the learning perspective on strategy was therefore to learn faster than the competition, rather than to outwit them.

The 1990s saw yet another reassessment of the way in which strategy was perceived. As early as the mid-eighties, Wernerfelt (1984) suggests that a company’s resources and competitive capabilities play a significant role in strategy formulation. Authors such as Grant (1991), Prahalad and Hamel (1990), Hamel and Prahalad (1993, 1994), Barney (1991, 1995) as well as Nonaka and Takeuchi (1995) begin to emphasize the power of organizational core competencies (capabilities based on knowledge, and continuous learning) as vehicles in the quest to sustain competitive advantage. Grant (1991), for instance, points out that in a volatile environment, organizations have no choice but to rely on internal conditions in order to define and redefine themselves. Huff (1990) argues that in order to understand strategic vision and the way strategies are formed, one also needs an understanding of human cognition. Followers of the ‘cognitive’ school of strategy formulation subscribe to the notion that strategy is perspectives, or rather



interpretations of the world, that are driven more by prior experience and knowledge than by drawing strategic syntheses.

Stacy (1992) in a sense refutes previous claims made by strategists, and argues that it is neither set ways, nor experience, but rather inconsistencies that create new strategies. Brown and Eisenhardt (1998), building on the work of Stacy (1992), therefore suggest that organizations need to be in a constant state of instability or even chaos in order to be able to act on and react to opportunities, especially if the organization is competing in an extremely volatile environment. In a similar manner, scholars such as Taylor (1997) start to question the value of set ways of formulating strategy, proposing that strategists look at strategy formulation from a different perspective, one in which they raise new and outrageous questions. Camillus (1997) even goes so far as to argue that in an ever-changing environment, experience and knowledge of strategy formulation theories constitute an impediment rather than a source of help to strategic thinkers.

During this time, many strategists start to acknowledge the power of hidden assets. Teece (1998), Bontis et al (1999) as well as Birchall and Tovstiga (1999) all propose that in sustaining a competitive advantage, emphasis should be placed on the value of intangible assets, especially the value of knowledge in strategy formulation. According to Snyman and Kruger (2004), strategists in the late 1990s realize that in an ever-changing environment, simply adapting to change no longer ensures survival. Strategy formulation became an on-going process, a process of reinventing the organization in order to create the future (Rajogapalan and Speitzer, 1996). In essence, strategists start looking beyond predicting, even beyond learning to include a methodology where the organization is kept in a continuous state of self-inflicted chaos. Mintzberg, Ahlstrand and Lampel (1998) go so far as to suggest that chaos, instability and even disorder are as important as order, to keep the organization in a permanent revolutionary state, or rather a strategic state where new and innovative knowledge is generated in a continuous and evolutionary manner.

In summarizing strategic thinking, Thompson, Strickland and Gamble (2005) maintain that because the business environment necessitates continuous change, the best strategy



formulation methodology (in this day and age) should be an evolutionary and transformational process, typically including a blend of proactive/intended/chaotic and also reactive/adaptive actions. Thompson, Strickland and Gamble (2005) argue that the strongest methodologies are repetitive by nature, evolving in themselves over time, and then merging with the strengths of other methodologies.

Shortly after the turn of the century, strategists such as Huffman (2001) as well as Leibold, Probst and Gibbert (2002) contend that without the luxury of time, in a changing environment, trial-and-error stratagems such as predictive learning and even revolutionary methodologies such as Chaos Theory, will no longer work. Tapscott (2001:03), in elaborating on the evolution caused by the Internet, promotes new frontiers in strategic thinking, arguing that: 'Yesterday's strategy orthodoxy blinds managers to unprecedented corporate opportunities'. Porter (2001), however, in defending previous strategic thinking, argues that the Internet and associated technology are not causing a revolution in managerial and strategic thinking, but rather bringing about a rapid increase in the speed of doing transactions, the making of decisions and the exchange of knowledge. Even though authors such as Porter, Huffman and Tapscott disagree about the severity of the impact of technological innovations (such as the Internet) on strategy formulation, they agree that technology is becoming an enabler, a means to speed up the data-to-information-to-knowledge cycle, enabling strategists to reach the hypothetical moment of truth, the moment when all knowledge is supposed to come together, much faster. Gertler (2003) argues, in much the same way as Teece (1998) and Bontis et al. (1999), that the ability to manage knowledge, especially in a knowledge-rich economy, is becoming critical to strategic management.

In essence, knowledge as a strategic catalyst (in the past a scarce commodity) is becoming available to more and more takers. However, just as adding more catalyst can accelerate a chemical reaction, more knowledge can also accelerate the strategic management process. However, in the natural sciences a fine balance must exist between the chemicals and the catalyst. If it does not, a reaction may never take place, or an explosion might even occur. As in the natural sciences, a fine balance must be struck



between the amounts of knowledge needed to produce a successful outcome. Weyrich (1998) therefore maintains that although innovation is built on knowledge, it is not a flash of genius; it is a deliberate process that must be managed. In other words, in an organizational context, it is knowledge management and not knowledge *per se* that drives innovation. In a similar manner Carneiro, (2000); Dove, (1999); and Nonaka and Takeuchi, (1995), as cited by Darroch and McNaughton, (2002), are all of the opinion that knowledge management, as a managerial entity, is emerging as the antecedent of strategy and innovation.

In order to prove the interdependency between Strategic Management and Knowledge Management, Snyman and Kruger (2004:5) find that: ‘the different strategy formulation methodologies differ primarily with regard to the way they perceive the interaction between the organization’s profile, and the competitive environment in which the organization functions’. Snyman and Kruger (2004:5) also state that: ‘although all the different strategy formulation methodologies differ with regard to their interaction with knowledge as a strategic resource, they are all in agreement that one needs to know what your organization’s key resources are, and what your core competencies/capabilities should look like to sustain competitiveness in future’. Snyman and Kruger (2004:5) go on to say that: ‘the key to developing a model capable of synthesizing strategic management and strategic knowledge management, lies in the foundation of knowledge, and especially knowledge of the area of excellence’. Finally these authors come to the conclusion that ‘strategy should dictate how information and knowledge should be used. At the same time, knowledge should make new strategies and new ways of competing possible’. These statements are in accord with work done by Zack (1999) and Tiwana (2000:158). Zack (1999:130) is of the opinion that ‘regardless of the strategy formulation process, organizations have a *de facto* strategy that must first be articulated. Every strategic position is linked to some set of intellectual resources and capabilities’. Tiwana (2000:158), in trying to establish the interdependency between the two strategies (business strategy and knowledge management strategy) states clearly and concisely that: ‘It’s your company’s business strategy that drives its knowledge management strategy, and not the other way around’ but adjusts this statement later (Tiwana, 2000:188) to say



that: 'Knowledge management and business strategy must drive each other. This is possible only if the two are in perfect alignment'.

In effect the above-mentioned authors are trying to say that the formulation of winning strategies is built upon the foundation of knowledge, and especially knowledge of the area of excellence. Zack (1999:130) argues that: 'every strategic position is linked to some set of intellectual resources and capabilities'. Snyman and Kruger (2004:08) write that all strategy formulation models are based on the foundation of knowledge. 'In the predictive model, three ingredients are critical to the success of a strategy. Firstly, the strategy must be consistent with the conditions in the competitive environment. Specifically, it must take advantage of existing or projected opportunities and minimize the impact of major threats. This is only possible with a sound knowledge of one's competitive environment (opportunities, threats). Secondly, the strategy must be based on the exploitation of core capabilities, i.e. strategy must place realistic requirements on the firm's internal capabilities (strong points, weak points). Knowledge of one's capabilities, core competencies and areas of excellence is thus of paramount importance. Thirdly, in order to execute the strategies successfully, knowledge and understanding of the strategy should be communicated throughout the organization. In corroboration of this perspective, the learning model not only emphasizes flexibility but also the fact that organizations should become learning, thus knowledgeable organizations, building strategies around core competencies (areas of excellence)'. Snyman and Kruger (2004) continue with this line of reasoning and argue that the critical essence of the learning perspective on strategy formulation is to learn faster than the competition rather than to outwit them. Finally, Snyman and Kruger (2004) come to the conclusion that even this critical essence of the transformational perspective on strategy formulation is based on the leverage of internal as well as external knowledge. Knowledge has undoubtedly played a crucial role in the evolution of strategy and will continue to do so. However, if knowledge is of such strategic importance, how then do we manage and allocate resources to knowledge? As Von Krogh, Nonaka and Aben (2001:421) state: 'Currently strategic planners, for example, know perfectly well how to analyse the strengths and weaknesses of a company's tangible resources, as well as how to match these with



opportunities and threats in the environment. They know how to use these analyses for capital resource allocation, for calculating discounted cash-flow from investment in intangible assets; but do they know equally well how to analyse knowledge and allocate resources according to knowledge activities?’

#### ***2.4.2 The role of knowledge in assessing the organization’s environments***

The immense influence that Porter’s (1980) Five Forces Model exerted on strategy formulation, forced strategists to rethink the way in which the value of core capabilities and capacities of an organization is determined. Strategists using Porter’s Five Forces Model as a baseline in determining opportunities and threats presented by the external environment, found it extremely difficult to draw a synthesis between external forces and the internal power locked up in the core capabilities and competencies of the organization. Attempting to formulate winning strategies proved to be a daunting task when, on the one hand, strategists needed to focus on the organization as a number of distinct functions, and on the other hand needed to assess the external environment as distinct forces. Porter proposed a solution. In order to be able to draw a synthesis between external factors and internal capabilities, Porter (1985) suggested that strategists needed to assess the organization not as distinct functions but as value-adding processes (maybe even value-adding forces). Like the Five Forces Model, the value chain concept broke new ground. Strategy formulation methodology thus shifted away from structuring the organization as a number of distinct functions (logistics, finance, human resources, marketing, manufacturing, etc.), to an organizational structure consisting of a succession of value-adding processes (e.g. Porter’s value chain). This set of integrated business applications motivated strategists to propose a new way of bolstering business process reengineering efforts (Wainright Martin et al, 2005). The stage was set to build strategy formulation on drawing a synthesis between the organization’s value chain and the forces present in the external environment. In effect what Porter was proposing was to look at the organization as a continuum of value-adding processes, all relating back to supplying value to stakeholders, i.e. ensuring sustainability. The forces Porter maintained were present in the external environment were nothing more than the power capabilities of



external stakeholders, and the internal environment was seen by Porter as the way input resources presented by these stakeholders were supposed to be utilized in the most effective and efficient manner possible – all to supply value to stakeholders.

### ***2.4.3 The Future of strategy formulation***

What Porter proposed was not a ‘descent by replacement’ of the old military concept of drawing a synthesis. In order to be successful, strategists still need to know more about their own capabilities and competencies, and the external forces they face, than their competition does. Even though it remains an open-ended question as to what specifically strategy will comprise of in future, strategy will continue to be built upon knowledgeable reasoning. Possibly this can be attributed to knowledge being the only strategic resource that cannot be consumed by the strategy formulation process. As Zack (1999:128) argues: ‘Unlike traditional physical goods that are consumed as they are used, providing decreasing returns over time, knowledge provides increased returns as it is used. The more it is used the more valuable it becomes, creating a self-reinforcing cycle’. As Mintzberg and Lampel (1999) point out, strategy needs to evolve on a path of descent where new strategic insight is integrated with existing methodologies. As the environment changes and business evolves, knowledge will continue to affect and/or even alter the way strategy is perceived.

In agreement with this statement, Leibold, Probst and Gibbert (2005:78) argue that ‘in the global knowledge economy, the concept of competitive advantage is now being seen differently: the firm’s potential relative to the overall processes and resources in business ecosystems and organizational networks, with a balancing of competitive advantage and collaborative co-evolution’.



An example of knowledge altering the way strategy is perceived can already be seen in ICT<sup>17</sup> innovation. In essence, innovation in ICT is supplying a communication channel to speed up the data-to-information-to-knowledge transformation process. It is enabling strategists to reach the hypothetical moment when all knowledge is supposed to come together, much faster. It is not only enabling strategists to add more knowledge to the process of strategy formulation, but also to ‘virtually’ collapse the external environment into the organization’s value chain. Another example of innovation in ICT supplying strategists with new options can be found in the evolution of Enterprise Resource Planning (ERP) systems. ERP systems, coupled with telecommunication systems, are evolving into Enterprise Resource Management (ERM) Systems. These systems are evolving from mere Transaction Processing Systems (TPS) utilized over telecommunications media, to true Decision Support Systems (DSS). Systems developed to shift data and information between value chain partners become strategic management tools with the capacity to supply strategists with crucial information regarding strategy formulation.

The statement made by Snyman and Kruger (2004) that in order to be transformational, organizations should (in future) pool primary resources, areas of excellence and core competencies of different business units and partners in an extended value chain, therefore does not seem far-fetched. In future, in order to survive, organizations will need to pool not only their own core competencies and capabilities, but also the competencies and capabilities of stakeholders (Sviokla and Rayport, 1995). As a result of information technology unmasking the forces controlled by stakeholders, these statements are becoming reality. A boundary is nothing more than a beginning and end to something, and in managerial terms it is often the point between what is under control and what is

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<sup>17</sup>Innovation in ICT: The Internet is an example of innovation in ICT altering the way strategy is perceived. The power of the Internet lies in its ability to enable business to distribute products through another business to interact directly with end customers - the sixth competitive force proposed by Porter. The Internet also offers a channel for the rapid flow of information and business transactions between multiple buyers and seller in a much greater sphere of influence. The Internet is thus not only linking companies electronically. Its power is vested in the vast information it contains. It is a global information centre with valued information on the location, situation, and even strategies, of stakeholders. (Leibold, Probst and Gibbert, 2005).





not. In fact, in supplying strategists with fast and timely information on the forces controlled by stakeholders, distinct boundaries between the external and internal environments are disappearing. Knowledge is expanding the organization's sphere of influence. Forces that used to be exclusively under the control of stakeholders, primarily due to time and space constraints, can now be used to the advantage of the organization via the enabling power vested in technology. Threats are identified early enough for them to be turned into opportunities, and these opportunities in turn become strong points. External forces are no longer seen as mere opportunities and threats - through the power of knowing and knowledge exchange they are becoming core competencies and capabilities.

In future, strategy formulations will no longer constitute the drawing of a synthesis between the organization's external and internal environment, as the boundaries between these environments are quickly disappearing. As Leibold, Probst and Gibbert (2005) argue, organizations will no longer compete with one another. Value-adding chains built on extended core capabilities and competencies of stakeholders will compete primarily in respect of the value and perceived value of satisfying beneficial needs. Strategy will not only necessitate drawing a synthesis between the organization's extended value chain (on the one hand), and the extended value chains of competitors, but also the extended environment in which the organization functions. In future, organizational survival will be in direct proportion to the organization's ability to address the needs of all shareholders timeously. Knowledge will definitely continue to be the catalyst in the game of continuous survival and will keep organizations on the cutting edge.

Another indication that knowledgeable reasoning is changing the way we perceive strategy formulation, can be found in literature supporting the notion that the increase in knowledge is also heightening an understanding of the interdependency between different managerial endeavours. Huffman (2001), in contemplating the features of brilliant strategy, argues that performance measurement is mostly divorced from the strategy formulation process, relegating performance management to the status of an 'after-the-fact tool', destined never to reach its full potential. Huffman therefore contends that



performance management needs to advance to the strategic dimension. Mistra (2004) concurs with the arguments proposed by Huffman, and adds that performance management, as a strategic phenomenon, gives strategic managers huge opportunities (still untapped)<sup>18</sup>. According to Huffman (2001), the institution of such a strategic intent calls for a change, not only in the way strategy formulation is perceived, but also in the way performance and tactics are validated.

As in strategic management, knowledge is crucial to performance management. Responding to debate surrounding the evolution of performance measurement and management, Kruger (2005) argues that a merger between strategy formulation, performance management and knowledge management has the capacity to add a dimension of geography to the knowledge-strategy cycle, opening up social interplay, enabling organizations to interact and trade knowledge (even tacit knowledge) with the very forces that shape competitiveness. Kruger (2005) is also of the opinion that: 'Implicit in performance appraisal, due to social and environmental dimensions, are huge opportunities and also responsibilities to align and merge strategic management with knowledge management' Kruger (2005:19).

The interdependency between knowledge management, strategy, tactics and performance management is also strongly supported by studies conducted by SAM Research and Hewitt Associates. According to SAM Insight (2004), there is a clear, statistically significant indication that successful companies support and encourage the development of networks that cut across the boundaries of hierarchies, supported by knowledge management systems and tools to manage organizational learning (SAM Insight, 2004).

## 2.5 Summary

This chapter emphasizes the fact that although there is a constant reassessment of the way in which strategy is perceived, all the different strategy formulation models follow the

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<sup>18</sup> Also refer to arguments proposed by various contributors to the Performance Measurement Association's official newsletter *Perspective on Performance* available <http://www.performanceportal.org>.



same general path, a methodology based on trying to find an answer to the problem of satisfying stakeholder needs. In focusing on the evolution of strategy, it was determined that knowledge has played, and will continue to play, a crucial and enabling role in the formulation of strategies. It was argued that the evolution of strategy should continue to progress along the line of descent through the history of the field, not by replacing previous notions, but rather by building knowledgeably upon them. As a result of advances in information and communications technology, information is becoming freely available, enabling organizations to speed up the data-to-information cycle. This phenomenon is causing the barriers between external and internal organizational spheres to become blurred and/or even collapse, compelling organizations to create new ways to formulate strategy, whether of a structured, unstructured or even chaotic nature.

In conclusion, it is proposed that the changing environment is catapulting knowledge management into a strategic dimension. The merger between strategic management and knowledge management is in itself becoming a strategic methodology, a methodology directed towards satisfying as many stakeholder needs as possible. If the statement made by Gertler (2003:76) that: ‘No matter which label one prefers, the production, acquisition, absorption, reproduction, and dissemination of knowledge is seen by many as the fundamental characteristic of contemporary competitive dynamics’, is brought into relation with the essence of all organizational performance, i.e. ‘how well do we sustain survival via the satisfaction of stakeholder needs’ it becomes apparent that within any form of strategy formulation, lie huge opportunities, or rather a responsibility to share knowledge. It is therefore argued that knowledge management has the capacity to add a dimension of geography to the knowledge-strategy cycle, opening up social interplay, enabling organizations to tactically interact and trade knowledge, especially tacit knowledge, with the very forces that shape competitiveness. This power is already being utilized by numerous organizations that have demonstrably outperformed peers in the quest to sustain survival, pooling areas of excellence and core competencies in an extended value chain. These are organizations capable of finding answers to the question ‘what knowledge is specifically needed by my organization in order to ensure survivability?’



After reporting on the role knowledge plays as a strategic corporate resource and after determining the interdependence of strategy, knowledge and knowledge management, in the next chapter these notions and proposes are expounded and ways to manage knowledge within a strategic context are proposed.